COMPOUNDS AND COMPOSITIONS FOR THE TREATMENT OF PARASITIC DISEASES

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of priority to U.S. Provisional Patent Application Number 61/224,433, filed 09 July 2009. The full disclosure of this application is incorporated herein by reference in its entirety and for all purposes.

BACKGROUND OF THE INVENTION

Field of the Invention

[0002] The invention provides a class of compounds, pharmaceutical compositions comprising such compounds and methods of using such compounds to treat or prevent malaria.

Background

[0003] Malaria is an infectious disease caused by four protozoan parasites: Plasmodium falciparum; Plasmodium vivax; Plasmodium ovale; and Plasmodium malaria. These four parasites are typically transmitted by the bite of an infected female Anopheles mosquito. Malaria is a problem in many parts of the world and over the last few decades the malaria burden has steadily increased. An estimated 1-3 million people die every year from malaria – mostly children under the age of 5. This increase in malaria mortality is due in part to the fact that Plasmodium falciparum, the deadliest malaria parasite, has acquired resistance against nearly all available antimalarial drugs, with the exception of the artemisinin derivatives.

[0004] Leishmaniasis is caused by one or more than 20 varieties of parasitic protozoa that belong to the genus Leishmania, and is transmitted by the bite of female sand flies. Leishmaniasis is endemic in about 88 countries, including many tropical and sub-tropical areas.

[0005] There are four main forms of Leishmaniasis. Visceral leishmaniasis, also called kala-azar, is the most serious form and is caused by the parasite Leishmania donovani. Patients who develop visceral leishmaniasis can die within months unless they receive

treatment. The two main therapies for visceral leishmaniasis are the antimony derivatives sodium stibogluconate (Pentostam®) and meglumine antimoniate (Glucantim®). Sodium stibogluconate has been used for about 70 years and resistance to this drug is a growing problem. In addition, the treatment is relatively long and painful, and can cause undesirable side effects.

[0006] Human African Trypanosomiasis, also known as sleeping sickness, is a vector-borne parasitic disease. The parasites concerned are protozoa belonging to the Trypanosoma Genus. They are transmitted to humans by tsetse fly (Glossina Genus) bites which have acquired their infection from human beings or from animals harboring the human pathogenic parasites.

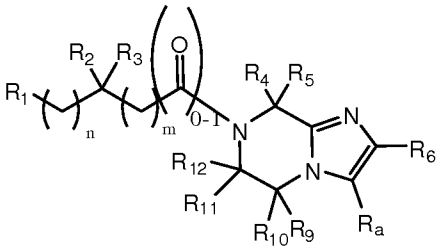
[0007] Chagas disease (also called American Trypanosomiasis) is another human parasitic disease that is endemic amongst poor populations on the American continent. The disease is caused by the protozoan parasite Trypanosoma cruzi, which is transmitted to humans by blood-sucking insects. The human disease occurs in two stages: the acute stage, which occurs shortly after infection and the chronic stage, which can develop over many years. Chronic infections result in various neurological disorders, including dementia, damage to the heart muscle and sometimes dilation of the digestive tract, as well as weight loss. Untreated, the chronic disease is often fatal.

[0008] The drugs currently available for treating Chagas disease are Nifurtimox and benznidazole. However, problems with these current therapies include their diverse side effects, the length of treatment, and the requirement for medical supervision during treatment. Furthermore, treatment is really only effective when given during the acute stage of the disease. Resistance to the two frontline drugs has already occurred. The antifungal agent Amphotericin b has been proposed as a second-line drug, but this drug is costly and relatively toxic.

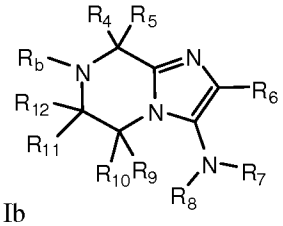
[0009] In view of the foregoing, it is desirable to develop novel compounds as antiparasitic agents.

SUMMARY OF THE INVENTION

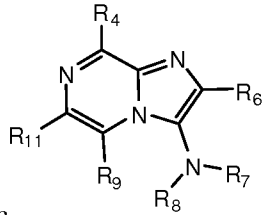
[0010] In one aspect, the present invention provides a compound selected from Formula Ia, Ib and Ic:



Ia



Ib



Ic

[0011] in which:

[0012] n is selected from 0, 1, 2, 3 and 4;

[0013] m is selected from 0, 1, 2, 3 and 4;

[0014] R_a is selected from hydrogen, halo, $-X_3NR_7R_8$, $-X_3OR_8$, $-X_3S(O)_{0-2}R_8$, $-X_3C(O)NR_7R_8$, $-X_3R_8$, benzyl and C_{6-10}aryl optionally substituted with 1 to 3 radicals independently selected from halo, C_{1-4}alkyl, halo-substituted-C_{1-4}alkyl, C_{1-4}alkoxy and halo-substituted-C_{1-4}alkoxy; wherein X_3 is selected from a bond and C_{1-4}alkylene;

[0015] R_b is selected from hydrogen and C_{1-4}alkyl;

[0016] R_1 is selected from halo, $-OR_{13}$, $-C(O)OR_{13}$, $-NR_{13}R_{14}$, C_{6-10}aryl and a saturated, unsaturated or partially unsaturated 4-9 member heterocyclic ring containing up to three nitrogens; wherein R_{13} is selected from hydrogen, C_{1-6}alkyl, halo-substituted-C_{1-6}alkyl, hydroxy-substituted-C_{1-6}alkyl, C_{6-10}aryl-C_{0-4}alkyl, C_{3-8}cycloalkyl-C_{0-4}alkyl, $-X_1NHC(O)R_{15}$, $-X_1C(NH)NHR_{15}$, $-X_1C(O)NHR_{15}$, $-X_1NHR_{15}$, $-X_1OR_{15}$, $-C(O)R_{15}$ and $-C(O)OR_{15}$; wherein X_1 is selected from a bond and C_{1-4}alkylene; R_{15} is selected from hydrogen, C_{1-6}alkyl, halo-substituted-C_{1-6}alkyl and benzyl; and R_{14} is selected from hydrogen, C_{1-6}alkyl and hydroxy-substituted-C_{1-6}alkyl; wherein any aryl or heterocyclic of R_1 is optionally substituted with 1-3 radicals independently selected from halo, C_{1-6}alkyl, halo-substituted-C_{1-6}alkyl, C_{1-6}alkoxy and halo-substituted-C_{1-6}alkoxy;

[0017] or R_{13} and R_{14} together with the nitrogen to which R_{13} and R_{14} are attached form a saturated, unsaturated or partially unsaturated 5-9 member heterocyclic ring containing up to three heteroatoms selected from N, NR_{30}, $S(O)_{0-2}$ and O; wherein R_{30} is

selected from hydrogen and C_{1-6}alkyl; wherein said heterocyclic ring formed by the combination of R_{13} and R_{14} is optionally substituted with 1 to 3 radicals independently selected from halo, hydroxy, C_{1-6}alkyl, amino-substituted-C_{1-6}alkyl and halo-substituted-C_{1-6}alkyl;

[0018] R_2 is selected from hydrogen, C_{1-6}alkyl, amino, C_{3-8}cycloalkyl-C_{0-4}alkyl, C_{6-10}aryl-C_{0-4}alkyl, halo-substituted-C_{1-6}alky, hydroxy-substituted-C_{1-6}alkyl and heterocyclyl-C_{0-4}alkyl; wherein said heterocyclyl is a saturated, unsaturated or partially unsaturated 5-9 member heterocyclic ring containing up to three heteroatoms selected from N, NR_{30}, $S(O)_{0-2}$ and O; wherein R_{30} is selected from hydrogen and C_{1-6}alkyl; wherein said C_{6-10}aryl or heterocyclic of R_2 is optionally substituted with 1 to 3 radicals independently selected from halo, hydroxy, cyano, nitro, -NHR_{17}, -$(CH_2)_{0-2}NHC(O)R_{17}$, C_{1-6}alkyl, halo-substituted-C_{1-6}alkyl, amino-substituted-C_{1-6}alkyl and C_{1-6}alkoxy; wherein R_{17} is selected from hydrogen and C_{1-6}alkyl;

[0019] R_3 is selected from hydrogen, C_{1-6}alkyl, C_{6-10}aryl-C_{0-4}alkyl, -$X_2C(O)OR_{16}$, -$X_2S(O)_{0-2}R_{16}$, -X_2OR_{16}, -$X_2C(O)NHR_{16}$ and -$X_2NHC(O)R_{16}$; wherein X_2 is selected from a bond and C_{1-4}alkylene; and R_{16} is selected from hydrogen, C_{1-6}alkyl and C_{6-10}aryl-C_{0-4}alkyl; wherein said aryl of R_{16} is optionally substituted with 1 to 3 radicals independently selected from halo, C_{1-6}alkyl, halo-substituted-C_{1-6}alkyl, C_{1-6}alkoxy and halo-substituted-C_{1-6}alkoxy;

[0020] or R_2 and R_3 together with the carbon atom to which R_2 and R_3 are attached forms C_{3-8}cycloalkyl;

[0021] or R_2 and R_{13} together with the atoms to which R_2 and R_{13} are attached form a ring selected from C_{3-8}cycloalkyl and a saturated, unsaturated or partially unsaturated 5-9 member mono or fused heterocyclic ring containing up to three heteroatoms or groups selected from N, C(O), NR_{30}, $S(O)_{0-2}$ and O; wherein R_{30} is selected from hydrogen and C_{1-6}alkyl; wherein said heterocyclic form the combination of R_2 and R_{13} is optionally substituted with 1 to 3 radicals independently selected from halo, hydroxy, C_{1-6}alkyl and halo-substituted-C_{1-6}alkyl;

[0022] R_4 is selected from hydrogen and C_{1-6}alkyl;

[0023] R_5 is selected from hydrogen and C_{1-6}alkyl; or R_4 and R_5 together with the carbon atom to which R_4 and R_5 are attached forms C_{3-8}cycloalkyl;

[0024] R_6 is selected from C_{6-10}aryl, C_{3-8}cycloalkyl and a saturated, unsaturated or partially unsaturated 5-9 member mono or fused heterocyclic ring containing up to three heteroatoms or groups selected from N, C(O), NR_{30}, $S(O)_{0-2}$ and O; wherein R_{30} is selected from hydrogen and C_{1-6}alkyl; wherein said aryl or heterocyclic of R_6 is optionally substituted by 1 to 3 radicals independently selected from halo, hydroxy, C_{1-6}alkyl and C_{1-6}alkoxy;

[0025] R_7 is selected from hydrogen and C_{1-3}alkyl;

[0026] R_8 is selected from C_{1-10}alkyl (straight or branched), C_{6-10}aryl-C_{0-4}alkyl, C_{3-8}cycloalkyl and a saturated, unsaturated or partially unsaturated 5-9 member mono or fused heterocyclic ring containing up to three heteroatoms or groups selected from N, C(O), NR_{30}, $S(O)_{0-2}$ and O; wherein R_{30} is selected from hydrogen and C_{1-6}alkyl; wherein said aryl or heterocyclic of R_8 is optionally substituted by 1 to 3 radicals independently selected from halo, cyano, hydroxy, C_{1-6}alkyl, halo-substituted-C_{1-6}alkyl, halo-substituted-C_{1-6}alkoxy, C_{1-6}alkoxy, -C(O)OR_{18}, -$S(O)_{0-2}R_{18}$, -C(O)NHR_{18}, –$NHS(O)_{0-2}R_{18}$, phenyl and a saturated, unsaturated or partially unsaturated 5-6 member heterocyclic ring containing up to three heteroatoms or groups selected from N, C(O), NR_{30}, $S(O)_{0-2}$ and O; wherein R_{30} is selected from hydrogen and C_{1-6}alkyl; wherein said aryl or heterocyclic substituent of R_8 is optionally substituted by 1 to 3 radicals independently selected from halo, cyano, hydroxy, C_{1-6}alkyl, halo-substituted-C_{1-6}alkyl and halo-substituted-C_{1-6}alkoxy; wherein R_{18} is selected from hydrogen and C_{1-6}alkyl;

[0027] R_9 is selected from hydrogen and C_{1-6}alkyl;

[0028] R_{10} is selected from hydrogen and C_{1-6}alkyl;

[0029] R_{11} is selected from hydrogen and C_{1-6}alkyl;

[0030] R_{12} is selected from hydrogen and C_{1-6}alkyl; or R_{11} and R_{12} combine to form C(O); and the N-oxide derivatives, prodrug derivatives, protected derivatives, individual isomers and mixture of isomers thereof; and the pharmaceutically acceptable salts and solvates (e.g. hydrates) of such compounds; with the proviso that the following compounds are excluded from the invention: 2-amino-1-(3-(benzo[d][1,3]dioxol-5-ylamino)-2-phenyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)ethanone ; 2-(2-methoxyphenyl)-N-(2,4,4-trimethylpentan-2-yl)imidazo[1,2-a]pyridin-3-amine; 2-phenyl-N-(2,4,4-trimethylpentan-2-yl)imidazo[1,2-a]pyridin-3-amine; 2-(pyridin-3-yl)-N-(2,4,4-

trimethylpentan-2-yl)imidazo[1,2-a]pyridin-3-amine; and 2-(4-fluorophenyl)-N-(2,4,4-trimethylpentan-2-yl)imidazo[1,2-a]pyridin-3-amine.

[0031] In a second aspect, the present invention provides a pharmaceutical composition which contains a compound selected from Formula Ia, Ib and Ic or a N-oxide derivative, individual isomers and mixture of isomers thereof; or a pharmaceutically acceptable salt thereof, in admixture with one or more suitable excipients.

[0032] In a third aspect, the present invention provides a method of treating a disease in an animal in which a compound of the invention can prevent, inhibit or ameliorate the pathology and/or symptomology of disease caused by a parasite (such as, for example, Plasmodium falciparum, Plasmodium vivax, Plasmodium ovale, Plasmodium malaria, Trypanosoma cruzi or a parasite of the Leishmania genus such as, for example, Leishmania donovani) which method comprises administering to the animal a therapeutically effective amount of a compound selected from Formula Ia, Ib and Ic or a N-oxide derivative, individual isomers and mixture of isomers thereof, or a pharmaceutically acceptable salt thereof.

[0033] In a fourth aspect, the present invention provides the use of a compound selected from Formula Ia, Ib and Ic in the manufacture of a medicament for treating a disease caused by a parasite in an animal. The disease may be malaria, leishmaniasis and/or Chagas disease.

[0034] In a fifth aspect, the present invention provides a process for preparing compounds selected from Formula Ia, Ib and Ic and the N-oxide derivatives, prodrug derivatives, individual isomers and mixture of isomers thereof, and the pharmaceutically acceptable salts thereof.

DETAILED DESCRIPTION OF THE INVENTION

Definitions

[0035] "Alkyl" as a group and as a structural element of other groups, for example halo-substituted-alkyl and alkoxy, can be either straight-chained or branched. C_{1-4}-alkoxy includes, methoxy, ethoxy, and the like. Halo-substituted alkyl includes trifluoromethyl, pentafluoroethyl, and the like.

[0036] "Aryl" means a monocyclic or fused bicyclic aromatic ring assembly containing six to ten ring carbon atoms. For example, aryl may be phenyl or naphthyl, preferably phenyl. "Arylene" means a divalent radical derived from an aryl group.

[0037] "Heteroaryl" is as defined for aryl where one or more of the ring members are a heteroatom selected from N, O, C(O) and $S(O)_{0-2}$. For example 5-10 member heteroaryl includes pyridyl, indolyl, indazolyl, quinoxalinyl, quinolinyl, benzofuranyl, benzopyranyl, benzothiopyranyl, benzo[1,3]dioxole, imidazolyl, benzo-imidazolyl, pyrimidinyl, furanyl, oxazolyl, isoxazolyl, triazolyl, tetrazolyl, pyrazolyl, thienyl, etc.

[0038] "Cycloalkyl" means a saturated or partially unsaturated, monocyclic, fused bicyclic or bridged polycyclic ring assembly containing the number of ring atoms indicated. For example, C_{3-10}cycloalkyl includes cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, etc.

[0039] "Heterocyclic" means cycloalkyl, as defined in this application, provided that one or more of the ring carbons indicated, are replaced by a moiety selected from -O-, -N=, -NR-, -C(O) -, -S-, -S(O) - or $-S(O)_2-$, wherein R is hydrogen, C_{1-4}alkyl or a nitrogen protecting group. For example, 3-8 member heterocycloalkyl as used in this application to describe compounds of the invention includes morpholino, pyrrolidinyl, piperazinyl, piperidinyl, piperidinylone, 1,4-dioxa-8-aza-spiro[4.5]dec-8-yl, etc.

[0040] "Halogen" (or halo) represents chloro, fluoro, bromo or iodo.

[0041] "Treat", "treating" and "treatment" refer to a method of alleviating or abating a disease and/or its attendant symptoms. In the present description, the term "treatment" includes both prophylactic or preventative treatment as well as curative or disease suppressive treatment, including treatment of patients at risk of contracting the disease or suspected to have contracted the disease as well as ill patients. This term further includes the treatment for the delay of progression of the disease.

Description of the Preferred Embodiments

[0042] The invention provides a novel class of compounds, pharmaceutical compositions comprising such compounds and methods of using such compounds to treat or prevent diseases or disorders associated with a parasite. In particular, the compounds can be used to treat malaria, leishmaniasis and/or Chagas disease.

[0043] In one embodiment, with reference to compounds of Formula Ia, Ib and Ic: R_1 is selected from $–OR_{13}$, $–C(O)OR_{13}$, $–NR_{13}R_{14}$, phenyl, pyridinyl, indolyl, azetidinyl, 1H-indazolyl, piperidinyl and pyrimidinyl; wherein R_{13} is selected from hydrogen, methyl, ethyl, propyl, butyl, pentyl, cyclopropyl, phenyl, benzyl, amino-butyl, hydroxy-ethyl, methoxy-ethyl, butoxy-ethyl, methoxy-propyl, $-C(O)R_{15}$, $-C(O)OR_{15}$, $-X_1OR_{15}$, $-X_1C(NH)NHR_{15}$, $-X_1NHC(O)R_{15}$ and $X_1C(O)NHR_{15}$; wherein X_1 is selected from a bond and C_{1-4}alkylene; and R_{15} is selected from hydrogen, methyl, ethyl, propyl, butyl, t-butyl, trifluoromethyl and trifluoromethyl-carbonyl; R_{14} is selected from hydrogen, methyl, ethyl, propyl, butyl, pentyl, isobutyl, hydroxy-ethyl, difluoroethyl and isobutyl; wherein any phenyl, benzyl or heterocyclic of R_1 is optionally substituted with 1-3 radicals independently selected from halo, methyl, ethyl, trifluoromethoxy and trifluoromethyl; or R_{13} and R_{14} together with the nitrogen to which R_{13} and R_{14} are attached form pyrrolidinyl, morpholino, thiomorpholino and piperidinyl; wherein said heterocyclic form the combination of R_{13} and R_{14} is optionally substituted with 1 to 3 radicals independently selected from halo, trifluoromethyl, hydroxy and amino-ethyl.

[0044] In another embodiment, R_2 is selected from hydrogen, methyl, ethyl, isopropyl, propyl, isobutyl, butyl, t-butyl, trifluoromethyl, trifluoro-ethyl, phenyl, benzyl, phenethyl, cyclobutyl-methyl, cyclopentyl, cyclohexyl, cyclohexyl-methyl, hydroxy-methyl and 1-hydroxy-ethyl; wherein said phenyl, benzyl or phenethyl of R_2 is optionally substituted with 1 to 3 radicals independently selected from halo, methoxy, trifluoromethyl, hydroxy, amino, nitro, cyano, amino-methyl, methyl-sulfonyl-ethyl, methyl-carbonyl-amino, $-NHR_{17}$, $-CH_2NHC(O)R_{17}$ and $-NHC(O)R_{17}$; wherein R_{17} is selected from hydrogen, ethyl, propyl, butyl and pentyl.

[0045] In another embodiment, R_3 is selected from hydrogen, methyl, methyl-carbonyl-amino-butyl, propyl-amino-carbonyl-methyl, carboxy-methyl, propyl-amino-carbonyl-methyl, butyl-amino-carbonyl-methyl, pentyl-amino-carbonyl-methyl, propyl-amino-carbonyl-ethyl, trifluoromethyl-carbonyl-amino-butyl, phenyl, benzyl-sulfanyl-methyl, benzoxy-carbonyl-methyl, methyl-sulfonyl-methyl, 1-(benzyloxy)ethyl, benzoxy-carbonyl-ethyl and benzoxy-carbonyl-amino.

[0046] In another embodiment, R_2 and R_3 together with the carbon atom to which R_2 and R_3 are attached form cyclopropyl, cyclobutyl, cyclopentyl or cyclohexyl.

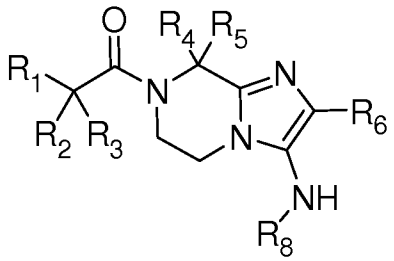
[0047] In another embodiment, R_2 and R_{13} together with the atoms to which R_2 and R_{13} are attached form piperidinyl, cyclobutyl, pyrrolidinyl, morpholino, piperidinyl, tetrahydrofuranyl, tetrahydro-2H-pyran-4-yl, 4-oxoazetidin-2-yl, indolyl, 2,6-dioxo-1,2,3,6-tetrahydropyrimidin-4-yl, 1,2,3,4-tetrahydroisoquinolin-3-yl, oxopiperidin-3-yl or 4,5,6,7-tetrahydro-3H-imidazo[4,5-c]pyridin-6-yl.

[0048] In a further embodiment, R_4, R_5, R_9 and R_{10} are independently selected from hydrogen and methyl; R_{11} and R_{12} are both hydrogen; or R_{11} and R_{12} combine to form C(O).

[0049] In a further embodiment, R_6 is selected from phenyl, cyclohexyl and pyridinyl; wherein said phenyl or pyridinyl of R_6 is optionally substituted by 1 to 3 radicals independently selected from halo, pentyl, hydroxy, methyl and methoxy.

[0050] In a further embodiment, R_7 is selected from hydrogen, methyl, ethyl and isopropyl; and R_8 is selected from phenyl, benzyl, benzo[d][1,3]dioxol-5-yl, cyclobutyl, cyclopentyl, cycloheptyl, cyclohexyl, bicyclo[2.2.1]heptyl, tetrahydro-2H-pyranyl, pyridinyl, piperidinyl, piperazinyl, quinolinyl, pyrrolidinyl and pyrazolyl; wherein said phenyl, benzyl, benzo[d][1,3]dioxol-5-yl, cyclobutyl, cyclopentyl, cycloheptyl, cyclohexyl, bicyclo[2.2.1]heptyl, tetrahydro-2H-pyranyl, pyridinyl, piperidinyl, piperazinyl, quinolinyl, pyrrolidinyl or pyrazolyl of R_8 is optionally substituted by 1 to 3 radicals independently selected from halo, cyano, methyl, ethyl, t-butyl, trifluoromethyl, trifluoromethoxy, dimethyl-amino, difluoromethoxy, carboxy, methoxy-carbonyl, methyl-sulfonyl-amino, methyl-sulfonyl, methyl-amino-carbonyl, phenyl, piperidinyl, piperidinyl-methyl, piperazinyl and piperazinyl-methyl.

[0051] In another embodiment is a compound of Formula Id:



Id

[0052] in which: R_1 is $-NH_2$; R_2 and R_3 are independently selected from hydrogen and methyl; R_4 and R_5 are independently selected from hydrogen and methyl; R_6 is phenyl substituted with a fluoro; and R_8 is a phenyl substituted with 1 to 2 radicals independently selected from chloro and fluoro.

[0053] In a further embodiment are compounds selected from: 2-amino-1-(2-(4-fluorophenyl)-3-(4-fluorophenylamino)-8,8-dimethyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)ethanone; 2-amino-1-(3-(3,4-difluorophenylamino)-2-(4-fluorophenyl)-5,6-dihydroimidazo [1,2-a]pyrazin-7(8H)-yl)-2-methylpropan-1-one; and 2-amino-1-(3-(4-chlorophenylamino)-2-(4-fluorophenyl)-8,8-dimethyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)ethanone.

[0054] In a further embodiment are compounds selected from: 2-amino-1-{3-[(3,5-dimethylphenyl)amino]-2-phenyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[3-(2H-1,3-benzodioxol-5-ylamino)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-amino-1-[3-(cyclopentylamino)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[3-(cyclopentylamino)-2-phenyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-2-methyl-1-[2-phenyl-3-(phenylamino)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; methyl 4-{[7-(2-amino-2-methylpropanoyl)-2-phenyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzoate; 2-amino-1-[2-(2-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-amino-1-{3-[(4-fluorophenyl)amino]-2-phenyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-{3-[(4-fluorophenyl)amino]-2-(2,4,6-trifluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-[2-(3,5-difluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-amino-1-{3-[(4-fluorophenyl)amino]-2-(4-pentylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-{2-cyclohexyl-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-(pyridin-3-ylamino)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-

methylpropan-1-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; 4-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]butan-1-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-phenylpropan-1-one; (2R)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-phenylpropan-1-one; 2-amino-1-{3-[(4-bromophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-(dimethylamino)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[3-(benzylamino)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-(4-chlorophenyl)-3-(4-methylphenyl)imidazo[1,2-a]pyrazine; N-{2-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxoethyl}acetamide; N,2-bis(4-fluorophenyl)imidazo[1,2-a]pyrazin-3-amine; 2-amino-1-[3-(cyclohexylamino)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; N,2-bis(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-[2,3-bis(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(methylamino)ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(pyrrolidin-1-yl)ethan-1-one; 3-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-[(3-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-[(3-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-

5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(morpholin-4-yl)ethan-1-one; 4-{2-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxoethyl}-1$l^{6},4-thiomorpholine-1,1-dione; 2-(3,3-difluoropiperidin-1-yl)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxyethan-1-one; 7-[(1-aminocyclopropyl)carbonyl]-N,2-bis(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-{1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methyl-1-oxopropan-2-yl}acetamide; 2-amino-1-[2-(4-chlorophenyl)-3-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 7-benzyl-N,2-bis(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; benzyl N-{2-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxoethyl}carbamate; 2-amino-3,3,3-trifluoro-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; 2-amino-1-[2-(4-fluoro-2-hydroxyphenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(4-fluorophenyl)amino]-2-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(4-fluorophenyl)amino]-2-(4-methoxyphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-[2-(4-bromophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-chlorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-(3,3-difluoropyrrolidin-1-yl)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(3R)-3-fluoropyrrolidin-1-yl]ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(3S)-3-fluoropyrrolidin-1-yl]ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(4-fluoropiperidin-1-yl)ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[4-(trifluoromethyl)piperidin-1-yl]ethan-1-one; 2-(4,4-difluoropiperidin-1-yl)-1-[2-(4-

fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[3-(trifluoromethyl)piperidin-1-yl]ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(3-hydroxypiperidin-1-yl)ethan-1-one; 2-[(2,2-difluoroethyl)amino]-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(3,5-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-{3-[(3,5-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-(cyclopropylamino)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(2-methylpropyl)amino]ethan-1-one; 2-amino-1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-{[4-(trifluoromethyl)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-{[4-(trifluoromethyl)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-(3,3-difluoropiperidin-1-yl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(methylamino)ethan-1-one; 1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(3,3-difluoropiperidin-1-yl)ethan-1-one; 1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(methylamino)ethan-1-one; 2-amino-1-{3-[(3-chloro-4-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(2,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-{3-[(2,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; (2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxypropan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-phenylethan-1-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-

methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2R)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]butan-1-one; 2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[(3R)-piperidin-3-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[(3S)-piperidin-3-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 7-[2-(diethylamino)ethyl]-2-(4-fluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 7-{[(2S)-azetidin-2-yl]carbonyl}-2-(4-fluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[(2R)-pyrrolidin-2-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[(2S)-pyrrolidin-2-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[(2S)-piperidin-2-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[(2R)-piperidin-2-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[(3R)-pyrrolidin-3-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[(3S)-pyrrolidin-3-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; (2R)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenylethan-1-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenylethan-1-one; 1-{[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]carbonyl}cyclopropan-1-ol; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxy-3-methylbutan-1-one; N-[(5S)-5-amino-6-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-6-oxohexyl]acetamide; N-[(5S)-5-amino-6-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-6-oxohexyl]-2,2,2-trifluoroacetamide; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxypropan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-methylbutan-

1-one; (1S,2S)-2-{[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]carbonyl}cyclopentan-1-ol; (2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-phenylpropan-1-one; 2-(4-fluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxyethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxybutan-1-one; (2R)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-phenylpropan-1-one; (2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3,3-dimethylbutan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-phenylpropan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2,2-diphenylethan-1-one; 2-(4-fluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-(trifluoromethyl)butan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-methylpropan-1-one; 1-{[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]carbonyl}cyclopentan-1-ol; 1-{[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]carbonyl}cyclohexan-1-ol; (2R)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-4-phenylbutan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxy-2,2-dimethyl-3-(4-methylphenyl)propan-1-one; 4,4,4-trifluoro-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxy-3-methylbutan-1-one; (2S)-2-cyclohexyl-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxyethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-(4-methoxyphenyl)ethan-1-one; 2-(3,5-difluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxyethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-[3-(trifluoromethyl)phenyl]ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-

methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methoxy-2-phenylethan-1-one; 2-(4-bromophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxyethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-[4-(trifluoromethyl)phenyl]ethan-1-one; 3,3,3-trifluoro-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methoxy-2-phenylpropan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-(3-hydroxyphenyl)ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-(4-hydroxyphenyl)ethan-1-one; 2-(2-chlorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxyethan-1-one; 2-(4-bromo-2-fluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxyethan-1-one; 2-(4-chlorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxyethan-1-one; (2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-4-methylpentan-1-one; (3S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxy-3-phenylpropan-1-one; 2-(4-fluorophenyl)-N-(4-methylphenyl)imidazo[1,2-a]pyrazin-3-amine; (2R)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-phenylethan-1-one; (2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-phenylethan-1-one; 7-[(1-aminocyclobutyl)carbonyl]-2-(4-fluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 7-[(1-aminocyclopentyl)carbonyl]-2-(4-fluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 7-[(1-aminocyclohexyl)carbonyl]-2-(4-fluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-amino-4,4,4-trifluoro-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]butan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxy-3-methylpentan-1-one; 2-amino-3,3,3-trifluoro-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2S)-3-cyclohexyl-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-

a]pyrazin-7-yl]-2-hydroxypropan-1-one; 2-(benzylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-(dipropylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; (2S)-2-(dipropylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(methylamino)-3-phenylpropan-1-one; benzyl (4S)-4-{[(tert-butoxy)carbonyl]amino}-5-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-5-oxopentanoate; benzyl (3S)-3-{[(tert-butoxy)carbonyl]amino}-4-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-oxobutanoate; tert-butyl N-[(5S)-5-{[(benzyloxy)carbonyl]amino}-6-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-6-oxohexyl]carbamate; 2-(cyclopropylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; N-[4-({2-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxoethyl}amino)butyl]acetamide; 2-(4-fluorophenyl)-7-{2-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethyl}-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; (2S)-2,6-diamino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]hexan-1-one; (2S)-2-amino-3-(4-aminophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; N-[(5S)-5-amino-6-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-6-oxohexyl]butanamide; N-[(5S)-5-amino-6-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-6-oxohexyl]-1-(5-{2-oxo-hexahydro-1H-thieno[3,4-d]imidazolidin-4-yl}pentanamido)-3,6,9,12-tetraoxapentadecan-15-amide; N-{4-[(2S)-2-amino-3-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-oxopropyl]phenyl}acetamide; 2-[bis(2-hydroxyethyl)amino]-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; (4S)-4-{[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]carbonyl}azetidin-2-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxypropan-1-one; 2,2,2-trifluoro-N-[(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-

5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxy-1-oxopropan-2-yl]acetamide; 6-{[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]carbonyl}-1,2,3,4-tetrahydropyrimidine-2,4-dione; {2-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxoethyl}urea; 1-{2-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxoethyl}guanidine; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(phenylamino)ethan-1-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methylbutan-1-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3,3-dimethylbutan-1-one; (3S)-3-amino-4-(4-bromophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]butan-1-one; (3S)-3-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-(2,4,5-trifluorophenyl)butan-1-one; 2-(4-chlorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; 2-(4-chlorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; (2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenylpropan-1-one; 2-(4-fluorophenyl)-7-{[(6S)-1H,4H,5H,6H,7H-imidazo[4,5-c]pyridin-6-yl]carbonyl}-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; (2S)-2-(dimethylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-phenylpropan-1-one; 2-[4-(2-aminoethyl)piperidin-1-yl]-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-(4-fluorophenyl)-7-[(4-methanesulfonylphenyl)methyl]-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[4-(morpholin-4-yl)phenyl]methyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[4-(4-methylpiperazin-1-yl)phenyl]methyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 7-{[4-(diethylamino)phenyl]methyl}-2-(4-fluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 7-({4-[3-(dimethylamino)propoxy]phenyl}methyl)-2-(4-fluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[4-(pyridin-4-yl)phenyl]methyl}-5H,6H,7H,8H-

imidazo[1,2-a]pyrazin-3-amine; tert-butyl N-[(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-1-oxo-3-(4-propanamidophenyl)propan-2-yl]carbamate; tert-butyl N-[(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-1-oxo-3-(propylcarbamoyl)propan-2-yl]carbamate; N-{4-[(2S)-2-amino-3-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-oxopropyl]phenyl}propanamide; (4S)-4-amino-5-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-5-oxo-N-propylpentanamide; (3S)-3-amino-4-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-oxo-N-propylbutanamide; 3-amino-4,4,4-trifluoro-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]butan-1-one; 2-(3-fluorophenyl)-N-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 7-{[(1S,2R)-2-aminocyclopentyl]carbonyl}-2-(4-fluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3,3,3-trifluoropropan-1-one; (2R)-2-amino-3,3,3-trifluoro-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2S)-2-amino-3,3,3-trifluoro-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; N-{4-[(2S)-2-amino-3-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-oxopropyl]phenyl}butanamide; (2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methoxypropan-1-one; 2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[(2R)-oxolan-2-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[(2S)-oxolan-2-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenoxybutan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenoxypropan-1-one; 2-(3-chlorophenoxy)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-

hydroxy-3-methylbutan-1-one; (2R)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-methylbutan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(pyrimidin-4-yl)ethan-1-one; N-(4-chloro-3-fluorophenyl)-2-(3-fluorophenyl)imidazo[1,2-a]pyrazin-3-amine; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methyl-2-(2-methylphenoxy)butan-1-one; 2-(4-fluorophenyl)-N-(4-methylphenyl)-7-[(oxan-4-yl)carbonyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; (2S)-2-ethoxy-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-(4-hydroxyphenyl)propan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(oxolan-2-yl)ethan-1-one; 2-(4-fluorophenyl)-N-(4-methylphenyl)-7-[(oxolan-3-yl)carbonyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; (2S)-2-amino-3-[4-(aminomethyl)phenyl]-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; 2-(1-ethylpiperidin-4-yl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(oxolan-3-yl)ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(oxan-2-yl)ethan-1-one; N-(4-chloro-3-fluorophenyl)-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-({4-[(2S)-2-amino-3-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-oxopropyl]phenyl}methyl)butanamide; N-({4-[(2S)-2-amino-3-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-oxopropyl]phenyl}methyl)propanamide; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(piperidin-4-yl)ethan-1-one; 2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3,3,3-trifluoropropan-1-one; (2R)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-phenylpropan-1-one; (2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-phenylpropan-1-one; (2R)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenylbutan-1-one; (2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenylbutan-1-one;

2-cyclopentyl-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenylethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(pyridin-4-yl)ethan-1-one; 2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-(3,5-dichlorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methyl-2-phenylbutan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(4-methylphenyl)ethan-1-one; 2-(4-fluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-hydroxy-3-methylbutan-1-one; 1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxy-3-methylbutan-1-one; benzyl (3S)-3-{[(tert-butoxy)carbonyl]amino}-4-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-4-oxobutanoate; benzyl (3S)-3-{[(tert-butoxy)carbonyl]amino}-4-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-oxobutanoate; tert-butyl N-[(2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(4-nitrophenyl)-1-oxopropan-2-yl]carbamate; tert-butyl N-[(2S)-1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-(4-nitrophenyl)-1-oxopropan-2-yl]carbamate; (3S)-3-{[(tert-butoxy)carbonyl]amino}-4-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-4-oxobutanoic acid; (3S)-3-{[(tert-butoxy)carbonyl]amino}-4-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-oxobutanoic acid; tert-butyl N-[(2S)-3-(4-aminophenyl)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-1-oxopropan-2-yl]carbamate; tert-butyl N-[(2S)-3-(4-aminophenyl)-1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-1-oxopropan-2-yl]carbamate; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxy-2,2-dimethylpropan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-

methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxy-2-(hydroxymethyl)-2-methylpropan-1-one; tert-butyl N-[(2S)-3-(3-aminophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-1-oxopropan-2-yl]carbamate; tert-butyl N-[(2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-1-oxo-3-(propylcarbamoyl)propan-2-yl]carbamate; tert-butyl N-[(2S)-1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-1-oxo-3-(propylcarbamoyl)propan-2-yl]carbamate; 4-{[2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzonitrile; tert-butyl N-[(2S)-1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-1-oxo-3-(pentylcarbamoyl)propan-2-yl]carbamate; 1-{[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]carbonyl}-N,N-dimethylpyrrolidin-3-amine; tert-butyl N-[(2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-1-oxo-3-(4-pentanamidophenyl)propan-2-yl]carbamate; tert-butyl N-[(2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-1-oxo-3-(4-propanamidophenyl)propan-2-yl]carbamate; tert-butyl N-[(2S)-1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-1-oxo-3-(4-pentanamidophenyl)propan-2-yl]carbamate; (3S)-3-amino-4-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-4-oxo-N-propylbutanamide; (3S)-3-amino-4-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-oxo-N-propylbutanamide; (3S)-3-amino-4-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-oxo-N-pentylbutanamide; N-{4-[(2S)-2-amino-3-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-oxopropyl]phenyl}pentanamide; N-{4-[(2S)-2-amino-3-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-oxopropyl]phenyl}propanamide; N-{4-[(2S)-2-amino-3-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-oxopropyl]phenyl}pentanamide; N-{4-[(2S)-2-amino-3-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-oxopropyl]phenyl}propanamide; N-(4-chlorophenyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 4-{[7-(2-amino-2-methylpropanoyl)-2-(4-fluorophenyl)-

5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzonitrile; 4-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzonitrile; 4-{[2-(4-fluorophenyl)-7-(3-hydroxy-3-methylbutanoyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzonitrile; 2-(3-methylphenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; tert-butyl N-[(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-1-oxo-3-[4-(pentylamino)phenyl]propan-2-yl]carbamate; 2-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxo-1-phenylethyl propanoate; 2-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxo-1-phenylethyl butanoate; 2-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxo-1-phenylethyl pentanoate; 2-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-1-(4-fluorophenyl)ethan-1-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-[4-(pentylamino)phenyl]propan-1-one; 2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[4-(3-methylpiperidin-1-yl)piperidin-1-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[4-(piperidin-1-yl)piperidin-1-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(4-fluorophenyl)-7-{[4-(4-fluorophenyl)piperidin-1-yl]carbonyl}-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; ethyl 1-{[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]carbonyl}piperidine-3-carboxylate; N-[2-(diethylamino)ethyl]-2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazine-7-carboxamide; 2-(3,4-difluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(3-chlorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(2,4-difluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; (2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-[(2-hydroxypropyl)amino]-3-phenylpropan-1-one; (2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-[(2-methoxyethyl)amino]-3-phenylpropan-1-one; 3-{[(5R,8S)-2,8-dibenzyl-3-methyl-5-(2-phenylethyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]carbonyl}pyridine; (2R)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxypropan-1-one;

(2R,3S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxybutan-1-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-methanesulfonylbutan-1-one; (3R)-3-amino-4-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-oxobutanoic acid; (2R)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methanesulfonylpropan-1-one; (5R,8R)-2,8-dibenzyl-3-methyl-5-(2-phenylethyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; N-[(1S)-2-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxo-1-phenylethyl]propanamide; N-[(1S)-2-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxo-1-phenylethyl]butanamide; N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-N-methyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-amino-1-{3-[(4-chloro-3-fluorophenyl)(methyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(4-chloro-3-fluorophenyl)(methyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; (2S)-2-(butylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenylethan-1-one; (2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(pentylamino)-2-phenylethan-1-one; N-tert-butyl-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-[(1S)-2-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxo-1-phenylethyl]-1-(5-{2-oxo-hexahydro-1H-thieno[3,4-d]imidazolidin-4-yl}pentanamido)-3,6,9,12-tetraoxapentadecan-15-amide; 3-amino-2-(4-fluorophenyl)-7-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; (2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-methoxypropan-1-one; 1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(pyridin-4-yl)ethan-1-one; 1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(1H-indol-1-yl)ethan-1-one; 1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(1-ethylpiperidin-4-yl)ethan-1-one; 1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-

5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(phenylamino)ethan-1-one; 1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(1H-indazol-3-yl)ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(propylamino)ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(pentylamino)ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(2-methoxyethyl)amino]ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(3-methoxypropyl)amino]ethan-1-one; (2R)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-phenylpropan-1-one; (2S,3S)-2-amino-3-(benzyloxy)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}butan-1-one; (2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-methylbutan-1-one; (2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one; (2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(1,3-thiazol-4-yl)propan-1-one; (2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(4-fluorophenyl)propan-1-one; (2S,3S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-methylpentan-1-one; (2R)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-methylbutan-1-one; (2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(3,4-difluorophenyl)propan-1-one; 1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methyl-2-(methylamino)propan-1-one; 7-{[(2S)-azetidin-2-yl]carbonyl}-N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; (2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-4-methylpentan-1-one; N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-7-[(morpholin-3-yl)carbonyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; (2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-

phenylpropan-1-one; (2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-cyclobutylpropan-1-one; (2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3,3-dimethylbutan-1-one; (2R)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one; 4-[(2S)-2-amino-3-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-oxopropyl]benzonitrile; 2-(4-fluorophenyl)-6-methyl-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(2,5-difluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-(3,4-difluorophenyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-phenyl-2-(phenylamino)ethan-1-one; 1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-[2-(trifluoromethoxy)phenyl]ethan-1-one; (2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-hydroxy-3-phenylpropan-1-one; 1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-[4-fluoro-3-(trifluoromethyl)phenyl]ethan-1-one; 1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-phenoxyethan-1-one; 5-({3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}carbonyl)piperidin-2-one; N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-7-{[(2S)-pyrrolidin-2-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 3-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-4,4,4-trifluorobutan-1-one; N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-7-{[(3S)-pyrrolidin-3-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; (2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(4-methylphenyl)propan-1-one; N-(4-chloro-3-fluorophenyl)-7-[(2,3-dihydro-1H-isoindol-1-yl)carbonyl]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-(4-chloro-3-fluorophenyl)-7-{[(2S)-2,3-dihydro-1H-indol-2-yl]carbonyl}-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; (3S)-3-amino-4-(4-bromophenyl)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}butan-1-one; (2R)-2-amino-3-(4-

bromophenyl)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one; (2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-{[(4-methoxyphenyl)methyl]sulfanyl}propan-1-one; N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-7-{[(3R)-1,2,3,4-tetrahydroisoquinolin-3-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-4,4,4-trifluorobutan-1-one; 2-(2-butoxyethoxy)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-ethoxy-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(2-methoxyethoxy)ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-6-methyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 5-{[7-(2-amino-2-methylpropanoyl)-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-fluorobenzonitrile; N-(4-methylphenyl)-2-(pyridin-4-yl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-{[2-chloro-4-(trifluoromethyl)phenyl]amino}-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methylbutan-1-one; N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-7-{[(2R)-oxolan-2-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(1-methyl-1H-indol-3-yl)ethan-1-one; (2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-hydroxy-4-methylpentan-1-one; 1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(2-fluorophenyl)propan-1-one; (2R)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-hydroxy-3-methylbutan-1-one; 2-[(3-chlorophenyl)amino]-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(4-methylphenyl)amino]ethan-1-one; 2-(4-chloro-3-fluorophenyl)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(4-methoxyphenyl)amino]-2-methylpropan-1-

one; 2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(3,4-dichlorophenyl)ethan-1-one; 2-amino-3,3,3-trifluoro-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-7-[(morpholin-2-yl)carbonyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-[4-(trifluoromethyl)phenyl]ethan-1-one; 2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(4-chlorophenyl)ethan-1-one; N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-7-[(quinolin-6-yl)carbonyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(4-methylphenyl)amino]-2-phenylethan-1-one; N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-7-[(4-methylmorpholin-2-yl)carbonyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(2-fluorophenyl)amino]ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methyl-2-(phenylamino)propan-1-one; 2-amino-1-(3-{[4-fluoro-2-(trifluoromethyl)phenyl]amino}-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl)-2-methylpropan-1-one; (2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methyl-2-(methylamino)butan-1-one; (2R)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-methyl-2-(methylamino)pentan-1-one; (2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-methyl-2-(methylamino)pentan-1-one; 2-amino-1-[2-(3,4-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-[(2,6-dimethylphenyl)amino]-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; 2-amino-1-[2-(2-methoxyphenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(4-methylphenyl)amino]-2-(pyridin-4-yl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-[2-(3-chlorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-[(2,4-dimethylphenyl)amino]-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-

one; 2-amino-1-[2-(3,4-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methyl-2-[(4-methylphenyl)amino]propan-1-one; 2-amino-1-[2-(2,4-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; (2S)-2-[benzyl(methyl)amino]-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(methylamino)hexan-1-one; 1-[2-(3,4-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(4-methylphenyl)ethan-1-one; (2R)-1-[2-(3,4-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-methylbutan-1-one; (2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(methylamino)pentan-1-one; (2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}butan-1-one; (2R)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-4-methylpentan-1-one; 2-amino-1-[2-(2,4-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; (2S)-2-amino-1-[2-(3,4-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methylbutan-1-one; 2-amino-1-[2-(3-chlorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-amino-2-methyl-1-{3-[(4-methylphenyl)amino]-2-(pyridin-4-yl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one; 2-(tert-butylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; (2S)-3-(4-chlorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(methylamino)propan-1-one; (2S)-2-amino-3-cyclopropyl-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2R)-2-(benzylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2S)-2-(benzylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2S)-2-amino-2-cyclopropyl-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; (2S)-2-amino-3-(3,4-difluorophenyl)-1-[2-(3,4-

difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2S)-2-amino-1-[2-(3,4-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; 1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(4-methylphenyl)amino]propan-1-one; 2-amino-1-[2-(2,5-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(3,4-dichlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; N-(3,4-dichlorophenyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; N-(4-chloro-3-fluorophenyl)-N-ethyl-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; (2R)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methyl-2-(methylamino)butan-1-one; 2-(4-fluorophenyl)-8,8-dimethyl-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-(4-chlorophenyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-[2-(2,5-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; N-(3,4-difluorophenyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-amino-1-{3-[(3-chloro-4-fluorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; N-(3-chloro-4-fluorophenyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 4-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzonitrile; 4-{[2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzonitrile; 2-amino-1-{3-[(3,4-difluoro-5-methoxyphenyl)amino]-2-

(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-{3-[(4-fluoro-3,5-dimethylphenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; (2S)-2-amino-3-cyclobutyl-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one; (2R)-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-hydroxy-3-methylbutan-1-one; (2S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(1,3-thiazol-4-yl)propan-1-one; (2S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(4-methylphenyl)propan-1-one; (2S)-2-amino-3-(3,4-difluorophenyl)-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one; (2S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-methylbutan-1-one; (2S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one; (2S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(4-fluorophenyl)ethan-1-one; (2S)-2-amino-2-cyclopropyl-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; (2S)-2-amino-3-cyclopropyl-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one; (2S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-4-methylpentan-1-one; (2S)-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-hydroxy-3-methylbutan-1-one; 7-{[(2S)-azetidin-2-yl]carbonyl}-N-(3,4-difluorophenyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; (2S,3S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-methylpentan-1-one; (2S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(4-fluorophenyl)propan-1-one; N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-N-(propan-2-yl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-(3-fluorophenyl)-2-(4-fluorophenyl)-N-(propan-2-yl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-ethyl-N-(3-fluorophenyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-(3-chloro-4-fluorophenyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; (2S)-2-amino-1-{3-[(4-

chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one; (2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-methylbutan-1-one; (2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-cyclopropylethan-1-one; (2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-cyclopropylpropan-1-one; (2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-cyclobutylpropan-1-one; (2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-4-methylpentan-1-one; (2S,3S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-methylpentan-1-one; (2S)-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-hydroxy-3-methylbutan-1-one; (2R)-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-hydroxy-3-methylbutan-1-one; (2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(4-fluorophenyl)ethan-1-one; (2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(4-fluorophenyl)propan-1-one; (2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(4-methylphenyl)propan-1-one; (2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(3,4-difluorophenyl)propan-1-one; (2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(1,3-thiazol-4-yl)propan-1-one; 7-{[(2S)-azetidin-2-yl]carbonyl}-N-(4-chlorophenyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; (2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3,3-dimethylbutan-1-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methylbutan-1-one; (2S)-2-amino-2-cyclopropyl-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; (2S)-2-amino-3-cyclopropyl-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2S)-2-amino-3-cyclobutyl-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-

fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-methylpentan-1-one; (2S,3S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methylpentan-1-one; (2S)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-methylbutan-1-one; (2R)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-methylbutan-1-one; (2S)-2-amino-2-(4-fluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; (2S)-2-amino-3-(4-fluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-(4-methylphenyl)propan-1-one; (2S)-2-amino-3-(3,4-difluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-(1,3-thiazol-4-yl)propan-1-one; 7-{[(2S)-azetidin-2-yl]carbonyl}-N,2-bis(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3,3-dimethylbutan-1-one; (2S)-2-amino-3-cyclobutyl-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-methylpentan-1-one; (2S,3S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methylpentan-1-one; (2S)-2-amino-2-(4-fluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-(4-methylphenyl)propan-1-one; (2S)-2-amino-3-(4-fluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2S)-2-amino-3-(3,4-difluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-(1,3-thiazol-4-yl)propan-1-one; (2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-cyclopropylethan-1-one; (2S)-2-

amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-cyclopropylpropan-1-one; (2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-hydroxy-3-methylbutan-1-one; (2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(4-fluorophenyl)ethan-1-one; (2S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3,3-dimethylbutan-1-one; 2-amino-1-{3-[(3-chloro-4-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; N,2-bis(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(4-fluoro-3-methylphenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-amino-1-{3-[(4-fluoro-3-methylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(4-chloro-3-methylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-(3-chloro-4-fluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(4-chloro-3-fluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(3-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-(4-fluorophenyl)-8,8-dimethyl-3-{[3-(trifluoromethyl)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 2-(4-fluorophenyl)-3-[(3-fluorophenyl)amino]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; (2S)-2-amino-3-(4-fluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2,4-dimethylpentan-1-one; (2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxy-2-methylpropan-1-one; (2R)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxy-2-methylpropan-1-one; 3-[(3,4-dichlorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-

imidazo[1,2-a]pyrazin-6-one; 4-{[2-(4-fluorophenyl)-8,8-dimethyl-6-oxo-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzonitrile; 3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(3-chloro-4-fluorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; N-(3-fluorophenyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(4-fluorophenyl)-8,8-dimethyl-N-[3-(trifluoromethyl)phenyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2,2,2-trifluoro-1-[2-(4-fluorophenyl)-3-[(3-fluorophenyl)amino]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluoro-3-methylphenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluoro-3-methylphenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-amino-1-[2-(3-chloro-4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-chloro-3-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-chloro-3-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 5-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-fluorobenzonitrile; 2-fluoro-5-{[2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzoic acid; 2-fluoro-5-{[2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzonitrile; 5-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-methylbenzonitrile; 5-{[2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-methylbenzoic acid; 5-{[2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-methylbenzonitrile; 2,2,2-trifluoro-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-{[3-(trifluoromethyl)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; tert-butyl N-{1-[3-bromo-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methyl-1-oxopropan-2-yl}carbamate; 2-amino-1-[3-(cyclohexylamino)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(3-

chloro-4-methylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(3-fluoro-4-methylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 4-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-chlorobenzonitrile; 5-{[2-(4-fluorophenyl)-8,8-dimethyl-6-oxo-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-methylbenzonitrile; N,2-bis(4-fluorophenyl)-5,5,7,8,8-pentamethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-fluoro-5-{[2-(4-fluorophenyl)-8,8-dimethyl-6-oxo-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzonitrile; 2-(4-fluorophenyl)-5,5,7,8,8-pentamethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 2-(4-fluorophenyl)-5,5,7,8,8-pentamethyl-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; tert-butyl N-{2-[2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxoethyl}carbamate; N-(3-fluoro-4-methylphenyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-(3-chloro-4-methylphenyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-(4-fluorophenyl)-8,8-dimethyl-3-[(3,4,5-trifluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(4-fluoro-3-methylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 2-(4-fluorophenyl)-3-[(6-methoxypyridin-3-yl)amino]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(3-chloro-4-methylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-methylpyridin-2-yl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 2-chloro-4-{[2-(4-fluorophenyl)-8,8-dimethyl-6-oxo-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzonitrile; (8R)-3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-8-(propan-2-yl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; (8R)-3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-8-(propan-2-yl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(4-chloro-3-fluorophenyl)amino]-2-(3,4-difluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; N-(3-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}phenyl)methanesulfonamide; 3-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-N-methylbenzamide; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(3,4,5-trifluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-(4-

fluorophenyl)-8,8-dimethyl-N-(3,4,5-trifluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-(4-chlorophenyl)-2-(4-fluorophenyl)-6,6,7-trimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-6,6-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; N-(4-chlorophenyl)-2-(4-fluorophenyl)-6,6-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; (8S)-3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-8-methyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(1,5-dimethyl-1H-pyrazol-3-yl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-({[(2S)-1-ethylpyrrolidin-2-yl]methyl}amino)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; (8S)-3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-8-(propan-2-yl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; (8S)-3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-8-methyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; (8R)-3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-8-methyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; (8R)-3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-8-methyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 2-(4-fluorophenyl)-8,8-dimethyl-3-(quinolin-3-ylamino)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 2-(4-fluorophenyl)-3-[(4-methanesulfonylphenyl)amino]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 2-(4-fluorophenyl)-8,8-dimethyl-3-{[4-(4-methylpiperazin-1-yl)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 2-(4-fluorophenyl)-8,8-dimethyl-3-({3-[(4-methylpiperazin-1-yl)methyl]phenyl}amino)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 2-amino-1-[2-(4-fluorophenyl)-3-[(4-methanesulfonylphenyl)amino]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-{[4-(4-methylpiperazin-1-yl)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-(4-fluorophenyl)-8,8-dimethyl-N-[4-(4-methylpiperazin-1-yl)phenyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-amino-1-[2-(4-fluorophenyl)-6,6-dimethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-6,6-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-6,6-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(3-chloro-4-fluorophenyl)amino]-2-(4-fluorophenyl)-6,6-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 5-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-6,6-dimethyl-

5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-fluorobenzonitrile; 2-(4-fluorophenyl)-6,6-dimethyl-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N,2-bis(4-fluorophenyl)-6,6-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-(3,4-difluorophenyl)-2-(4-fluorophenyl)-6,6-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-fluoro-5-{[2-(4-fluorophenyl)-6,6-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzonitrile; 2-(3-fluorophenyl)-7-[(4-methoxyphenyl)methyl]-5,5-dimethyl-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-{3-[(3-chloro-4-fluorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-{3-[(3,4-dichlorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-{3-[(4-fluoro-3-methylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-{3-[(4-chloro-3-methylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 5-{[7-(2-amino-2-methylpropanoyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-methylbenzonitrile; 4-{[7-(2-amino-2-methylpropanoyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-chlorobenzonitrile; (2S)-1-[2-(3-fluorophenyl)-5,5-dimethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-methylbutan-1-one; 2-amino-1-[2-(3-fluorophenyl)-5,5-dimethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-amino-1-[2-(3-fluorophenyl)-5,5-dimethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[(8S)-3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-8-(propan-2-yl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[(8R)-3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-8-methyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[(8S)-3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-8-methyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-

yl]ethan-1-one; 3-[(3-fluoro-4-methylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; (2S)-1-[2-(3-fluorophenyl)-5,5-dimethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-phenylpropan-1-one; 2-amino-1-{3-[(1,5-dimethyl-1H-pyrazol-3-yl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(1-ethyl-1H-pyrazol-5-yl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-[(8R)-3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-8-(propan-2-yl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 3-[(3-fluoro-4-methylphenyl)amino]-2-(3-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(3-chloro-4-methylphenyl)amino]-2-(3-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; N,2-bis(4-fluorophenyl)-7,8,8-trimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-(4-chlorophenyl)-2-(4-fluorophenyl)-7,8,8-trimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-(4-chlorophenyl)-2-(4-fluorophenyl)-5,5,7-trimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-5,5,7-trimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-(4-chloro-3-methylphenyl)-2-(4-fluorophenyl)-5,5,7-trimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; N-(3,4-difluorophenyl)-2-(4-fluorophenyl)-5,5,7-trimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 5-{[2-(4-fluorophenyl)-5,5,7-trimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-methylbenzonitrile; 3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-7-[(4-methoxyphenyl)methyl]-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(4-chloro-3-methylphenyl)amino]-2-(4-fluorophenyl)-7-[(4-methoxyphenyl)methyl]-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5,5,7-trimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(4-chloro-3-methylphenyl)amino]-2-(4-fluorophenyl)-5,5,7-trimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(4-fluoro-3-methylphenyl)amino]-2-(4-fluorophenyl)-5,5,7-trimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(4-chloro-3-methylphenyl)amino]-2-(4-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 2-amino-1-{3-[(4-chlorophenyl)amino]-2-(3-fluorophenyl)-5,5-dimethyl-

5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(3-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(3-chloro-4-fluorophenyl)amino]-2-(3-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(4-fluoro-3-methylphenyl)amino]-2-(3-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(4-chloro-3-methylphenyl)amino]-2-(3-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; N-(3-chloro-4-fluorophenyl)-2-(4-fluorophenyl)-7,8,8-trimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine; 2-amino-1-{3-[(4-fluoro-3-methylphenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-{3-[(4-chloro-3-methylphenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 5-{[7-(2-amino-2-methylpropanoyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-methylbenzonitrile; 2-amino-1-{3-[(3-fluoro-4-methylphenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-{3-[(3-chloro-4-methylphenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-(3-{[3-chloro-4-(trifluoromethyl)phenyl]amino}-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl)-2-methylpropan-1-one; 2-amino-1-(3-{[4-fluoro-3-(trifluoromethyl)phenyl]amino}-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl)-2-methylpropan-1-one; 4-{[7-(2-amino-2-methylpropanoyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-(trifluoromethyl)benzonitrile; 5-{[7-(2-amino-2-methylpropanoyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-fluorobenzonitrile; 2-amino-1-{3-[(3,4-dimethylphenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-[(3-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-amino-1-{3-[(3-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-{[3-(trifluoromethoxy)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-

methylpropan-1-one; 2-amino-1-{3-[(4-ethylphenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 2-amino-1-(3-{[4-(difluoromethoxy)phenyl]amino}-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl)-2-methylpropan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-{[4-(trifluoromethoxy)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-amino-1-{3-[(3,5-dichlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one; 10-[(3,4-difluorophenyl)amino]-11-(4-fluorophenyl)-4,4-dimethyl-3,6,9,12-tetraazatricyclo[7.3.0.0{2,6}]dodeca-1(12),2,10-trien-5-one; 10-[(3,4-difluorophenyl)amino]-11-(4-fluorophenyl)-4,4-dimethyl-3,6,9,12-tetraazatricyclo[7.3.0.0{2,6}]dodeca-1(12),10-dien-5-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-phenylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(4-ethylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-{[4-(trifluoromethoxy)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-{[3-(trifluoromethoxy)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(3-chlorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-{[3-(trifluoromethyl)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 3-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzonitrile; 2-amino-1-{3-[(3,4-dimethylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 4-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-(trifluoromethyl)benzonitrile; 2-amino-1-{3-[(3,5-dimethylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-(3-{[4-fluoro-3-(trifluoromethyl)phenyl]amino}-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl)ethan-1-one; 2-amino-1-(3-{[3-chloro-4-(trifluoromethyl)phenyl]amino}-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl)ethan-1-one; 2-amino-1-{3-[(4-chloro-3-methylphenyl)amino]-2-(4-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-

1-{3-[(4,4-difluorocyclohexyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-phenylcyclohexyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-{[4-(trifluoromethyl)cyclohexyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(4-tert-butylcyclohexyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(2-methylcyclohexyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[3-(cycloheptylamino)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(3,3,5-trimethylcyclohexyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(1R,2R,4S)-bicyclo[2.2.1]heptan-2-ylamino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[3-(dimethylamino)pyrrolidin-1-yl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[4-(piperidin-1-yl)piperidin-1-yl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[3-(cyclopentylamino)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[3-(cyclobutylamino)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-(oxan-4-ylamino)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[4-(1-methylpiperidin-4-yl)piperazin-1-yl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(2-methylbutyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-5,5-dimethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(4-chlorophenyl)(methyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 7-[2-(dimethylamino)ethyl]-2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-methylphenyl)amino]-

5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 7-[2-(dimethylamino)ethyl]-3-[(3-fluoro-4-methylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(3-chloro-4-methylphenyl)amino]-7-[2-(dimethylamino)ethyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 7-[2-(dimethylamino)ethyl]-3-[(4-fluoro-3-methylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(4-chloro-3-methylphenyl)amino]-7-[2-(dimethylamino)ethyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(4-chloro-3-fluorophenyl)amino]-7-[2-(dimethylamino)ethyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 7-(azetidin-3-ylmethyl)-3-[(4-fluoro-3-methylphenyl)amino]-2-(3-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 7-(2-aminoethyl)-2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-7-(2-hydroxyethyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 7-(3-aminopropyl)-3-[(4-fluoro-3-methylphenyl)amino]-2-(3-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(4-fluoro-3-methylphenyl)amino]-2-(3-fluorophenyl)-7-(3-hydroxypropyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 3-[(4-fluoro-3-methylphenyl)amino]-2-(3-fluorophenyl)-7-(3-methoxypropyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-6-one; 4-{3-[(4-fluoro-3-methylphenyl)amino]-2-(3-fluorophenyl)-8,8-dimethyl-6-oxo-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}butanoic acid; 2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)methyl]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-methylphenyl)methyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-[(4-methoxyphenyl)methyl]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(3,4-difluorophenyl)methyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)methyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-methylpiperazin-1-yl)methyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[3-(cyclohexylmethyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-(4-methylphenyl)propan-1-one; 2-amino-4-(3-fluorophenyl)-1-[2-(4-

fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]butan-1-one; 2-amino-4-(4-chlorophenyl)-1-[2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]butan-1-one; 2-amino-3-cyclohexyl-1-[2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2,3-bis(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[3-(3-chloro-4-fluorophenyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; N,2-bis(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazine-3-carboxamide; 7-(2-aminoacetyl)-N,2-bis(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazine-3-carboxamide; 2-amino-1-[3-(4-fluorophenoxy)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[3-(4-chlorophenoxy)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[3-(3,4-difluorophenoxy)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[3-(4-fluoro-3-methylphenoxy)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-methylphenyl)sulfanyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-[(3-fluorophenyl)sulfanyl]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)sulfanyl]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(4-chlorophenyl)sulfanyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(3,5-dimethylphenyl)sulfanyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(3,4-difluorophenyl)sulfanyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(3-fluorobenzene)sulfinyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(4-fluorobenzene)sulfinyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-methylbenzene)sulfinyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one; 2-amino-1-{3-[(3,5-dimethylbenzene)sulfinyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(3,4-difluorobenzene)sulfinyl]-2-(4-

fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; 2-amino-1-{3-[(4-chlorobenzene)sulfinyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; and 2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-methylbenzene)sulfonyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one.

[0055] In an embodiment of the invention are compounds selected from: N-{2-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxoethyl}-3-phenylpropanamide; N-{2-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxoethyl}-3-{8-oxatricyclo[7.4.0.0{2,7}]trideca-1(9),2,4,6,10,12-hexaen-4-yl}propanamide; N-{2-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxoethyl}-3-(3-phenylpropanamido)propanamide; N-{2-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxoethyl}-3-(3-{8-oxatricyclo[7.4.0.0{2,7}]trideca-1(9),2,4,6,10,12-hexaen-4-yl}propanamido)propanamide; N-[3-({2-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxoethyl}amino)propyl]-3-phenylpropanamide; 5,5-difluoro-3-(3-(2-(2-(4-fluorophenyl)-3-(4-fluorophenylamino)-8,8-dimethyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)-2-oxoethylamino)-3-oxopropyl)-7-phenyl-5H-dipyrrolo[1,2-c:1',2'-f][1,3,2]diazaborinin-4-ium-5-uide; and 5,5-difluoro-2-(3-(6-(2-(2-(4-fluorophenyl)-3-(4-fluorophenylamino)-8,8-dimethyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)-2-oxoethylamino)-6-oxohexylamino)-3-oxopropyl)-7-(4-methoxyphenyl)-1,3-dimethyl-5H-dipyrrolo[1,2-c:1',2'-f][1,3,2]diazaborinin-4-ium-5-uide.

[0056] In an embodiment of the invention are compounds selected from: N-(4-methylphenyl)-2-(pyridin-3-yl)-5H,6H,7H,8H-imidazo[1,2-a]pyridin-3-amine; 2-cyclohexyl-N-(2,4,4-trimethylpentan-2-yl)imidazo[1,2-a]pyridin-3-amine; 2-(diphenylmethyl)-N-(2,4,4-trimethylpentan-2-yl)imidazo[1,2-a]pyridin-3-amine; 2-(2-nitrophenyl)-N-(2,4,4-trimethylpentan-2-yl)imidazo[1,2-a]pyridin-3-amine; 2-[2-(thiophen-2-yl)phenyl]-N-(2,4,4-trimethylpentan-2-yl)imidazo[1,2-a]pyridin-3-amine; 2-[2-(difluoromethoxy)phenyl]-N-(2,4,4-trimethylpentan-2-yl)imidazo[1,2-a]pyridin-3-amine; 2-(2-bromophenyl)-N-(2,4,4-trimethylpentan-2-yl)imidazo[1,2-a]pyridin-3-amine; 2-{2-[2-(diethylamino)ethoxy]phenyl}-N-(2,4,4-trimethylpentan-2-yl)imidazo[1,2-a]pyridin-3-amine; 2-[2-(trifluoromethyl)phenyl]-N-(2,4,4-trimethylpentan-2-yl)imidazo[1,2-a]pyridin-3-amine; 2-(2-{3-[(2,4,4-

trimethylpentan-2-yl)amino]imidazo[1,2-a]pyridin-2-yl}phenoxy)ethan-1-ol; 2-[2-(furan-2-yl)phenyl]-N-(2,4,4-trimethylpentan-2-yl)imidazo[1,2-a]pyridin-3-amine; 2-(4-fluorophenyl)-6-methyl-N-(4-methylphenyl)imidazo[1,2-a]pyridin-3-amine; N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyridin-3-amine; 2-(4-fluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyridin-3-amine; 2-(4-fluorophenyl)-N-(4-methylphenyl)imidazo[1,2-a]pyridin-3-amine; N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-6-methylimidazo[1,2-a]pyridin-3-amine; 2-(4-fluorophenyl)-6-methyl-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyridin-3-amine; N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-6-methyl-5H,6H,7H,8H-imidazo[1,2-a]pyridin-3-amine; 8-(3,4-difluorophenylamino)-9-(4-fluorophenyl)-2,2-dimethyl-5,6-dihydrodiimidazo[1,2-a:2',1'-c]pyrazin-3(2H)-one; and 8-(3,4-difluorophenylamino)-9-(4-fluorophenyl)-2,2-dimethyl-1,2,5,6-tetrahydrodiimidazo[1,2-a:2',1'-c]pyrazin-3(10bH)-one.

[0057] In a further embodiment of the invention is a method for treating a Plasmodium related disease in a subject to prevent, inhibit or ameliorate the pathology and/or symptamology of the Plasmodium related disease, comprising administering to a subject, in vivo or in vitro, a therapeutically effective amount of a compound of the invention alone or in combination with a second agent.

[0058] In a further embodiment is a method for treating a Plasmodium related disease in a subject to prevent, inhibit or ameliorate the pathology and/or symptamology of the Plasmodium related disease, comprising administering to a subject, in vivo or in vitro, a therapeutically effective amount of a compound alone or in combination with a second agent, wherein the compound is selected from: 2-amino-1-(3-(benzo[d][1,3]dioxol-5-ylamino)-2-phenyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)ethanone; 2-(2-methoxyphenyl)-N-(2,4,4-trimethylpentan-2-yl)imidazo[1,2-a]pyridin-3-amine; 2-phenyl-N-(2,4,4-trimethylpentan-2-yl)imidazo[1,2-a]pyridin-3-amine; 2-(pyridin-3-yl)-N-(2,4,4-trimethylpentan-2-yl)imidazo[1,2-a]pyridin-3-amine; and 2-(4-fluorophenyl)-N-(2,4,4-trimethylpentan-2-yl)imidazo[1,2-a]pyridin-3-amine.

[0059] In a further embodiment, the Plasmodium related disease is malaria.

[0060] In a further embodiment, the second agent is selected from a kinase inhibitor, an anti-malarial drug and an anti-inflammatory agent. The anti-malarial drug is selected from proguanil, chlorproguanil, trimethoprim, chloroquine, mefloquine,

lumefantrine, atovaquone, pyrimethamine-sulfadoxine, pyrimethamine-dapsone, halofantrine, quinine, quinidine, amodiaquine, amopyroquine, sulphonamides, artemisinin, arteflene, artemether, artesunate, primaquine, and pyronaridine.

[0061] In a further embodiment, the compounds of the invention can be administered prior to, simultaneously with, or after the second agent.

[0062] In a further embodiment, the subject is a human.

Pharmacology and Utility

[0063] Compounds of the invention are useful in the treatment and/or prevention of infections such as those caused by Plasmodium falciparum; Plasmodium vivax; Plasmodium ovale; and Plasmodium malaria, trypanosoma cruzi and parasites of the Leishmania genus , such as, for example, Leishmania donovani.

[0064] Malaria is an infectious disease caused by four protozoan parasites: Plasmodium falciparum; Plasmodium vivax; Plasmodium ovale; and Plasmodium malaria. These four parasites are typically transmitted by the bite of an infected female Anopheles mosquito. Malaria is a problem in many parts of the world and over the last few decades the malaria burden has steadily increased. An estimated 1-3 million people die every year from malaria – mostly children under the age of 5. This increase in malaria mortality is due in part to the fact that Plasmodium falciparum, the deadliest malaria parasite, has acquired resistance against nearly all available antimalarial drugs, with the exception of the artemisinin derivatives.

[0065] Leishmaniasis is caused by one or more than 20 varieties of parasitic protozoa that belong to the genus Leishmania, and is transmitted by the bite of female sand flies. Leishmaniasis is endemic in about 88 countries, including many tropical and sub-tropical areas.

[0066] There are four main forms of Leishmaniasis. Visceral leishmaniasis, also called kala-azar, is the most serious form and is caused by the parasite Leishmania donovani. Patients who develop visceral leishmaniasis can die within months unless they receive treatment. The two main therapies for visceral leishmaniasis are the antimony derivatives sodium stibogluconate (Pentostam®) and meglumine antimoniate (Glucantim®). Sodium stibogluconate has been used for about 70 years and resistance to

this drug is a growing problem. In addition, the treatment is relatively long and painful, and can cause undesirable side effects.

[0067] Human African Trypanosomiasis, also known as sleeping sickness, is a vector-borne parasitic disease. The parasites concerned are protozoa belonging to the Trypanosoma Genus. They are transmitted to humans by tsetse fly (Glossina Genus) bites which have acquired their infection from human beings or from animals harboring the human pathogenic parasites.

[0068] Chagas disease (also called American Trypanosomiasis) is another human parsitic disease that is endemic amongst poor populations on the American continent. The disease is caused by the protozoan parasite Trypanosoma cruzi, which is transmitted to humans by blood-sucking insects. The human disease occurs in two stages: the acute stage, which occurs shortly after infection and the chronic stage, which can develop over many years. Chronic infections result in various neurological disorders, including dementia, damage to the heart muscle and sometimes dilation of the digestive tract, as well as weight loss. Untreated, the chronic disease is often fatal.

[0069] The drugs currently available for treating Chagas disease are Nifurtimox and benznidazole. However, problems with these current therapies include their diverse side effects, the length of treatment, and the requirement for medical supervision during treatment. Furthermore, treatment is really only effective when given during the acute stage of the disease. Resistance to the two frontline drugs has already occurred. The antifungal agent Amphotericin b has been proposed as a second-line drug, but this drug is costly and relatively toxic.

[0070] The phylum, Apicomplexa, contains many members that are human or animal pathogens including, but not limited to, *Plasmodium spp.* (Malaria), *Toxoplasma gondii* (congenital neurological defects in humans), *Eimeria spp.* (poultry and cattle pathogens), *Cryptosporidia* (opportunistic human and animal pathogens), *Babesia* (cattle parasites) and *Theileria* (cattle parasites). The pathogenesis associated with these parasitic diseases is due to repeated cycles of host-cell invasion, intracellular replication and host-cell lysis. Therefore, understanding parasite proliferation is essential for development of novel drugs and vaccines, for example, to treat malaria.

[0071] In vertebrate hosts, the parasite undergoes two main phases of development, the hepathocytic and erythrocytic phases, but it is the erythrocytic phase of its life cycle that causes severe pathology. During the erythrocytic phase, the parasite goes through a complex but well synchronized series of stages, suggesting the existence of tightly regulated signaling pathways.

[0072] Calcium serves as an intracellular messenger to control synchronization and development in the erythrocytic life phase. The Plasmodium spp. genomes reveal many sequence identities with calcium binding/sensing protein motifs that include Pf39, calmodulin, and calcium dependent protein kinases (CDPKs). Plasmodium CDPKs, Plasmodium CDPK3 and 4, have been shown to be involved in mosquito infection. CDPK4 has been demonstrated to be essential for the sexual reproduction in the midgut of mosquito by translating the calcium signal into a cellular response and regulating cell cycle progression in the male gametocyte. CDPK3 regulates ookinete gliding motility and penetration of the layer covering the midgut epithelium. *P. falciparum* CDPK1 (PfCDPK1) is expressed during late schizogony of blood stage and in the infectious sporozoite stage and is secreted to the parasitophorous vacuole by an acylation-dependent mechanism. It can be myristoylated and is abundantly found in detergent-resistant membrane fractions isolated from schizogony-phase parasites. Ontology based pattern identification analysis reveals that PfCDPK1 is clustered with genes associated with either parasite egress or erythrocyte invasion. Direct inhibition of PfCDPK1 can arrest the parasite erythrocytic life cycle progression in the late schizogony phase.

[0073] Therefore, kinase activity is distributed in all the stages of P. falciparum parasite maturation and kinase inhibitors of the present invention can be used for treating Plasmodium related diseases. In particular, kinase inhibitors of the present invention can be a route for treating malaria by inhibiting the kinase PfCDPK1. The in vitro cellular assay, *infra*, can be used to assess the activity of compounds of the invention against a variety of malarial parasite strains.

[0074] Compounds of the invention are inactive against mitogen-activated protein kinase-activated protein kinase 2 (MapKap2 or MK-2). For example, 2-amino-1-(2-(4-fluorophenyl)-3-(4-fluorophenylamino)-8,8-dimethyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)ethanone (example 412) and 2-amino-1-(3-(3,4-difluorophenylamino)-2-(4-

fluorophenyl)-5,6-dihydroimidazo [1,2-a]pyrazin-7(8H)-yl)-2-methylpropan-1-one (Example 29) exhibit only 7% and 15% inhibition, respectively, in a single point concentration on this enzyme.

[0075] Compounds of the invention are relatively inactive against cannabinoid receptor 1 (CB1). For example, 2-amino-1-(2-(4-fluorophenyl)-3-(4-fluorophenylamino)-8,8-dimethyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)ethanone (example 412) and 2-amino-1-(3-(3,4-difluorophenylamino)-2-(4-fluorophenyl)-5,6-dihydroimidazo [1,2-a]pyrazin-7(8H)-yl)-2-methylpropan-1-one (Example 29) have an IC_{50} of 24μM and greater than 30μM, respectively.

[0076] In accordance with the foregoing, the present invention further provides a method for preventing or treating malaria in a subject in need of such treatment, which method comprises administering to said subject a therapeutically effective amount of a compound selected from Formula Ia, Ib, Ic or a pharmaceutically acceptable salt thereof. The required dosage will vary depending on the mode of administration, the particular condition to be treated and the effect desired.

Administration and Pharmaceutical Compositions

[0077] In general, compounds of the invention will be administered in therapeutically effective amounts via any of the usual and acceptable modes known in the art, either singly or in combination with one or more therapeutic agents. A therapeutically effective amount may vary widely depending on the severity of the disease, the age and relative health of the subject, the potency of the compound used and other factors. In general, satisfactory results are indicated to be obtained systemically at daily dosages of from about 0.03 to 2.5mg/kg per body weight. An indicated daily dosage in the larger mammal, e.g. humans, is in the range from about 0.5mg to about 100mg, conveniently administered, e.g. in divided doses up to four times a day or in retard form. Suitable unit dosage forms for oral administration comprise from ca. 1 to 50mg active ingredient.

[0078] Compounds of the invention can be administered as pharmaceutical compositions by any conventional route, in particular enterally, e.g., orally, e.g., in the form of tablets or capsules, or parenterally, e.g., in the form of injectable solutions or

suspensions, topically, e.g., in the form of lotions, gels, ointments or creams, or in a nasal or suppository form. Pharmaceutical compositions comprising a compound of the present invention in free form or in a pharmaceutically acceptable salt form in association with at least one pharmaceutically acceptable carrier or diluent can be manufactured in a conventional manner by mixing, granulating or coating methods. For example, oral compositions can be tablets or gelatin capsules comprising the active ingredient together with a) diluents, e.g., lactose, dextrose, sucrose, mannitol, sorbitol, cellulose and/or glycine; b) lubricants, e.g., silica, talcum, stearic acid, its magnesium or calcium salt and/or polyethyleneglycol; for tablets also c) binders, e.g., magnesium aluminum silicate, starch paste, gelatin, tragacanth, methylcellulose, sodium carboxymethylcellulose and or polyvinylpyrrolidone; if desired d) disintegrants, e.g., starches, agar, alginic acid or its sodium salt, or effervescent mixtures; and/or e) absorbents, colorants, flavors and sweeteners. Injectable compositions can be aqueous isotonic solutions or suspensions, and suppositories can be prepared from fatty emulsions or suspensions. The compositions may be sterilized and/or contain adjuvants, such as preserving, stabilizing, wetting or emulsifying agents, solution promoters, salts for regulating the osmotic pressure and/or buffers. In addition, they may also contain other therapeutically valuable substances. Suitable formulations for transdermal applications include an effective amount of a compound of the present invention with a carrier. A carrier can include absorbable pharmacologically acceptable solvents to assist passage through the skin of the host. For example, transdermal devices are in the form of a bandage comprising a backing member, a reservoir containing the compound optionally with carriers, optionally a rate controlling barrier to deliver the compound to the skin of the host at a controlled and predetermined rate over a prolonged period of time, and means to secure the device to the skin. Matrix transdermal formulations may also be used. Suitable formulations for topical application, e.g., to the skin and eyes, are preferably aqueous solutions, ointments, creams or gels well-known in the art. Such may contain solubilizers, stabilizers, tonicity enhancing agents, buffers and preservatives.

[0079] Compounds of the invention can be administered in therapeutically effective amounts in combination with one or more therapeutic agents (pharmaceutical combinations). Non-limiting examples of compounds which can be used in combination

with compounds of the invention are known anti-malarial drugs, for example, proguanil, chlorproguanil, trimethoprim, chloroquine, mefloquine, lumefantrine, atovaquone, pyrimethamine-sulfadoxine, pyrimethamine-dapsone, halofantrine, quinine, quinidine, amodiaquine, amopyroquine, sulphonamides, artemisinin, arteflene, artemether, artesunate, primaquine, pyronaridine, etc.

[0080] Where the compounds of the invention are administered in conjunction with other therapies, dosages of the co-administered compounds will of course vary depending on the type of co-drug employed, on the specific drug employed, on the condition being treated and so forth.

[0081] The invention also provides for a pharmaceutical combinations, e.g. a kit, comprising a) a first agent which is a compound of the invention as disclosed herein, in free form or in pharmaceutically acceptable salt form, and b) at least one co-agent. The kit can comprise instructions for its administration.

[0082] The terms "co-administration" or "combined administration" or the like as utilized herein are meant to encompass administration of the selected therapeutic agents to a single patient, and are intended to include treatment regimens in which the agents are not necessarily administered by the same route of administration or at the same time.

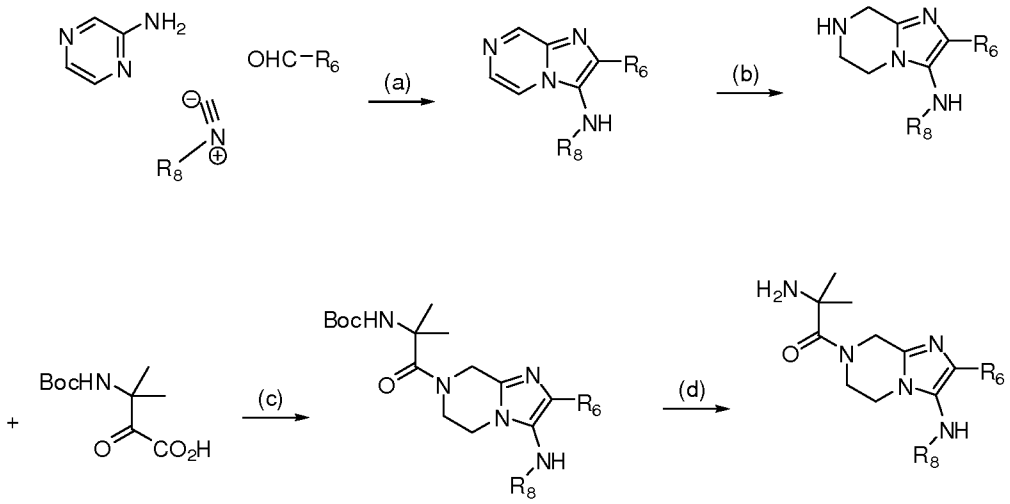
[0083] The term "pharmaceutical combination" as used herein means a product that results from the mixing or combining of more than one active ingredient and includes both fixed and non-fixed combinations of the active ingredients. The term "fixed combination" means that the active ingredients, e.g. a compound of Formula I and a co-agent, are both administered to a patient simultaneously in the form of a single entity or dosage. The term "non-fixed combination" means that the active ingredients, e.g. a compound of Formula I and a co-agent, are both administered to a patient as separate entities either simultaneously, concurrently or sequentially with no specific time limits, wherein such administration provides therapeutically effective levels of the 2 compounds in the body of the patient. The latter also applies to cocktail therapy, e.g. the administration of 3 or more active ingredients.

Processes for Making Compounds of the Invention

[0084] The present invention also includes processes for the preparation of compounds of the invention. In the reactions described, it can be necessary to protect reactive functional groups, for example hydroxy, amino, imino, thio or carboxy groups, where these are desired in the final product, to avoid their unwanted participation in the reactions. Conventional protecting groups can be used in accordance with standard practice, for example, see T.W. Greene and P. G. M. Wuts in "Protective Groups in Organic Chemistry", John Wiley and Sons, 1991.

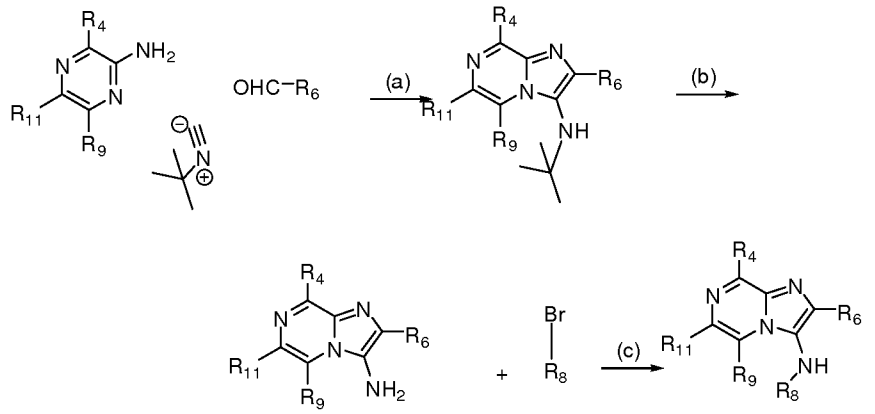
[0085] Compounds of Formula I can be prepared by proceeding as in the Reaction Schemes 1-5; R_2, R_3, R_4, R_5, R_6, R_8, R_9, R_{10}, R_{11} and R_{12} are as defined in the Summary of the Invention. The following reaction schemes are given to be illustrative, not limiting, descriptions of the synthesis of compounds of the invention:

[0086] Reaction Scheme 1: General Synthetic Route by Three Component Ugi Reaction



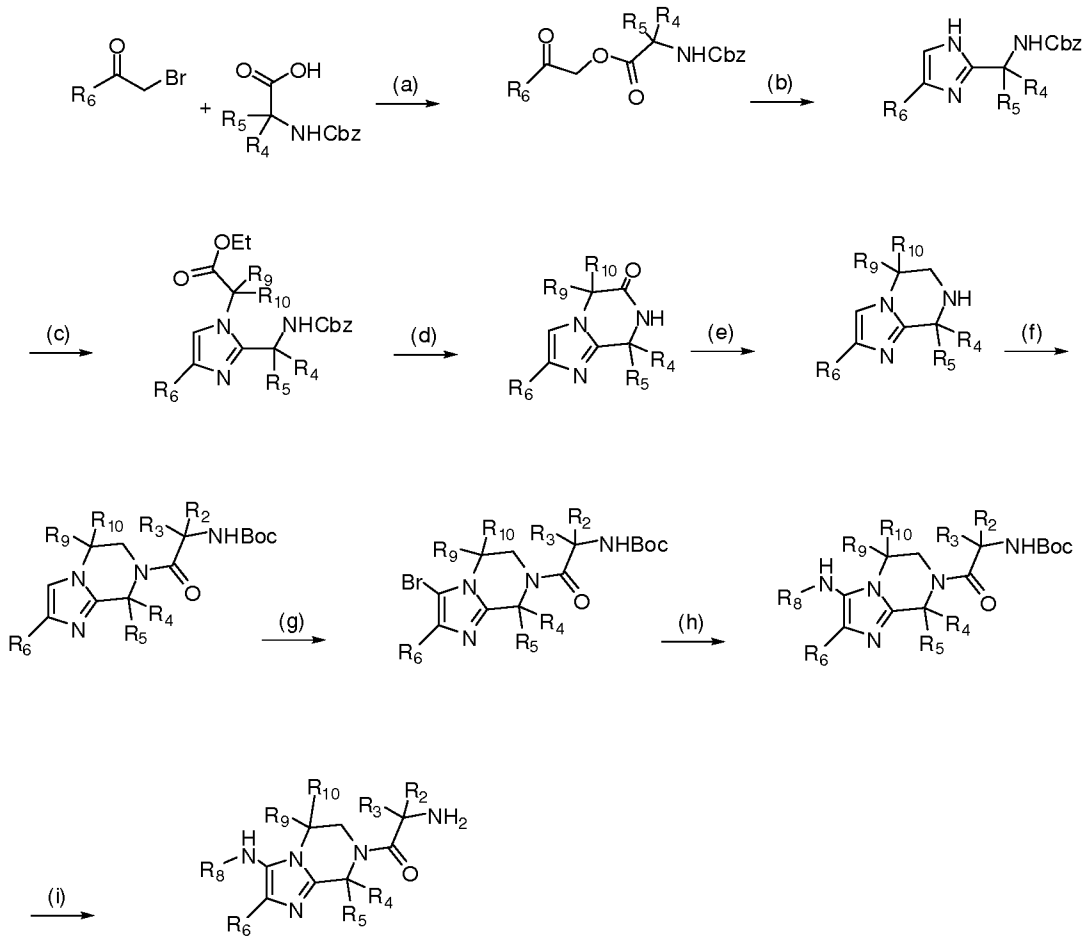
[0087] Reagents and conditions: (a) $HClO_4$, MeOH, rt; (b) Pd/C (or PtO_2), H_2, MeOH, rt; (c) HATU, DIEA, DMF, rt; (d) TFA, DCM, rt

[0088] Reaction Scheme 2: Alternative Synthetic Route by Amination to Achieve Core



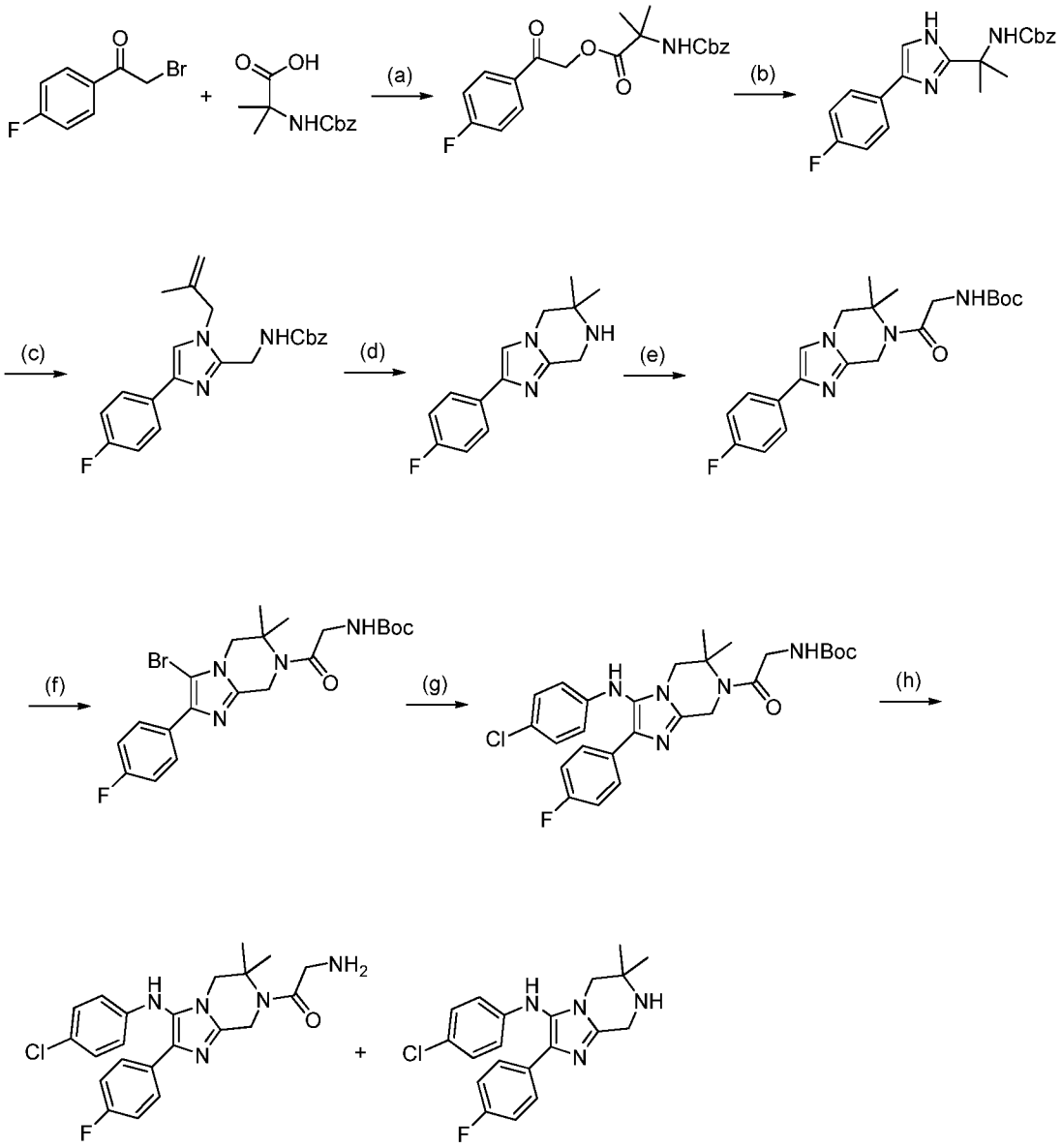
[0089] **Reagents and conditions:** (a) $HClO_4$, MeOH, rt; (b) TFA, DCM, rt; (c) $Pd_2(dba)_3$, XantPhos, Cs_2CO_3, Dioxane, 140 ºC.

[0090] **Reaction Scheme 3: General Synthetic Route by Imidazole Formation – 8,8 Dimethyl Modification**



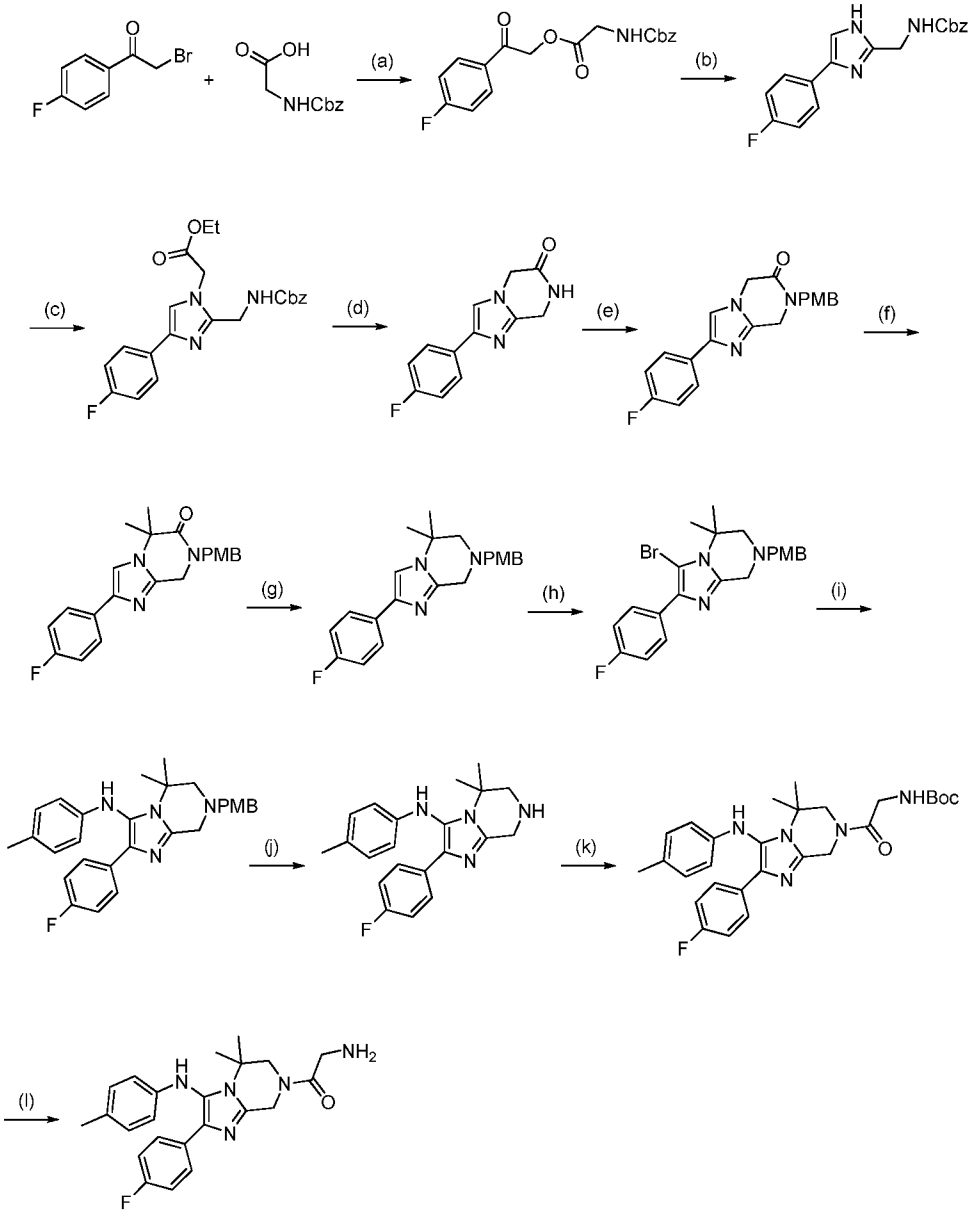
[0091] **Reagents and conditions:** (a) Cs_2CO_3, DMF, rt; (b) NH_4OAc, Dean-Stark, Toluene, reflux; (c) ethyl 2-bromoacetate, Cs_2CO_3, DMF, rt; (d) Pd/C, H_2, MeOH, rt; (e) LAH or $BH_3 \cdot Me_2S$, THF, reflux; (f) *N*-Boc-glycine, HATU, DIEA, DMF, rt; (g) Br_2, DCM/AcOH, rt; (h) p-toluidine, $Pd_2(dba)_3$, Xantphos, Cs_2CO_3, Dioxane, 140 °C; (i) TFA, DCM, rt.

[0092] **Reaction Scheme 4: General Synthetic Route by Imidazole Formation – 6,6 Dimethyl Modification**



[0093] **Reagents and conditions:** (a) Cs_2CO_3, DMF, rt; (b) NH_4OAc, Dean-Stark, Toluene, reflux; (c) 3-bromo-2-methylprop-1-ene, Cs_2CO_3, DMF, rt; (d) microwave, AcOH/MsOH, 210 ºC; (e) *N*-Boc-glycine, HATU, DIEA, DMF, rt; (f) Br_2, DCM/AcOH, rt; (g) 4-chloroaniline, $Pd_2(dba)_3$, Xantphos, Cs_2CO_3, Dioxane, 140 °C; (h) 6N HCl, Dioxane, reflux.

[0094] **Reaction Scheme 5: General Synthetic Route by Imidazole Formation – 5,5 Dimethyl Modification**



[0095] **Reagents and conditions:** (a) Cs_2CO_3, DMF, rt; (b) NH_4OAc, Dean-Stark, Toluene, reflux; (c) ethyl 2-bromoacetate, Cs_2CO_3, DMF, rt; (d) Pd/C, H_2, MeOH, rt; (e) PMBCl, KOH, THF, rt; (f) MeI, NaH, DMF, rt; (g) $BH_3 \cdot Me_2S$, THF, reflux; (h) Br_2, DCM/AcOH, rt; (i) *p*-toluidine, $Pd_2(dba)_3$, Xantphos, Cs_2CO_3, Dioxane, 150 °C; (j) TFA, 70 °C; (k) *N*-Boc-glycine, HATU, DIEA, DMF, rt; (l) TFA, DCM, rt.

[0096] Detailed descriptions of the synthesis of compounds of the Invention are given in the Examples, *infra*.

Additional Processes for Making Compounds of the Invention

[0097] A compound of the invention can be prepared as a pharmaceutically acceptable acid addition salt by reacting the free base form of the compound with a pharmaceutically acceptable inorganic or organic acid. Alternatively, a pharmaceutically acceptable base addition salt of a compound of the invention can be prepared by reacting the free acid form of the compound with a pharmaceutically acceptable inorganic or organic base. Alternatively, the salt forms of the compounds of the invention, for example, fumarate salts, can be prepared using salts of the starting materials or intermediates.

[0098] The free acid or free base forms of the compounds of the invention can be prepared from the corresponding base addition salt or acid addition salt from, respectively. For example a compound of the invention in an acid addition salt form can be converted to the corresponding free base by treating with a suitable base (e.g., ammonium hydroxide solution, sodium hydroxide, and the like). A compound of the invention in a base addition salt form can be converted to the corresponding free acid by treating with a suitable acid (e.g., hydrochloric acid, etc.).

[0099] Compounds of the invention in unoxidized form can be prepared from N-oxides of compounds of the invention by treating with a reducing agent (e.g., sulfur, sulfur dioxide, triphenyl phosphine, lithium borohydride, sodium borohydride, phosphorus trichloride, tribromide, or the like) in a suitable inert organic solvent (e.g. acetonitrile, ethanol, aqueous dioxane, or the like) at 0 to 80°C.

[00100] Prodrug derivatives of the compounds of the invention can be prepared by methods known to those of ordinary skill in the art (e.g., for further details see Saulnier et al., (1994), Bioorganic and Medicinal Chemistry Letters, Vol. 4, p. 1985). For example, appropriate prodrugs can be prepared by reacting a non-derivatized compound of the invention with a suitable carbamylating agent (e.g., 1,1-acyloxyalkylcarbanochloridate, para-nitrophenyl carbonate, or the like).

[00101] Protected derivatives of the compounds of the invention can be made by means known to those of ordinary skill in the art. A detailed description of techniques applicable to the creation of protecting groups and their removal can be found in T. W. Greene, "Protecting Groups in Organic Chemistry", 3rd edition, John Wiley and Sons, Inc., 1999.

[00102] Compounds of the present invention can be conveniently prepared, or formed during the process of the invention, as solvates (e.g., hydrates). Hydrates of compounds of the present invention can be conveniently prepared by recrystallization from an aqueous/organic solvent mixture, using organic solvents such as dioxin, tetrahydrofuran or methanol.

[00103] Compounds of the invention can be prepared as their individual stereoisomers by reacting a racemic mixture of the compound with an optically active resolving agent to form a pair of diastereoisomeric compounds, separating the diastereomers and recovering the optically pure enantiomers. While resolution of enantiomers can be carried out using covalent diastereomeric derivatives of the compounds of the invention, dissociable complexes are preferred (e.g., crystalline diastereomeric salts). Diastereomers have distinct physical properties (e.g., melting points, boiling points, solubilities, reactivity, etc.) and can be readily separated by taking advantage of these dissimilarities. The diastereomers can be separated by chromatography, or preferably, by separation/resolution techniques based upon differences in solubility. The optically pure enantiomer is then recovered, along with the resolving agent, by any practical means that would not result in racemization. A more detailed description of the techniques applicable to the resolution of stereoisomers of compounds from their racemic mixture can be found in Jean Jacques, Andre Collet,

Samuel H. Wilen, "Enantiomers, Racemates and Resolutions", John Wiley And Sons, Inc., 1981.

[00104] In summary, the compounds of Formula I can be made by a process, which involves:

(a) that of reaction scheme 1, 2, 3, 4 and/or 5; and

(b) optionally converting a compound of the invention into a pharmaceutically acceptable salt;

(c) optionally converting a salt form of a compound of the invention to a non-salt form;

(d) optionally converting an unoxidized form of a compound of the invention into a pharmaceutically acceptable N-oxide;

(e) optionally converting an N-oxide form of a compound of the invention to its unoxidized form;

(f) optionally resolving an individual isomer of a compound of the invention from a mixture of isomers;

(g) optionally converting a non-derivatized compound of the invention into a pharmaceutically acceptable prodrug derivative; and

(h) optionally converting a prodrug derivative of a compound of the invention to its non-derivatized form.

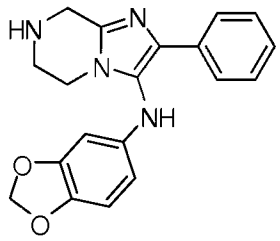
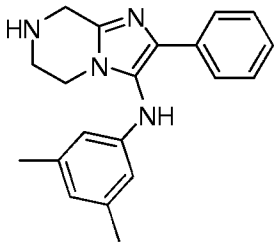
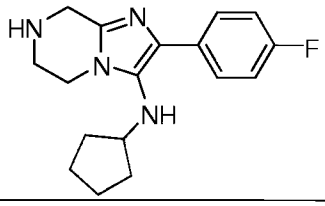
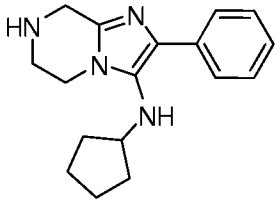
[00105] Insofar as the production of the starting materials is not particularly described, the compounds are known or can be prepared analogously to methods known in the art or as disclosed in the Examples hereinafter.

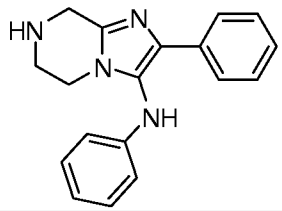
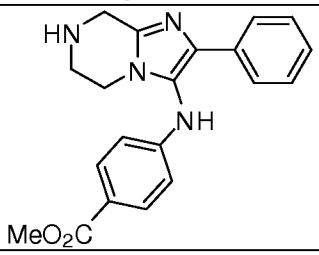
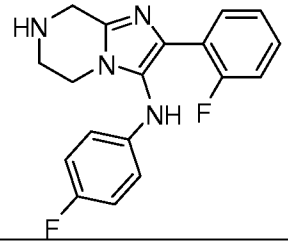
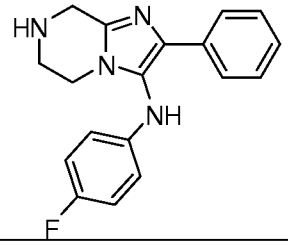
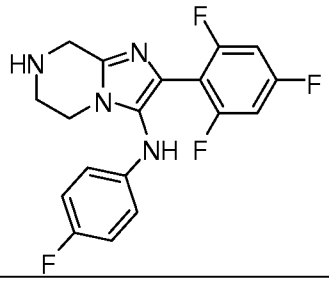
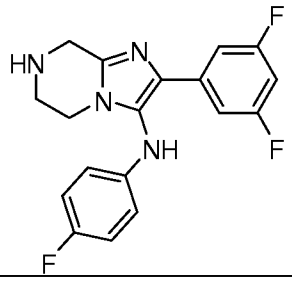
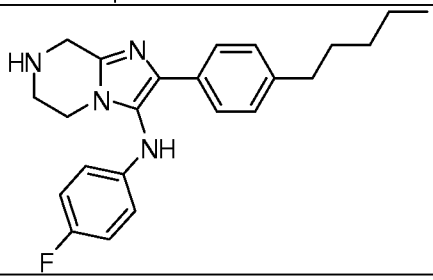
[00106] One of skill in the art will appreciate that the above transformations are only representative of methods for preparation of the compounds of the present invention, and that other well known methods can similarly be used.

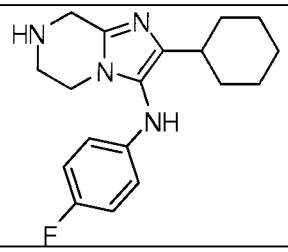
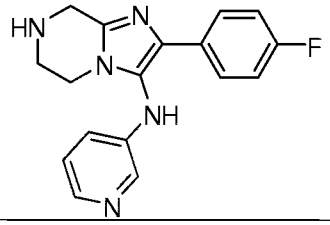
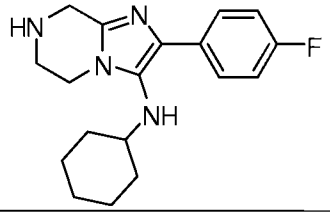
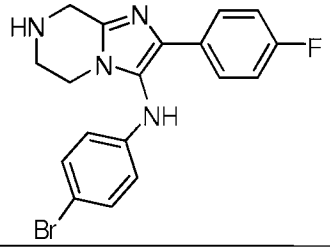
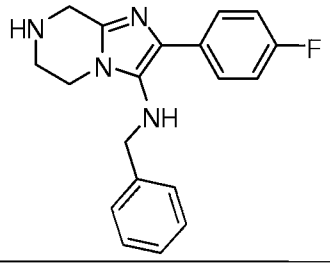
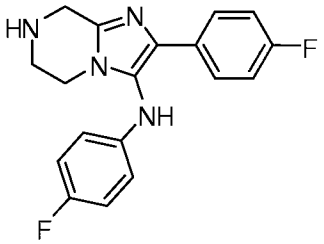
Examples

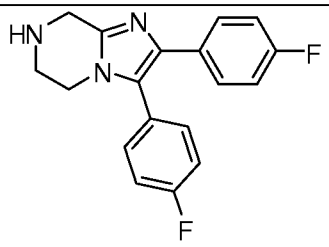
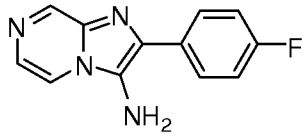
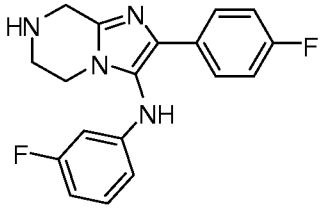
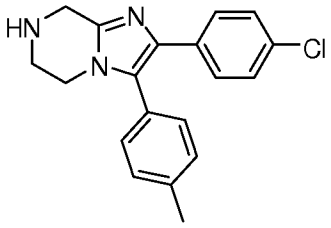
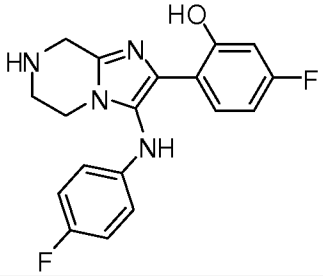
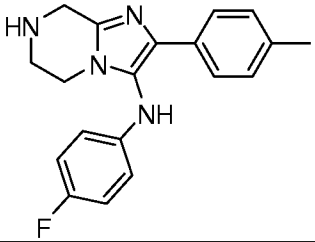
[00107] The present invention is further exemplified, but not limited, by the following Examples (Table 2) and intermediates (Reference compounds – Table 1) that illustrate the preparation of compounds of the invention.

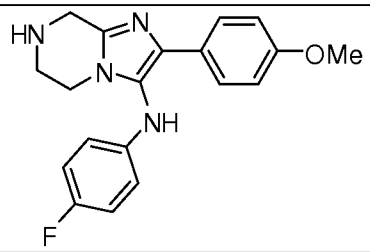
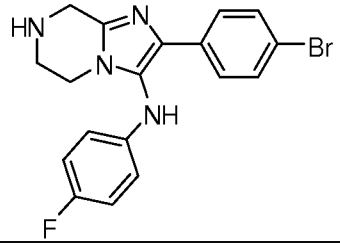
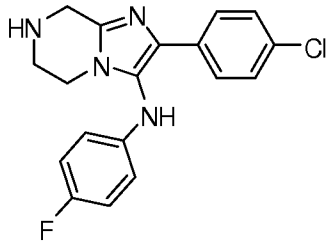
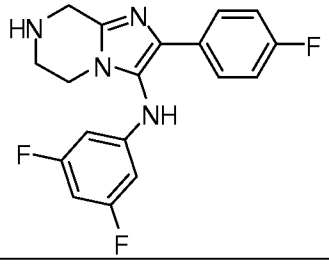
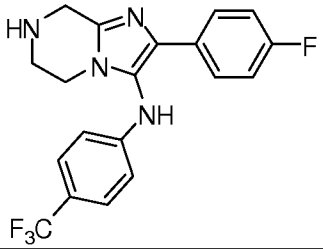
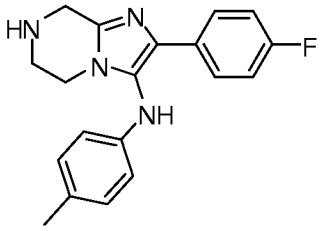
Table 1

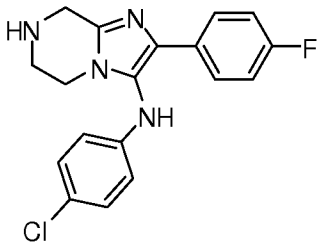
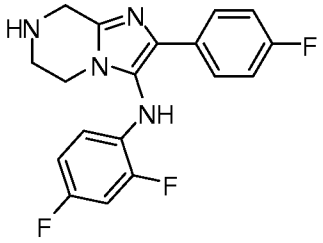
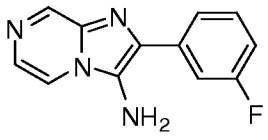
Compound	Structure	Physical Data MS (*m/z*) and/or ^{1}H NMR
Ref. comp.1		[M+H] = 335.2 ^{1}H NMR ($CDCl_3$, 400 MHz) δ 7.64 (d, *J* = 7.2 Hz, 2H), 7.91-7.94 (m, 3H), 7.21-7.27 (m, 3H), 6.59 (d, *J* = 8.4 Hz, 1H), 6.26 (d, *J* = 2.0 Hz, 1H), 5.99 (dd, *J* = 2.0, 9.2 Hz, 1H), 5.83 (s, 2H), 4.48 (s, 2H), 3.89 (s, 2H), 3.38 (s, 2H).
Ref. comp. 2		[M+H] = 319.2 ^{1}H NMR ($CDCl_3$, 400 MHz) δ 7.34 (s, 2H), 7.10 (s, 2H), 6.79-6.81 (m, 2H), 6.70-6.74 (m, 1H), 6.40 (br., 1H), 5.19 (s, 2H), 4.22 (s, 2H), 3.92 (s, 2H), 1.98 (s, 6H).
Ref. comp.3		[M+H] = 301.2
Ref.comp. 4		[M+H] = 283.2

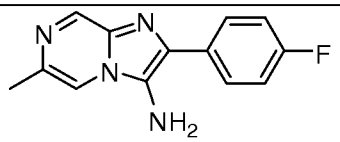
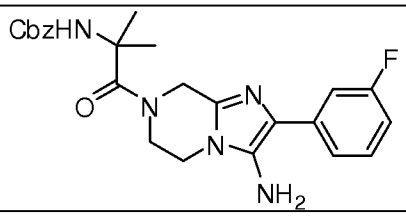
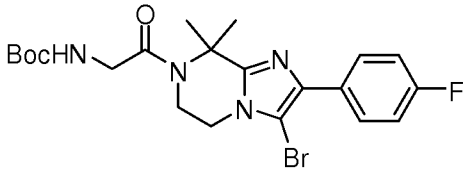
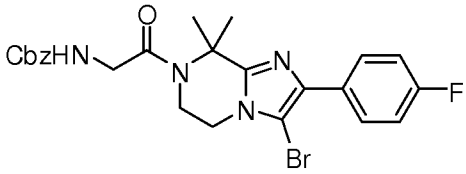
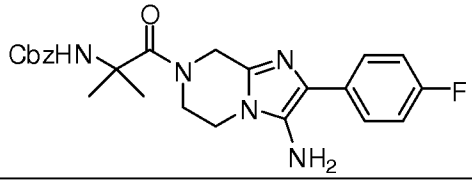
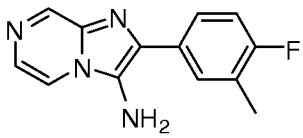
Ref. comp.5		[M+H] = 291.2
Ref. comp.6		[M+H] = 349.2
Ref. comp.7		[M+H] = 327.2
Ref. comp.8		[M+H] = 309.2
Ref. comp.9		[M+H] = 363.1
Ref. comp.10		[M+H] = 345.1
Ref. comp.11		[M+H] = 379.2

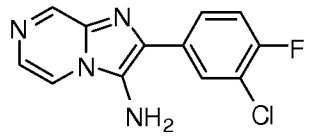
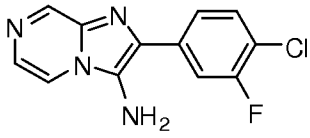
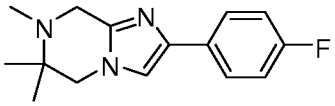
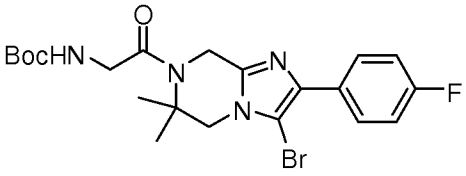
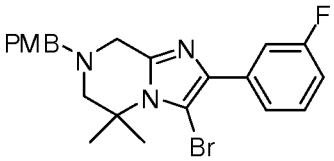
Ref. comp. 12		[M+H] = 315.2
Ref. comp.13		[M+H] = 310.2
Ref. comp. 14		[M+H] = 315.0
Ref. comp.15		[M+H] = 387.1
Ref. comp.16		[M+H] = 323.2
Ref. comp.17		[M+H] = 327 ^{1}H NMR: (300 MHz, DMSO-d_6): δ 7.81-7.72 (m, 2H), 7.11 (m, 2H), 6.97 (m, 2H,), 6.56-6.52 (m, 2H), 3.86 (s, 2H), 3.55 (m, 2H), 3.02 (m, 2H)

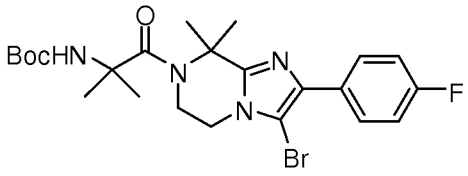
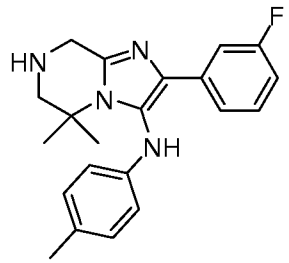
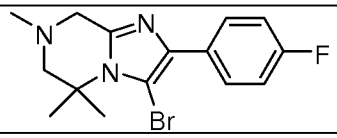
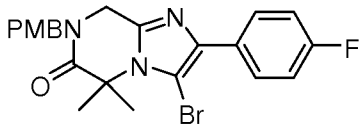
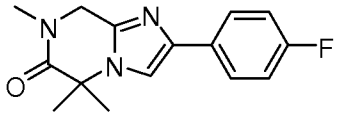
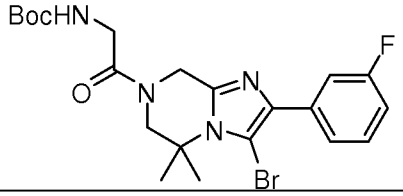
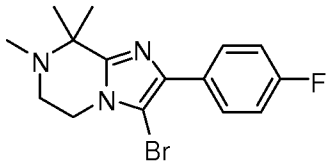
Ref. comp.18		[M+H] = 311.9
Ref. comp.19		[M+H] = 229 ^{1}H NMR (300 MHz, $CDCl_3$): δ 8.82 (s, 1H), 8.28 (d, *J* = 4.8Hz,1H) 8.05-8.09 (m, 2H) 7.76 (d, *J* = 4.5Hz, 1H) 7.27-7.33 (m, 2H) 5.79 (s, 2H)
Ref. comp.20		[M+H] = 327.2
Ref. comp.21		[M+H] = 324.3
Ref. comp.22		[M+H] = 343.2
Ref. comp.23		[M+H] = 323.2

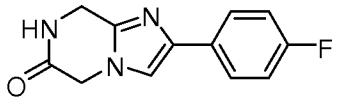
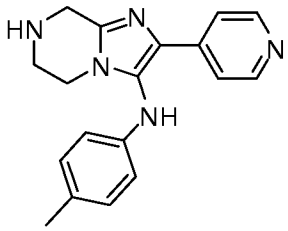
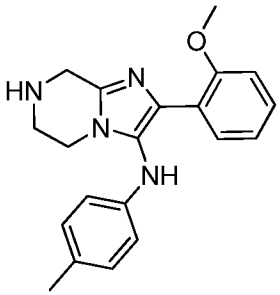
Ref. comp.24		[M+H] = 339.1
Ref. comp.25		[M+H] = 387.1
Ref. comp.26		[M+H] = 343.2
Ref. comp.27		[M+H] = 345.1
Ref. comp.28		[M+H] = 377.1
Ref. comp.29		[M+H] = 323 ^{1}H NMR (400 MHz, CD_3OD) δ 7.73(d, *J* = 6.8Hz, 2H), 7.00-6.99 (m, 4H), 6.49 (d, *J* = 8.0Hz, 2H), 4.01 (s, 2H), 3.72(s, 2H), 3.15(s, 2H),

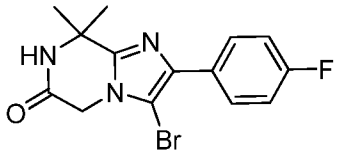
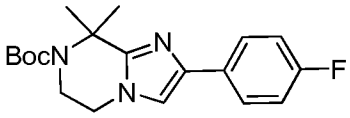
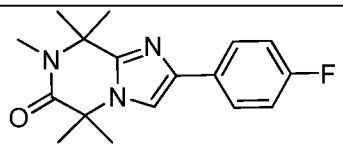
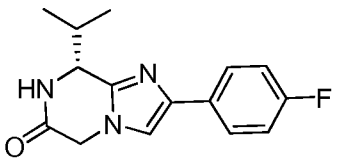
		2.19(s, 3H).
Ref. comp.30		[M+H] = 343 ^{1}H NMR-: (300 MHz, DMSO-d_6): δ 7.94(s, 1H), 7.80-7.74(m, 2H), 7.18-7.09(m, 4H), 6.56 (d, *J* = 8.7Hz, 2H), 3.87(s, 2H), 3.55(s, 2H), 3.02(t, *J* = 5.4Hz, 2H).
Ref. comp.31		[M+H] = 341 ^{1}H NMR (300 MHz, $CDCl_3$) δ 7.70-7.62(m, 1H), 7.01 (d, *J* = 8.1Hz, 2H), 6.92-6.76 (m, 2H), 6.52 (d, *J* = 8.1Hz, 2H), 5.33 (s, 1H), 4.23(s, 2H), 3.77(m, 2H), 3.26 (m, 2H), 2.25(s, 3H).
Ref. comp. 32		[M+H] = 229 ^{1}H NMR (300 MHz, DMSO-d_6) δ 8.83 (s, 1H), 8.30-8.28 (m, 1H), 7.89-7.76 (m, 3H), 7.54-7.47 (m, 1H), 7.12-7.17 (m, 1H), 5.94 (s, 2H).

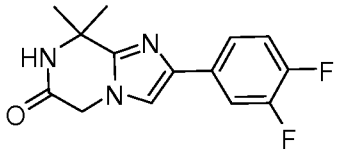
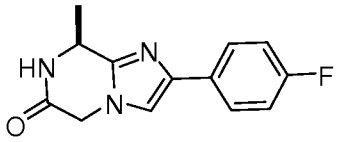
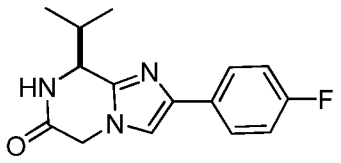
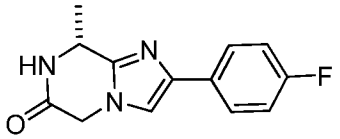
Ref. comp.33		[M+H] = 243.1
Ref. comp. 34		[M+H] = 452.2
Ref. comp.35		[M+H] = 482 ^{1}H-NMR: (400 MHz, CD_3OD) δ 7.84-7.81 (m, 2H), 7.14 (t, *J* = *8.8* Hz, 2H), 4.09-4.01 (m, 4H), 3.81 (t, *J* = *4.8* Hz, 2H),1.89 (s, 6H), 1.46(s, 9H).
Ref. comp.36		[M+H] = 515.0
Ref. comp.37		[M+H] = 452.2
Ref. comp.38		[M+H] = 243 ^{1}H NMR: (300 MHz, DMSO-d_6) δ 8.79(d, *J* = 0.9Hz, 1H), 8.26-8.24(m, 1H), 7.93-7.86(m, 1H), 7.85-7.83(m, 1H), 7.74(d, *J* = 4.8Hz, 1H), 7.21(t, *J* = 9.3Hz, 1H), 5.80(s, 2H), 2.29(d, *J* = 13.5Hz, 3H

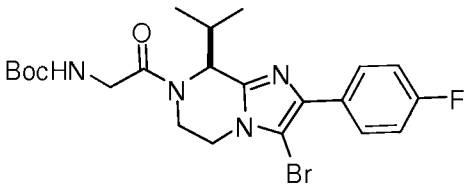
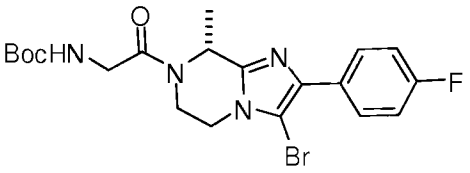
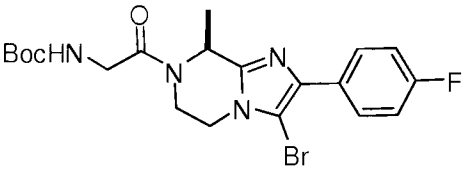
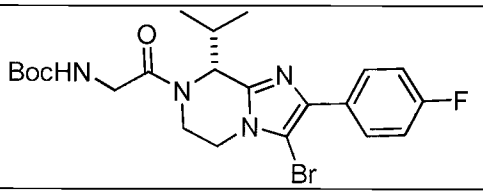
Ref. comp.39		[M+H] = 263 ^{1}H NMR (300 MHz, DMSO-d_6): δ 8.83(d, J = 1.2Hz, 1H), 8.30-8.28(m, 1H), 8.18-8.15(m, 1H), 8.06-8.00(m, 1H), 7.78(d, J = 4.5Hz, 1H), 7.51(d, J = 9Hz, 1H), 5.91(s, 2H)
Ref. comp.40		[M+H] = 263 ^{1}H NMR-: (300 MHz,DMSO-d_6) δ 8.84(1H, d, J = 1.2Hz), 8.30-8.28(1H, m), 7.99-7.88(2H, m), 7.77(1H, d, J = 4.8Hz), 7.66(1H, t, J = 8.1Hz), 6.01(2H, s)
Ref. comp.41		[M+H] = 260 ^{1}H NMR: (300 MHz, $CDCl_3$) δ 7.75-7.70(m, 2H), 7.10-7.03(m, 3H), 3.89(s, 2H), 3.78(s, 2H), 2.43(s, 3H), 1.19(s, 6H)
Ref. comp. 42		[M+H] = 481.0
Ref. comp.43		[M+H] = 445.0

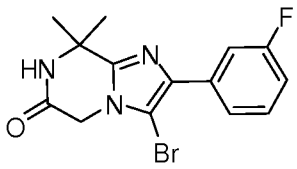
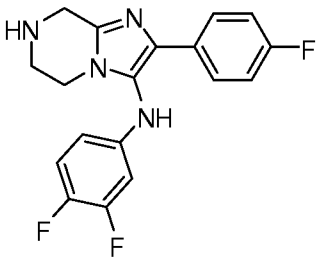
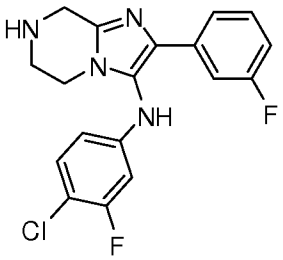
Ref. comp. 44		^{1}H NMR: (400 MHz, $CDCl_3$) δ 7.88-7.92 (m, 2H), 7.07-7.11 (m, 2H), 4.88(s, 1H), 4.87(s, 2H), 3.84(s, 1H), 1.55(s, 6H), 1.51 (s, 6H), 1.37(s, 9H)
Ref. comp.45		[M+H] = 351.2
Ref. comp.46		[M+H] = 338.0
Ref. comp.47		[M+H] = 458.0
Ref. comp.48		^{1}H NMR: (400MHz, $CDCl_3$) δ 7.65-7.69 (m, 2H), 7.14 (s, 1H) 7.03 (t, *J* = 8.8 Hz, 2H), 4.62 (s, 2H), 3.11(s, 3H), 1.70(m, 6H)
Ref. comp.49		[M+H] = 481.1
Ref. comp.50		^{1}H NMR: (400 MHz, $CDCl_3$) δ 7.87-7.90(m, 2H), 7.07 (t, *J* = 8.8 Hz, 2H), 3.86 (t, *J* = 5.6 Hz, 2H), 3.03 (t, *J* = 5.6 Hz, 2H), 2.44 (s,

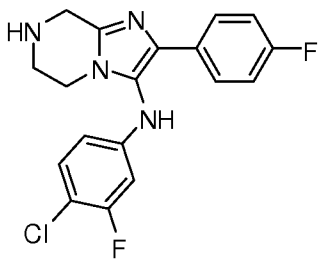
		3H), 1.50 (s, 6H)
Ref. comp.51		[M+H] = 232 ^{1}H NMR (300MHz, DMSO-d_6) δ 4.47 (s, 2H), 4.65 (s, 2H), 7.15-7.21 (m, 2H), 7.55 (s, 1H), 7.74-7.79 (m, 2H), 8.48 (s, 1H)
Ref. comp. 52		[M+H] = 277.0 ^{1}H NMR: (400MHz, CD_3OD) δ 7.12-7.07(m, 2H), 4.95 (t, J = 2.0 Hz, 2H), 4.57 (t, J = 2.00 Hz, 2H).
Ref. comp.53		[M+H] = 306 ^{1}H NMR: (300MHz, $CDCl_3$): δ 8.44-8.46(m, 2H), 7.79(m, 2H), 7.06-7.09(d, J = 8.1Hz, 2H), 6.60-6.63 (d, J = 8.4Hz, 2H), 5.57(s, 1H), 3.90(s, 2H), 3.81(m, 2H), 3.43(s, 1H), 3.03(m, 2H), 2.29(s, 3H)
Ref. comp. 54		[M+H] = 335 ^{1}H NMR: (300MHz, $CDCl_3$): δ 7.67 (d, J = 6Hz, 1H), 7.25 (d, J = 6.6Hz, 1H), 7.01 (t, J = 4.2Hz, 2H), 6.94 (t, J = 8.1Hz,

		2H), 6.52 (d, *J* = 8.1Hz, 2H), 5.87 (s, 1H), 4.20 (s, 2H), 3.83 (s, 3H), 3.75 (m, 2H), 3.49 (s, 1H), 3.22 (m, 2H), 2.24 (s, 3H)
Ref. comp.55		[M+H] = 338 ^{1}H NMR: (300 MHz, DMSO-d_6) δ 8.76(s, 1H), 7.94-7.89(m, 2H), 7.31-7.25(m, 2H), 4.57(s, 2H), 1.56(s, 6H).
Ref. comp.56		^{1}H NMR: (400MHz, CD_3OD) δ 7.61-7.57(m, 2H), 7.16 (s,1H); 7.00-6.96 (m, 2H), 3.96 (t, *J* = 5.2 Hz, 2H), 3.77 (t, *J* = 5.2 Hz, 2H), 1.76 (s, 6H), 1.42 (s, 9H)
Ref. comp.57		[M+H] = 302.2
Ref. comp.58		[M+H] = 274 ^{1}H NMR: (300MHz, $CDCl_3$): δ 7.73-7.78(m, 2H), 7.06-7.13(m, 3H), 6.73(s, 1H), 4.77(s, 2H), 4.72(s,1H), 2.51-2.58(m, 1H), 1.09-1.12(d, *J* = 6.9Hz, 3H), 0.87-0.91 (d, *J* = 6.9Hz, 3H)

Ref. comp.59		[M+H] = 278 ^{1}H NMR: (300MHz, $CDCl_3$): δ 7.60-7.64 (m, 1H), 7.42-7.60(m, 1H), 7.12-7.22 (m, 1H), 7.08 (s, 1H), 6.94 (s, 1H), 4.72 (s, 2H)
Ref. comp.60		^{1}H NMR: (300 MHz, DMSO-d_6) δ 8.60 (s, 1H), 7.75-7.79 (m, 2H), 7.54 (s, 1H), 7.16-7.22 (m, 2H), 4.62-4.73 (m, 3H), 1.51 (d, J = 6.3Hz, 3H)
Ref. comp.61		[M+H] = 274 ^{1}H NMR (300MHz, $CDCl_3$): δ 7.76-7.71(m, 2H), 7.12(m, 3H), 6.61(s, 1H), 4.71(s, 3H), 2.53-2.48(m, 1H), 1.11-1.08(m, 3H), 0.91-0.88(m, 3H).
Ref. comp. 62		[M+H] = 246 ^{1}H NMR (300 MHz, DMSO-d_6): δ 8.60 (s, 1H), 7.80-7.74 (m, 2H), 7.54 (s, 1H), 7.23-7.15 (m, 2H), 4.73-4.61 (m, 3H), 1.51 (d, J = 6.3Hz, 3H,)

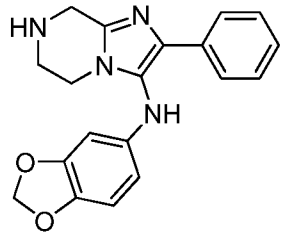
Ref. comp.63		[M+H] = 496 ^{1}H NMR (300MHz, $CDCl_3$) 5.62-5.65(m, 1H), 5.39(s, 1H), 5.02-5.07(m, 1H), 4.62(m, 1H), 3.77-4.11(m, 6H), 3.35-3.39(m, 1H), 2.31(s, 1H), 1.47(s, 9H), 1.26-1.34(m, 3H),δ0.88-1.13(m, 3H),
Ref. comp. 64		[M+H] = 467 ^{1}H NMR: (300MHz, $CDCl_3$) δ 7.88-7.92 (t, *J* = 6.6Hz, 2H), 7.10-7.15 (m, 2H), 5.41-5.51 (m, 1H), 5.02-5.19 (m, 2H), 4.05-4.11 (m, 4H), 3.70-3.88 (m, 2H), 3.30 (m, 1H), 1.71-1.74 (m, 2H), 1.61-1.63 (m, 1H), 1.47 (s, 9H)
Ref. comp.65		[M+H] = 467
Ref. comp.66		[M+H] = 496 ^{1}H NMR: (300 MHz, DMSO-d_6): δ 7.93-7.86(m,

		2H), 7.31-7.25(m, 2H), 6.89 (s, 1H), 5.30-5.16 (m, 1H), 4.75-4.65 (m, 1H), 4.35-4.26(m, 1H), 3.99-3.66(m, 4H), 2.28-2.15(m, 1H), 1.62-1.39(m, 10H), 1.01-0.88 (m, 3H).
Ref. comp.67		[M+H] = 338 ^{1}H NMR (300 MHz, DMSO-d_6) δ 8.76(s, 1H), 7.78(m, 1H), 7.65(m, 1H), 7.53-7.45(m, 1H), 7.18-7.12(m, 1H), 4.58(s, 1H), 1.58(s, 6H)
Ref. comp.68		[M+H] = 345 ^{1}H NMR: (300 MHz, $CDCl_3$) δ 7.76-7.72 (m, 2H) 7.08-6.99 (m, 3H) 6.50-6.43 (m, H) 6.38-6.35 (m, 1H) 5.26 (s, H) 4.17 (s, 2H) 3.73-3.69 (m, 2H) 3.27-3.23 (m, 2H) 2.05 (s, 2H)
Ref. comp.69		[M+H] = 361 ^{1}H NMR (300 MHz, DMSO-d_6) δ 8.27 (s,1H), 7.58 (d, J = 7.8Hz, 1H), 7.48 (d, J = 7.2Hz, 1H), 7.28-7.38 (m, 2H), 6.94-

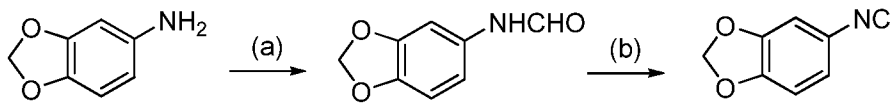
		7.00 (m, 1H), 6.42-6.52 (m, 2H), 3.88 (s, 2H), 3.57 (s, 2H), 3.04 (t, *J* = 5.1Hz, 2H)
Ref. comp.70		[M+H] = 361 ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.75-7.70 (m, 2H) 7.25-7.19 (m, H), 7.05-7.02 (m, 2H), 6.48-6.41 (m, 2H), 4.16(s, 2H), 3.70 (m, 2H), 3.24 (m, 2H).

Reference Compound 1

N-(benzo[d][1,3]dioxol-5-yl)-2-phenyl-5,6,7,8-tetrahydroimidazo[1,2-a]pyrazin-3-amine

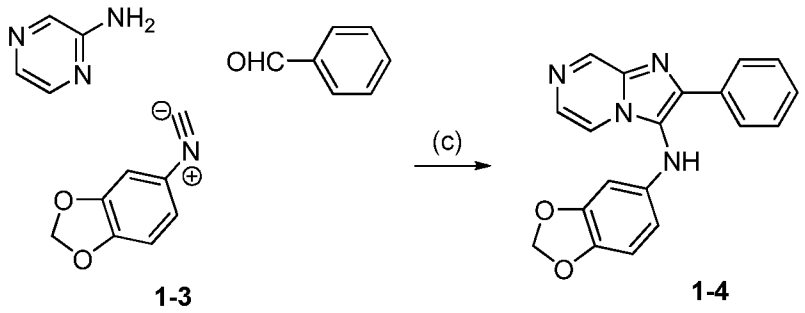


[00108] **Reference Compound 1** was prepared in the following way:



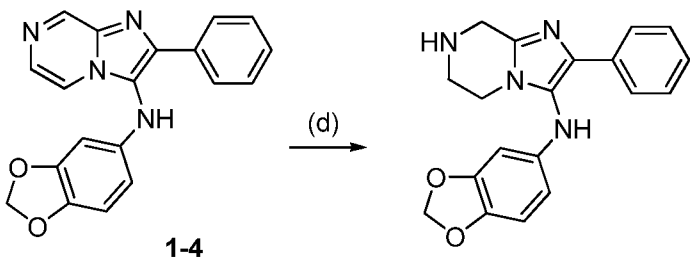
1-1 **1-2** **1-3**

[00109] A stirred solution of **Compound 1-1** (685 mg, 10 mmol) in 10 mL of ethyl formate was heated to 120 °C for 2 hours in a microwave oven. Solvent was removed and the residue was subjected to MS-triggered HPLC purification to give 728 mg of **Compound 1-2** as brown oil after neutralization. To a solution of **Compound 1-2** (728 mg, 4.4 mmol) in 20 mL of DCM were added DIEA (2.30 mL, 13.2 mmol) and $POCl_3$ (0.45 mL, 4.84 mmol) at 0 °C. The reaction mixture was stirred at the same temperature for 2 hours and at room temperature for 2 additional hours. Solvent was removed and the residue was subjected to MS-triggered HPLC purification to give 281 mg of **Compound 1-3** as yellow solid after neutralization: ^{1}H NMR ($CDCl_3$, 400 MHz) δ 6.88 (dd, J = 2.0, 8.4 Hz, 1H), 6.79 (d, J = 1.6 Hz, 1H), 6.74 (d, J = 8.4 Hz, 1H), 6.01 (s, 2H).



1-3 1-4

[00110] To a stirred solution of compound **Compound 1-3** (158 mg, 1.66 mmol) in 10 mL of MeOH were added benzaldehyde (0.25 mL, 2.49 mmol), 2-aminopyrazine (281 mg, 1.91 mmol), and followed by 1.0 N $HClO_4$ in MeOH (0.17 mL, 0.17 mmol). The reaction mixture was stirred at room temperature for 3 hours. The reaction mixture was directly taken to mass-triggered HPLC purification. The collected MeCN/water solution was concentrated and dried on a lyophilizer to give 296 mg of **Compound 1-4** as powdery product: ^{1}H NMR ($CDCl_3$, 400 MHz) δ 9.23 (d, J = 1.2 Hz, 1H), 8.03 (d, J = 4.8 Hz, 1H), 7.91-7.94 (m, 3H), 7.26-7.44 (m, 3H), 6.68 (d, J = 8.4 Hz, 1H), 6.32 (br, 1H), 6.25 (d, J = 2.4 Hz, 1H), 6.00 (dd, J = 2.4, 8.4 Hz, 1H), 5.93 (s, 2H).



1-4

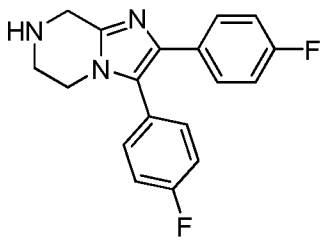
[00111] To a stirred solution of **Compound 1-4** (181 mg, 0.54 mmol) in 10 mL of MeOH was added Pd/C (58 mg, 0.054 mmol). The reaction mixture was evacuated and back filled with H_2. The reaction mixture was stirred at room temperature overnight. The solid was filtered off and solvent was removed. 400 MHz proton NMR of the crude product proved it to be the title compound: ^{1}H NMR ($CDCl_3$, 400 MHz) δ 7.64 (d, J = 7.2 Hz, 2H), 7.91-7.94 (m, 3H), 7.21-7.27 (m, 3H), 6.59 (d, J = 8.4 Hz, 1H), 6.26 (d, J = 2.0 Hz, 1H), 5.99 (dd, J = 2.0, 9.2 Hz, 1H), 5.83 (s, 2H), 4.48 (s, 2H), 3.89 (s, 2H), 3.38 (s, 2H).

[00112] The following reference compounds were prepared by the same three component Ugi reaction used to prepare Reference Compound 1, using appropriate starting materials, followed by a Pd/C mediated hydrogenation: **Reference Compound 2** was prepared from 2-aminopyridine, benzaldehyde and 1-isocyano-3,5-dimethylbenzene; **Reference Compound 3** was prepared from 2-aminopyrazine, 4-fluorobenzaldehyde and isocyanocyclopentane; **Reference Compound 4** was prepared from 2-aminopyrazine, benzaldehyde and isocyanocyclopentane; **Reference Compound 5** was prepared from 2-aminopyrazine, benzaldehyde and isocyanobenzene; **Reference Compound 6** was prepared from 2-aminopyrazine, benzaldehyde and methyl 4-isocyanobenzoate; **Reference Compound 7** was prepared from 2-aminopyrazine, 2-fluorobenzaldehyde and 1-fluoro-4-isocyanobenzene; **Reference Compound 8** was prepared from 2-aminopyrazine, benzaldehyde and 1-fluoro-4-isocyanobenzene; **Reference Compound 9** was prepared from 2-aminopyrazine, 2,4,6-trifluorobenzaldehyde and 1-fluoro-4-isocyanobenzene; **Reference Compound 10** was prepared from 2-aminopyrazine, 3,5-difluorobenzaldehyde and 1-fluoro-4-isocyanobenzene; **Reference Compound 11** was prepared from 2-aminopyrazine, 4-pentylbenzaldehyde and 1-fluoro-4-isocyanobenzene; **Reference Compound 12** was prepared from 2-aminopyrazine,

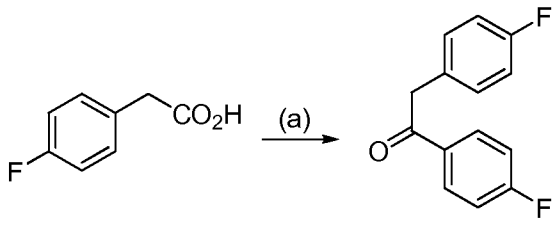
cyclohexanecarbaldehyde and 1-fluoro-4-isocyanobenzene; **Reference Compound 13** was prepared from 2-aminopyrazine, 4-fluorobenzaldehyde and 3-isocyanopyridine; **Reference Compound 14** was prepared from 2-aminopyrazine, 4-fluorobenzaldehyde and isocyanocyclohexane; **Reference Compound 15** was prepared from 2-aminopyrazine, 4-fluorobenzaldehyde and 1-bromo-4-isocyanobenzene; **Reference Compound 16** was prepared from 2-aminopyrazine, 4-fluorobenzaldehyde and (isocyanomethyl)benzene; **Reference Compound 17** was prepared from 2-aminopyrazine, 4-fluorobenzaldehyde and isocyanofluoro)benzene; **Reference Compound 22** was prepared from 2-aminopyrazine, 4-fluoro-2-hydroxy benzaldehyde and 1-fluoro-4-isocyanobenzene; **Reference Compound 23** was prepared from 2-aminopyrazine, 4-methylbenzaldehyde and 1-fluoro-4-isocyanobenzene; **Reference Compound 24** was prepared from 2-aminopyrazine, 4-methoxybenzaldehyde and 1-fluoro-4-isocyanobenzene; **Reference Compound 25** was prepared from 2-aminopyrazine, 4-bromobenzaldehyde and 1-fluoro-4-isocyanobenzene; **Reference Compound 26** was prepared from 2-aminopyrazine, 4-chlorobenzaldehyde and 1-fluoro-4-isocyanobenzene; and **Reference Compound 29** was prepared from 2-aminopyrazine, 4-fluorobenzaldehyde and 1-methyl-4-isocyanobenzene.

Reference Compound 18

2,3-bis(4-fluorophenyl)-5,6,7,8-tetrahydroimidazo[1,2-a]pyrazine

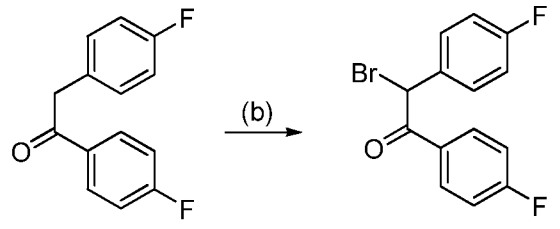


[00113] **Reference Compound 18** was prepared by the following way:



18-1

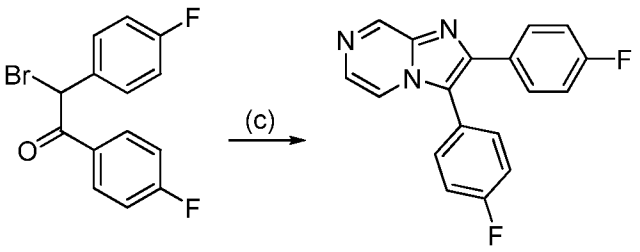
[00114] To a solution of 2-(4-fluorophenyl)acetic acid (1.54g, 10 mmol) in 30 mL dry DCM was added slowly $SOCl_2$ (2.18 mL, 30 mmol), 2 drops of DMF was added. The reaction mixture was stirred at reflux for 1 hour before the solvent was removed. The residue was dissolved in 30 mL of DCM and $AlCl_3$ (2.67 g, 22 mmol) was added at 0 °C. The reaction mixture was stirred at room temperature for 10 mins. Fluorobenzene (0.94 mL, 10 mmol) in 2 mL of DCM was added dropwise at 0 °C. The reaction mixture was allowed to stir at the same temperature for 2 hours. The reaction mixture was poured into a mixture of 30 mL of 0.1M HCl and 50 g crushed ice. The resulting mixture was separated and the aqueous layer was washed with DCM. The combined DCM solution was dried and concentrated. The residue was subjected to flash chromatography purification to give 983 mg of **Compound 18-1** as light yellow solid: ^{1}H NMR ($CDCl_3$, 400 MHz) δ 8.04-8.08 (m, 2H), 7.23-7.26 (m, 2H), 7.15 (t, *J* = 8.8 Hz, 2H), 7.04 (t, *J* = 8.8 Hz, 2H), 4.26 (s, 2H).



18-1 18-2

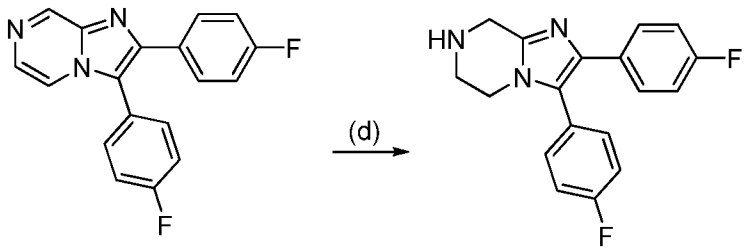
[00115] To a solution of **Compound 18-1** (232 mg, 1.0 mmol) in 6 mL of DCM was added Br_2 (61 μL, 1.2 mmol) in 12 mL of acetic acid. The reaction mixture was stirred at room temperature overnight. The reaction mixture was concentrated and the residue was directly subjected to mass-triggered HPLC purification to give 181 mg yellow solid. The mass of the desired product on preparative HPLC was not right and did

not show the characteristic peak pattern of bromides. The peak was collected by that mass and the compound was verified to be the right mass on the analytical HPLC, and also by 400 MHz proton NMR: ^{1}H NMR ($CDCl_3$, 400 MHz) δ 8.02-8.05 (m, 2H), 7.51-7.54 (m, 2H), 7.10-7.15 (m, 2H), 7.04-7.08 (m, 2H), 6.31 (s, 1H).



18-2 18-3

[00116] A solution of 2-aminopyrazine (57 mg, 0.60 mmol), **Compound 18-2** (156 mg, 0.50 mmol) and K_2CO_3 (83 mg, 0.60 mmol) in 5 mL of EtOH was stirred at 120 °C for 3 hours. Solvent was removed and the residue was subjected to MS-triggered HPLC purification. The collected MeCN/water solution was neutralized. The organic solution was dried and concentrated to give **Compound 18-3** as yellow oil: ^{1}H NMR ($CDCl_3$, 400 MHz) δ 9.14 (d, *J* = 1.2 Hz, 1H), 7.86 (d, *J* = 1.6 Hz, 2H), 7.62-7.65 (m, 2H), 7.42-7.45 (m, 2H), 7.28 (t, *J* = 8.4 Hz, 2H), 7.02 (t, *J* = 8.8 Hz, 2H), 6.31 (s, 1H).

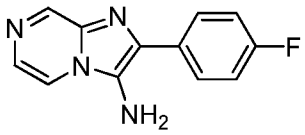


18-3

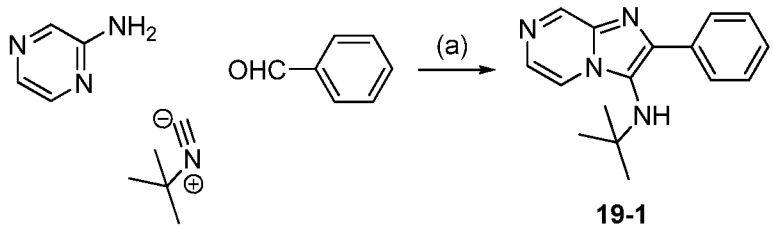
[00117] To a stirred solution of **Compound 18-3** (10 mg, 0.033 mmol) in 6 mL of MeOH was added Pd/C (4 mg, 0.0033 mmol). The reaction mixture was evacuated and back filled with H_2. The reaction mixture was stirred at room temperature overnight. The solid was filtered off and solvent was removed. The product was subjected to mass-triggered HPLC purification to give the title compound as yellow oil after neutralization.

Reference Compound 19

2-(4-fluorophenyl)imidazo[1,2-a]pyrazin-3-amine

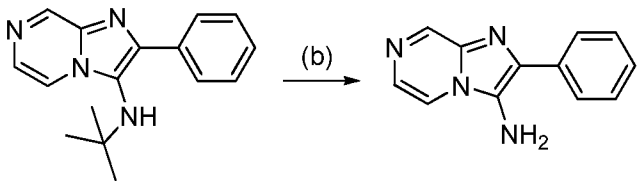


[00118] **Reference Compound 19** was prepared by the following way:



19-1

[00119] To a stirred solution of 2-aminopyrazine (571 mg, 6.0 mmol) in 10 mL of MeOH were added 4-fluorobenzaldehyde (0.97 mL, 9.0 mmol), 2-isocyano-2-methylpropane (0.78 mL, 6.9 mmol), and followed by 1.0 N $HClO_4$ in MeOH (0.60 mL, 0.60 mmol). The reaction mixture was stirred at room temperature for 3 hours. Solvent was removed and the residue was subjected to flash chromatography purification to give **Compound 19-1** as white solid: ^1H NMR ($CDCl_3$, 400 MHz) δ 8.97 (d, J = 1.6 Hz, 1H), 8.10 (dd, J = 1.6, 4.4 Hz, 1H), 7.90-7.94 (m, 2H), 7.13 (t, J = 8.8 Hz, 2H), 1.04 (s, 9H).

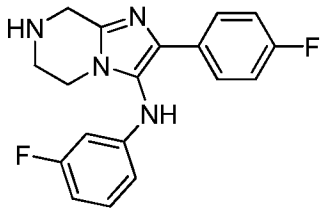


19-1

[00120] A solution of **Compound 19-1** (284 mg, 1.0 mmol) in 10 mL of 4:1 DCM and TFA was stirred at room temperature for 2 hours. Solvent was removed and the product was directly used in the next step after neutralization.

Reference Compound 20

N-(3-fluorophenyl)-2-(4-fluorophenyl)-5,6,7,8-tetrahydroimidazo [1,2-a] pyrazin-3-amine



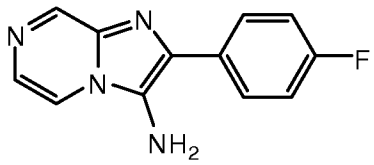
[00121] **Reference Compound 20** was prepared by the following way: to a solution of **Reference Compound 19** (69 mg, 0.30 mmol) in 6 mL of dioxane were added 1-bromo-3-fluorobenzene (66 μL, 0.60 mmol), $Pd_2(dba)_3$ (8 mg, 0.009 mmol), Xantphos (11 mg, 0.018 mmol) and Cs_2CO_3 (196 mg, 0.60 mmol) at room temperature. The reaction mixture was degassed and stirred at 120 °C under N_2 for 5 hours. The reaction mixture was cooled to room temperature and solid was filtered off. The resulting filtrate was concentrated. The residue was subjected to mass-triggered HPLC purification to give a yellow oil after neutralization. To a stirred solution of the obtained adduct (64 mg, 0.20 mmol) in 5 mL of MeOH was added Pd/C (21 mg, 0.02 mmol). The reaction mixture was evacuated and back filled with H_2. The reaction mixture was stirred at room temperature overnight. The solid was filtered off and solvent was removed. The residue was subjected to mass-triggered HPLC purification to give a yellow solid.

[00122] **Reference Compound 27** was prepared from **Reference Compound 19** by an amination reaction with 1-bromo-3,5-difluorobenzene followed by a Pd/C mediated hydrogenation; **Reference Compound 28** was prepared from **Reference Compound 19** by an amination reaction with 1-bromo-4-(trifluoromethyl)benzene followed by a Pd/C mediated hydrogenation; **Reference Compound 30** was prepared from **Reference Compound 19** by an amination reaction with 1-bromo-4-(trifluoromethyl)benzene followed by a Pd/C mediated hydrogenation; **Reference Compound 31** was prepared from **Reference Compound 11** by an amination reaction with 1-bromo-2,4-difluorobenzene followed by a Pd/C mediated hydrogenation; **Reference Compound 32** was prepared by the same way that **Reference Compound 19** was prepared: a three component Ugi reaction among 2-aminopyrazine, 3-

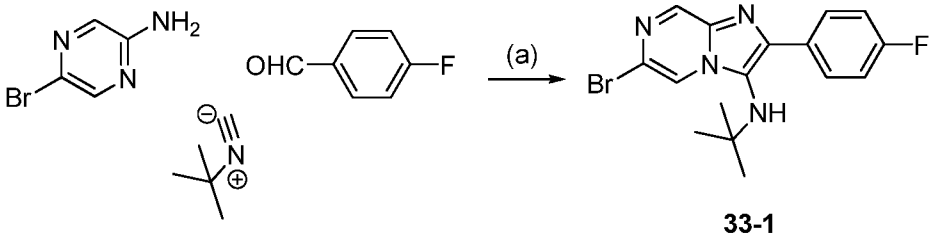
fluorobenzaldehyde and 2-isocyano-2-methylpropane followed by a TFA mediated deprotection; **Reference Compound 34** was prepared by a three component Ugi reaction among 2-aminopyrazine, 3-fluorobenzaldehyde, and 2-isocyano-2-methylpropane followed by a HATU mediated amidation reaction with 2-(benzyloxycarbonylamino)-2-methylpropanoic acid and HCl mediated deprotection.

Reference Compound 33

2-(4-fluorophenyl)-6-methylimidazo[1,2-a]pyrazin-3-amine

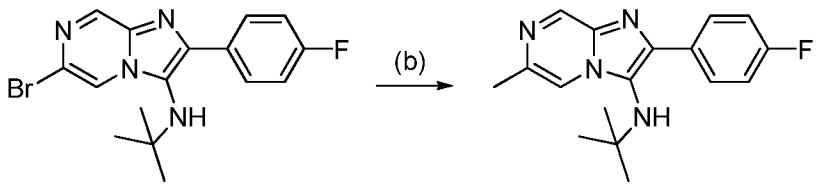


[00123] **Reference Compound 33** was prepared by the same way that **Reference Compound 1** was prepared:



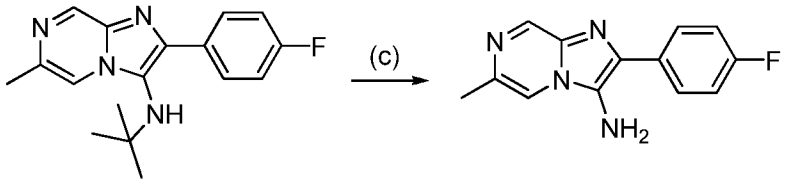
33-1

[00124] To a stirred solution of 5-bromopyrazin-2-amine (313 mg, 1.8 mmol) in 20 mL of MeOH were added 4-fluorobenzaldehyde (191 μL, 1.8 mmol), and followed by 1.0 N $HClO_4$ in MeOH (0.15 mL, 0.15 mmol). The reaction mixture was stirred at room temperature for 0.5 hour which was followed by addition of 2-isocyano-2-methylpropane (170 μL, 1.5 mmol). The stirring was continued at room temperature overnight. The reaction mixture was subjected to direct mass-triggered HPLC purification to give 299 mg of **Compound 33-1** as a yellow solid.



33-1 33-2

[00125] To a stirred solution of **Compound 33-1** (131 mg, 0.36 mmol) in 10 mL of dioxane were added 2.0 M Me_2Zn in toluene (0.75 mL, 1.5 mmol) and $Ni(DPPP)_2Cl_2$ (98 mg, 0.18 mmol). The reaction mixture was evacuated and back filled with N_2. The reaction mixture was stirred at reflux overnight. Reaction mixture was quenched with methanol. Solid was filtered off and solvent was removed. The residue was subjected to mass-triggered HPLC purification to give **Compound 33-2** as yellow oil.

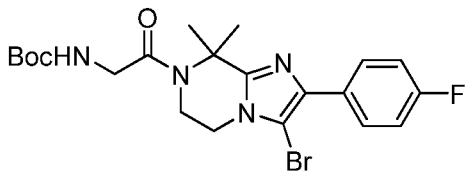


33-2

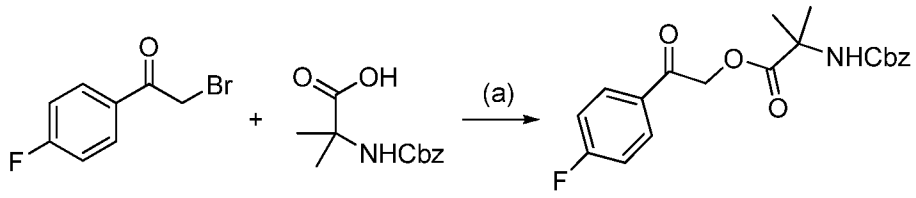
[00126] To a solution of **Compound 33-2** (9 mg, 0.03 mmol) in 2 mL of DCM was added 4 mL of TFA. The reaction mixture was stirred at room temperature overnight. The reaction mixture was concentrated and the residue was subjected to mass-triggered HPLC purification to give the titled compound in quantitative yield after neutralization.

Reference Compound 35

2-(4-fluorophenyl)-6-methylimidazo[1,2-a]pyrazin-3-amine

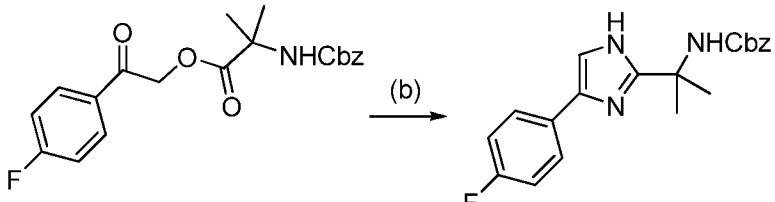


[00127] **Reference Compound 35** was prepared by the following way:



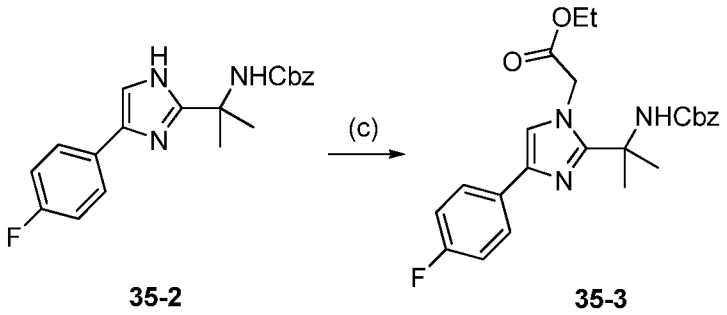
35-1

[00128] To a solution of 2-bromo-1-(4-fluorophenyl)ethanone (46.5 g, 214.29 mmol) in *DMF*(400 mL), were added 2-(benzyloxycarbonyl)-2-methylpropanoic acid (55.8 g, 236.4 mmol) and potassium carbonate (35.4 g, 256.5 mmol). The resulting solution was stirred for 4 h at room temperature. The resulting solution was diluted with 1000 mL of water. The resulting solution was extracted with ethyl acetate (2 x 800 mL) and the combined organic layer was washed with water (2 x 800 mL), brine (1 x 800 mL). The resulting mixture was concentrated under vacuum. This resulted in 67 g (84%) of **Compound 35-1** as a white solid.



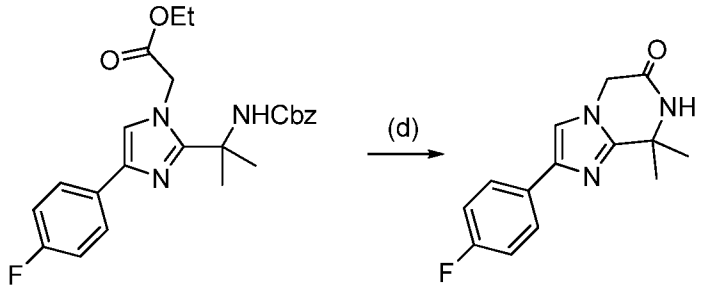
35-1 35-2

[00129] To a solution of **Compound 35-1** (70 g, 187.7 mmol) in toluene (700 mL), was added NH_4OAc (144.5 g, 1.88 mol). The resulting solution was heated to reflux for 3 h in an oil bath. The resulting mixture was concentrated under vacuum. The residue was dissolved in 800 mL of water. The resulting solution was extracted with ethyl acetate (2 x 500 mL) and the combined organic layer was washed with water (2 x 800mL) and brine (1 x 800 mL). The resulting mixture was concentrated under vacuum. This resulted in 58 g (88%) of **Compound 35-2** as a white solid.



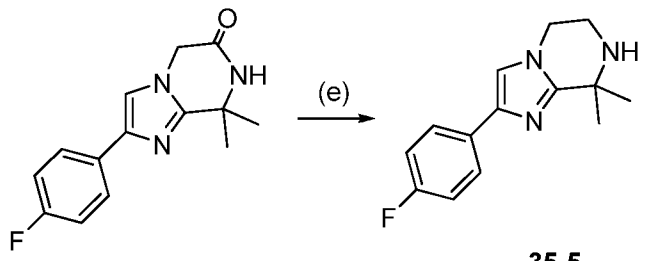
35-2 35-3

[00130] To a solution of **Compound 35-2** (58 g, 164.3 mmol) in DMF (400mL), were added cesium carbonate (134 g, 411.0 mmol). This was followed by the addition of ethyl 2-bromoacetate (33 g, 197.6 mmol) dropwise with stirring at room temperature in 30 min. The resulting solution was stirred for 2 h at room temperature. The resulting solution was diluted with 1000 mL of water/ice. The resulting solution was extracted with ethyl acetate (2 x 700mL) and the combined organic layer was washed with water (2 x 800mL) and brine (1 x 800mL). The resulting mixture was concentrated under vacuum. This resulted in 60 g (83%) of **Compound 35-3** as a yellow solid.



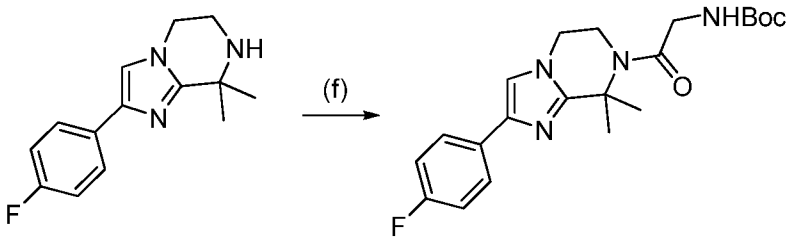
35-3 35-4

[00131] To a solution of **Compound 35-3** (70 g, 159.4 mmol) in methanol (800 mL), was added 10% Pd/C (10 g). The resulting solution was degassed and back filled with hydrogen. The solution was stirred for 3 days at 35°C. The solids were filtered out. The filtrate was concentrated under reduced pressure. This resulted in **Compound 35-4** as a white solid: ^{1}H NMR: (DMSO, 300 MHz): δ 7.79-7.74(m, 2H), 7.13-7.07(m, 3H), 6.35(s, 2H), 4.73(s, 2H), 1.79(s, 6H)



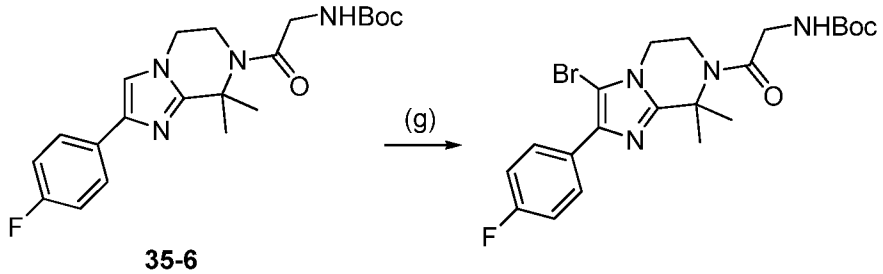
35-4 35-5

[00132] To a stirred solution of **Compound 40-4** (15 g, 57.9 mmol) in THF (300 mL) was added of BH_3 Me_2S complex (144.2 mL, 2M) dropwise at room temperature in 30 min. The resulting solution was reflux for 4 h. After cooling to room temperature, the resulting solution was diluted with 100 mL of methanol. The pH was adjusted to 1~2 with hydrochloric acid (12N). The mixture was reflux for 1 h. The resulting mixture was concentrated under vacuum. The residue was dissolved in 100 mL of water. pH was adjusted to 9~10 with aqueous potassium carbonate (40 %). The resulting solution was extracted with 3 x 200 mL of DCM and the organic layers were combined, dried over anhydrous sodium sulfate and concentrated under vacuum. This resulted in **Compound 35-5** as a white solid.



35-5 35-6

[00133] To a stirred solution of **Compound 35-5** (7.3 g, 29.8 mmol) in DMF(150 mL) was added *N*-Boc-glycine (17 g, 89.4 mmol), followed by HATU (37.2 g, 122 mmol) & DIEA (25.3g, 178 mmol). The resulting solution was stirred for 3 h at room temperature. The resulting mixture diluted with 600 mL of ethyl acetate, washed with saturated aqueous $NaHCO_3$ (30mL × 6), brine (30mL × 3), dried over anhydrous Na_2SO_4 and concentrated *in vacuo*. This resulted in crude product, which was triturated and sonicated with ether (20mL ×3) to give **Compound 35-6**: ^1H NMR (300 MHz, DMSO-d_6,) δ7.77-7.72(m, 2H), 7.54(s, 1H), 7.20-7.14(m, 2H), 6.84-6.80(m, 1H), 4.07(s, 2H), 3.90(d, J = 3 Hz, 2H), 3.70(s, 2H), 1.80(s, 6H), 1.40(s, 9H).



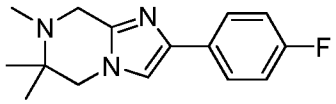
35-6

[00134] To a stirred solution of **Compound 35-6** (3.02 g, 7.51 mmol) in 30 mL of DCM was added Br_2 (0.43 mL, 8.26 mmol) in 3 mL of acetic acid. The reaction mixture was stirred at room temperature for 30 mins. HPLC/MS test showed that desired product (II) was the only peak. Solvent was removed via rotavap at a temperature no higher than 20 °C. After neutralization, 3.76 g white solid was obtained. The product was confirmed by 400 MHz proton NMR to be the title compound. The product was used in the next step without further purifications.

[00135] **Reference Compound 36** was prepared by a similar way that **Reference Compound 35** was made except that *N*-Cbz-glycine was used in step (f). **Reference Compound 37** was prepared by a three component Ugi reaction among 2-aminopyrazine, 4-fluorobenzaldehyde, and 2-isocyano-2-methylpropane followed by a HATU mediated amidation reaction with 2-(benzyloxycarbonylamino)-2-methylpropanoic acid and a HCl mediated deprotection. **Reference Compound 38** was prepared in the same way that **Reference Compound 19**, by a three component Ugi reaction among 2-aminopyrazine, 4-fluoro-3-methylbenzaldehyde, and 2-isocyano-2-methylpropane followed by a TFA mediated deprotection. Similarly, **Reference Compound 39** was prepared from **Reference Compound 19** by a three component Ugi reaction among 2-aminopyrazine, 3-chloro-4-fluorobenzaldehyde, and 2-isocyano-2-methylpropane followed by a TFA mediated deprotection. **Reference Compound 40** was prepared by the same way that **Reference Compound 19** was prepared: a three component Ugi reaction among 2-aminopyrazine, 4-chloro-3-fluorobenzaldehyde, and 2-isocyano-2-methylpropane followed by a TFA mediated deprotection.

Reference Compound 41

2-(4-fluorophenyl)-6,6,7-trimethyl-5,6,7,8-tetrahydro imidazo[1,2-a] pyrazine



[00136] **Reference Compound 41** was prepared from **Compound 42-2** by the following way:

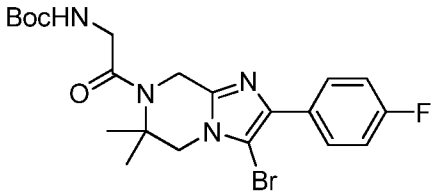


42-2

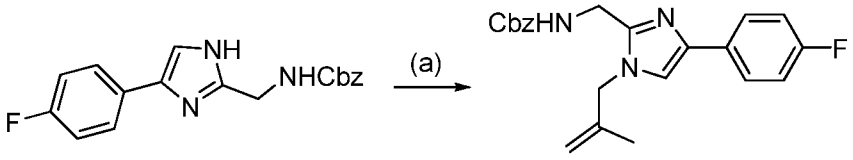
[00137] To a stirred solution of **Compound 42-2** (500 mg, 2.04mmol, 1.00 equiv) in CH_3CN (10mL) was added formalin (5mL).The reaction mixture was stirred at RT for 20min, which were followed by addition of $NaBH_3CN$ (400 mg, 6.35mmol, 3.00 equiv) and acetic acid (1mL, 1.00 equiv). The reaction mixture was allowed to stir for an additional 1 h at room temperature. Sodium hydroxide (1N aqueous) was added to neutralize the mixture. The solution was extracted with ethyl acetate (3x10ml) and the combined organic layer was washed with brine (3x10mL), dried over anhydrous sodium sulfate. The mixture was concentrated under vacuum. The residue was applied onto a silica gel column with dichloromethane/methanol (40:1). This resulted in the title compound as a light-yellow solid.

Reference Compound 42

tert-butyl 2-(3-bromo-2-(4-fluorophenyl)-6,6-dimethyl-5,6-dihydroimidazo [1,2-a]pyrazin-7(8H)-yl)-2-oxoethylcarbamate

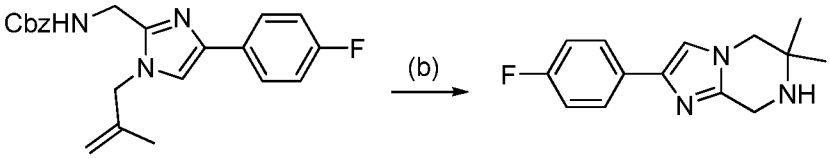


[00138] **Reference Compound 42** was prepared from **Compound 51-2** by the following way:



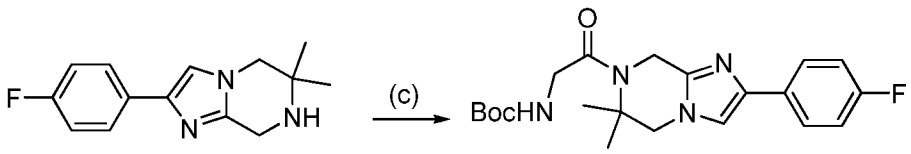
51-2 42-1

[00139] To a stirred solution of **Compound 51-2** (1.1 g, 3.38mmol, 1.00 equiv) in DMF(30mL) was added 3-chloro-2-methylprop-1-ene (500 mg, 5.49mmol, 1.50 equiv), potassium carbonate (560 mg, 4.06mmol, 1.10 equiv) and KI (1.12 g, 6.75mmol, 2.00 equiv) at room temperature. The reaction mixture was stirred for 48 h at 40 °C. The reaction mixture was diluted with 100 ml of ethyl acetate. The mixture was washed with brine (3x10mL), dried over sodium sulfate, concentrated under vacuum. The residue was applied onto a silica gel column with Petroleum Ether /EtOAc (5:1) to give **Compound 42-1** as a light yellow solid.



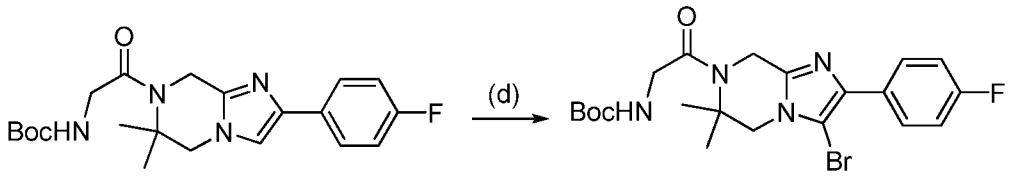
42-1 42-2

[00140] Into a 30-mL sealed tube, was placed **Compound 42-1** (2.0 g, 5.28mmol, 1.00 equiv), AcOH (12mL), MsOH (2mL). The reaction mixture was stirred for 12 h at 260°C (the temperature of the sand bath). The reaction mixture was cooled to room temperature. The mixture was poured into 20 ml of water. The aqueous layer was washed with ethyl acetate (3x10mL).Aqueous sodium hydroxide (1N) was added to adjust pH to 8. The aqueous layer was extracted with ethyl acetate (3x10mL). The combined organic layers were washed with brine (3x10ml), dried over sodium sulfate, concentrated under vacuum. The solid was collected by filtration and washed with 5mL of n-hexane to give **Compound 42-2** as a white solid.



42-2 42-3

[00141] To a stirred solution of **Compound 42-2** (280 mg, 1.14mmol, 1.00 equiv) in DMF (10mL) was added 2-(tert-butoxycarbonyl)acetic acid (600 mg, 3.43mmol, 3.00 equiv), HATU (1.3 g, 3.42mmol, 3.00 equiv) and DIEA (880 mg, 6.82mmol, 6.00 equiv) at room temperature. The reaction mixture was stirred overnight at room temperature. The reaction mixture was diluted with 100 ml of ethyl acetate. The organic layer was washed with brine (3x10mL), dried over sodium sulfate, concentrated under vacuum. The residue was applied onto a silica gel column with DCM/MeOH (10:1) to give **Compound 42-3** as a brown solid: ^{1}H NMR: (300MHz, $CDCl_3$) δ 7.72-7.68(m, 2H), 7.23(s, 1H), 7.13-7.07(m, 2H), 5.46(s, 1H), 4.65(s, 2H), 4.05-4.04(m, 2H), 3.97(s, 2H), 1.55-1.39(m, 15H).

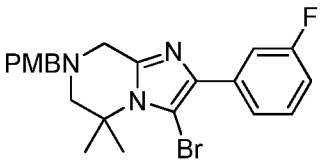


42-3

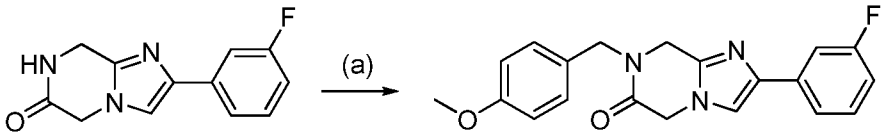
[00142] To a stirred solution of **Compound 42-3** (386 g, 0.96 mmol) in 6 mL of DCM was added Br_2 (55 μL, 1.06 mmol) in 2 mL of acetic acid. The reaction mixture was stirred at room temperature for 30 mins. Solvent was removed via rotavap at a temperature no higher than 20 ºC. After neutralization, the residue was subjected to flash chromatography (40 g, 0-100% ethyl acetate in hexane, 50 mins, dry loading) purification to give the title compound as a colorless oil.

Reference Compound 43

3-bromo-2-(3-fluorophenyl)-7-(4-methoxybenzyl)-5,5-dimethyl-5,6,7,8-tetra hydroimidazo[1,2-a]pyrazine

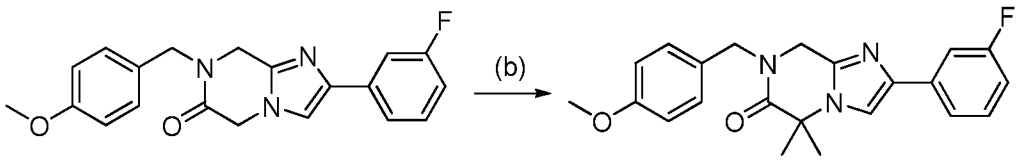


[00143] **Reference Compound 43** was prepared from **Compound 51-2** by the following way:



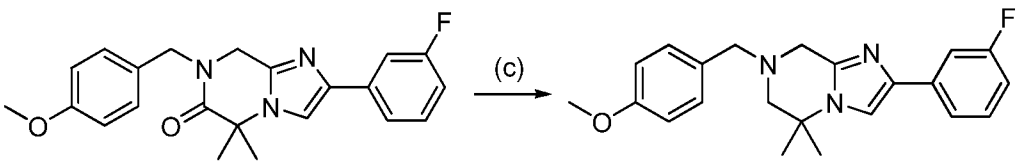
43-1 **43-2**

[00144] To a solution of **Compound 43-1** (231 mg, 1.0 mmol) in 10 mL of DMF were added KOH (168 mg, 3.0 mmol), and PMBCl (405 μL, 3.0 mmol) at 0°C. The reaction mixture was stirred at the same temperature for 2 hours and at room temperature for 2 additional hours. The reaction mixture was directly taken to LC/MS purification to give **Compound 43-2** as white solid after neutralization.



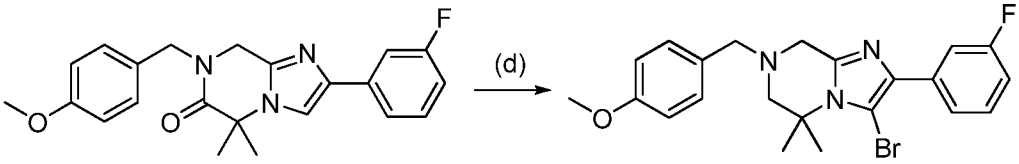
43-2 **43-3**

[00145] To a solution of **Compound 43-2** (253 mg, 0.72 mmol) in 15 mL of DMF were added 60% NaH (87 mg, 0.085 mmol), and MeI (0.45 mL, 7.2 mmol) at room temperature. The reaction mixture was stirred at room temperature for 2 hours. The reaction mixture was quenched with methanol and directly subjected to mass-triggered HPLC purification to give mg of **Compound 43-3** as a white solid after neutralization: ^{1}H-NMR: (400MHz, $CDCl_3$) δ 7.47-7.49 (m, 1H), 7.41-7.45 (m, 1H), 7.28-7.32 (m, 1H), 7.22 (d, J = 8.8 Hz, 2H), 6.88-6.93 (m, 1H), 6.86 (d, J = 8.8 Hz, 2H), 4.67(s, 2H), 4.51 (s, 2H), 3.77(s, 3H), 1.75 (s, 6H).



43-3 43-4

[00146] To a solution of **Compound 43-3** (170 mg, 0.45 mmol) in 9 mL of THF was added 1.0 N BH_3·THF (2.70 mL, 2.70 mmol) at room temperature. The reaction mixture was stirred at reflux for 2 hours. Pd/C was added (gas generated). The reaction mixture was stirred for 1hour. Solid was filtered off and solvent was removed. The crude **Compound 43-4** was directly tested with 400 MHz proton NMR to prove that the product was the right one. The product was assumed to be of 100% yield and used in the next step without further purifications.

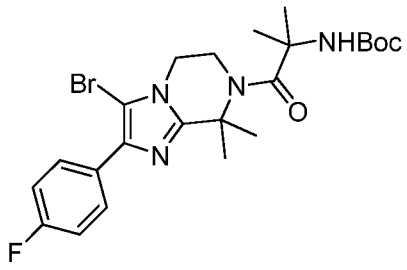


43-4

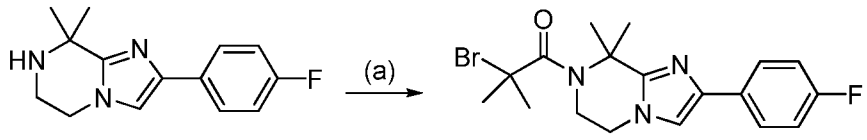
[00147] To a stirred solution of **Compound 43-4** (164 g, 0.45 mmol) in 6 mL of DCM was added Br_2 (26 µL, 0.50 mmol) in 2 mL of acetic acid. The reaction mixture was stirred at room temperature for 30 mins. Solvent was removed via rotavap at a temperature no higher than 20 ºC. After neutralization, the residue was subjected to ISCO (24 g, 0-100% ethyl acetate in hexane, 25 mins, dry loading) purification to give the title compound as white solid.

Reference Compound 44

tert-butyl 1-(3-bromo-2-(4-fluorophenyl)-8,8-dimethyl-5,6-dihydro imidazo[1,2-a]pyrazin-7(8H)-yl)-2-methyl-1-oxopropan-2-ylcarbamate

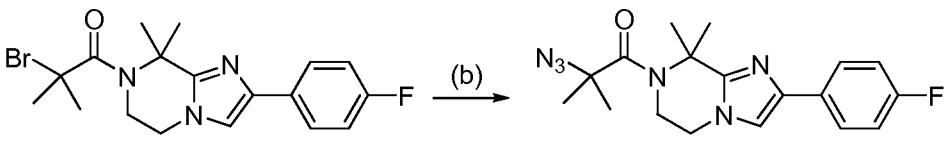


[00148] **Reference Compound 44** was prepared from **Compound 40-5** by the following way:



35-5 **44-1**

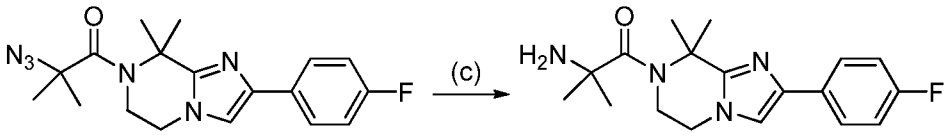
[00149] To a stirred solution of **Compound 35-5** (1.48 g, 6.04 mmol) and NEt_3 (6.0 g, 59.4 mmol,) in DCM (20 mL) was added 2-bromo-2-methylpropanoyl bromide (14 g, 60.9 mmol) dropwise at room temperature. After being stirred for 3 h at room temperature, the reaction was then quenched by the addition of 30 mL of water. The resulting solution was extracted with 3x30 mL of ethyl acetate. The combined organic layers were washed with brine, dried over anhydrous sodium sulfate and concentrated under vacuum. This resulted in crude product as a dark solid, which was washed with EtOAc: Petroleum Ether (1:10) to remove the impurities to produce **Compound 44-1** as a gray solid.



35-1 **44-2**

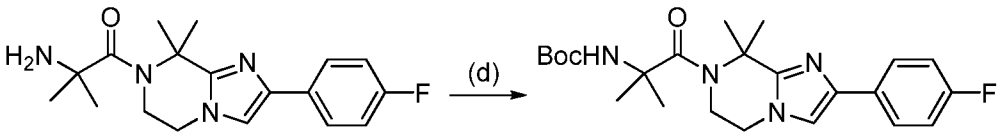
[00150] To a solution of **Compound 44-1** (2.0 g, 5.08 mmol, 1.00 equiv) in DMF(10 mL) was NaN_3 (1.0 g, 15.38 mmol, 3.00 equiv) at r.t. The reaction mixture was stirred overnight at room temperature. The resulting solution was diluted with 300 mL of ethyl acetate. The resulting mixture was washed with 3x20 mL of brine, dried over anhydrous

sodium sulfate and concentrated under vacuum. The residue was applied onto a silica gel column with Petroleum Ether/EtOAc (5:1) to give **Compound 44-2** as a white solid.



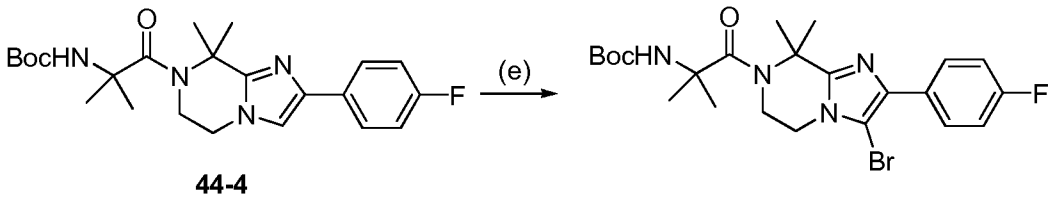
44-2 **44-3**

[00151] To a stirred solution of **Compound 44-2** (1.2 g, 3.37 mmol, 1.00 equiv) in methanol (20 mL) was added Pd/C (80 mg, 0.75 mmol, 0.20 equiv) at room temperature. The reaction mixture was evacuated and back filled with H_2. The reaction mixture was stirred overnight at room temperature. The solids were filtered out. The resulting mixture was concentrated under vacuum. The solid was washed with Petroleum Ether. This resulted in **Compound 44-3** as a white solid.



44-3 **44-4**

[00152] To a stirred solution of **Compound 44-3** (910 mg, 2.76 mmol, 1.00 equiv) in THF (50 mL) was added BOC anhydride (3.2 g, 14.68 mmol, 5.00 equiv), followed by aqueous NaOH (1N, 6 ml, 2.00 equiv) at rt. The resulting solution was stirred for 24h at 40°C. The resulting solution was concentrated under vacuum. The mixture was diluted with 60 ml of EtOAc. The organic layer was washed with 3x10ml of brine, dried over Na_2SO_4, concentrated under vacuum. The solid was collected by filtration and washed with n-hexane (5ml) to give **Compound 44-4** as a white solid: ^{1}H-NMR: (300MHz, $CDCl_3$) δ 7.75-7.71 (m, 2H), 7.09-7.02 (m, 3H), 4.84(s, 1H), 4.09-4.0 (m, 4H), 1.98(s, 6H), 1.55 (s, 6H), 1.45(s, 9H).

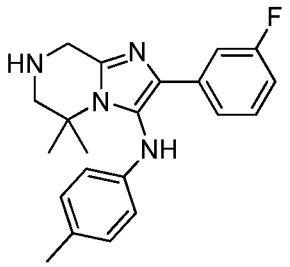


44-4

[00153] To a stirred solution of **Compound 44-4** (32 mg, 0.074 mmol) in 3 mL of DCM was added Br_2 (4.2 μL, 0.082 mmol) in 1 mL of acetic acid. The reaction mixture was stirred at room temperature for 30 mins. Solvent was removed via rotavap at a temperature no higher than 20 °C. After neutralization, the residue was subjected to flash chromatography (4 g, 0-60% ethyl acetate in hexane, 16 mins) purification to give the title compound as colorless oil.

Reference Compound 45

2-(3-fluorophenyl)-5,5-dimethyl-*N*-p-tolyl-5,6,7,8-tetrahydroimidazo [1,2-a] pyrazin-3-amine

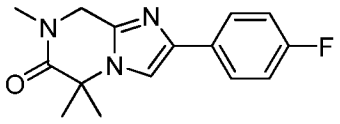


[00154] **Reference Compound 45** was prepared from **Reference Compound 43** in the following way: To a solution of **Reference Compound 43** (116 mg, 0.26 mmol) in 8 mL of dioxane were added 4-methylaniline (84 mg, 0.78 mmol), $Pd_2(dba)_3$ (24 mg, 0.026 mmol), XantPhos (30 mg, 0.052 mmol) and Cs_2CO_3 (169 mg, 0.52 mmol) at room temperature. The reaction mixture was degassed and stirred at 150 °C under N_2 for 6 hours. Solid was filtered off and solvent was removed. The residue was subjected to mass-triggered HPLC purification to give 116 mg yellow solid as TFA salt. A solution of the adduct (108 mg, 0.23 mmol) in 2 mL of TFA was stirred at 70 °C for 90 mins in a microwave oven. HPLC test showed that the starting material was gone and the desired product was the major peak. TFA was removed and the residue was directly subjected to flash chromatography purification (12g, 0-10% methanol in DCM with NH_3 modification, 30 mins) to give the title compound as clear oil.

[00155] **Reference Compound 46** was prepared from **Compound 43-4** by a TFA mediated deprotection followed by alkylation. **Reference Compound 47** was prepared in the same way that **Compound 48-3** was made followed by bromination (except that **Reference Compound 51** was used in step (a)).

Reference Compound 48

2-(4-fluorophenyl)-5,5,7-trimethyl-7,8-dihydroimidazo[1,2-a]pyrazine -6(5H)-one

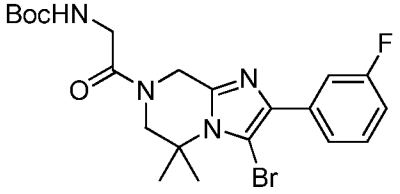


[00156] **Reference Compound 48** was prepared from **Reference Compound 51** by the following way: To a solution of **Reference Compound 51** (694 mg, 3.0 mmol) in 20 mL of DMF were added 60% NaH (600 mg, 15 mmol), and MeI (1.87 mL, 30 mmol) at 0 °C. The reaction mixture was stirred at the same temperature for 2 hours and at room temperature for 2 additional hours. The reaction mixture was diluted with ethyl acetate and washed with water. The organic solution was dried and concentrated to give the methylated product white solid after flash chromatography purification: ^{1}H NMR: (400MHz, $CDCl_3$) δ 7.65-7.69 (m, 2H), 7.14 (s, 1H) 7.03 (t, J = 8.8 Hz, 2H), 4.62 (s, 2H), 3.11(s, 3H), 1.70(m, 6H).

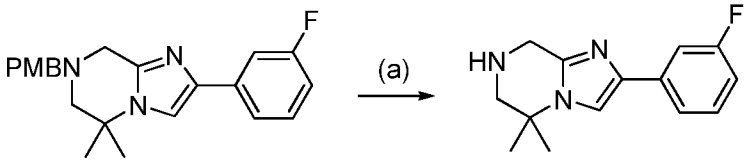
[00157] To a stirred solution of (I) (216 mg, 0.79 mmol) in 6 mL of DCM was added Br_2 (45 µL, 0.87 mmol) in 2 mL of acetic acid. The reaction mixture was stirred at room temperature for 30 mins. Solvent was removed via rotavap at a temperature no higher than 20 °C. After neutralization, the residue was used in the next step without further purifications.

Reference Compound 49

tert-butyl 2-(3-bromo-2-(3-fluorophenyl)-5,5-dimethyl-5,6-dihydro imidazo[1,2-a]pyrazin-7(8H)-yl)-2-oxoethylcarbamate

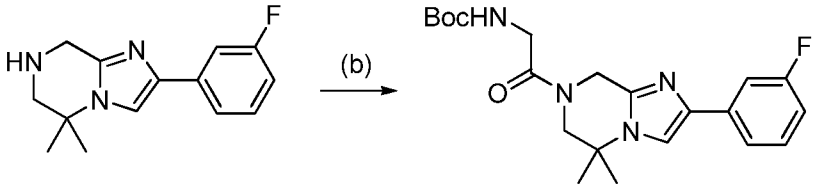


[00158] **Reference Compound 49** was prepared from **Compound 43-4** by the following way:



43-4 **49-1**

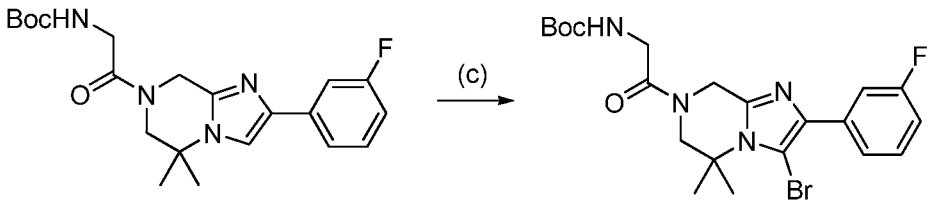
[00159] A solution of (I) (365 mg, 1.0 mmol) in 10 mL of TFA was stirred at 70 °C for 20 mins. HPLC test showed that the starting material was remaining and small amount desired product was detected. The reaction mixture was stirred at 75 °C for 30 mins in a microwave oven. TFA was removed and the residue neutralized to give about 252 mg of **Compound 49-1** (100%) as yellow oil.



49-1 **49-2**

[00160] To a stirred solution of **Compound 49-1** (245 mg, 1.0 mmol) and *N*-Boc-glycine (350 mg, 2.0 mmol) in 10 mL of DMF were added HATU (760 mg, 2.0 mmol) and DIEA (0.52 mL, 3.0 mmol). The reaction mixture was stirred at room temperature for 3 hours

[00161] The reaction mixture diluted with ethyl acetate and washed with water. The organic solution was dried and concentrated. The residue was subjected to flash chromatography purification (24 g, 0-100% ethyl acetate in hexane, 36 mins) to give **Compound 49-2** as clear oil.

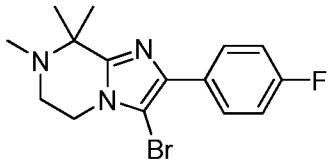


49-2

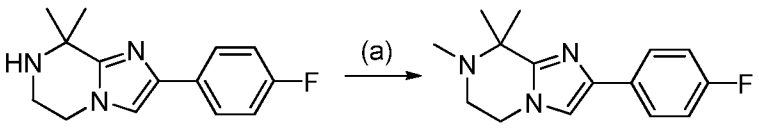
[00162] To a stirred solution of **Compound 49-2** (312 mg, 0.78 mmol) in 6 mL of DCM was added Br_2 (57 μL, 1.1 mmol) in 2 mL of acetic acid. The reaction mixture was stirred at room temperature for 30 mins. Solvent was removed via rotavap at a temperature no higher than 20 °C. After neutralization, the residue was subjected to flash chromatography (25 g, 0-100% ethyl acetate in hexane, 32 mins, dry loading) purification to give the title compound as colorless oil.

[00163] **Reference Compound 50**

3-bromo-2-(4-fluorophenyl)-7,8,8-trimethyl-5,6,7,8-tetrahydro imidazo[1,2-a]pyrazine



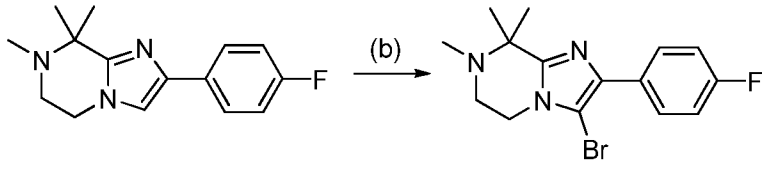
[00164] **Reference Compound 50** was prepared from **Compound 35-5** by the following way:



35-5 **50-1**

[00165] To a stirred solution of **Compound 35-5** (2.4 g, 9.80mmol, 1.00 equiv) in CH_3CN (50ml) was added formalin (1.71 g, 21.09mmol, 2.00 equiv, 37%). The mixture was stirred at 30 °C for 30 minutes. To this was added $NaCNBH_3$ (1.85 g, 29.37mmol, 3.00 equiv), acetic acid (590 mg, 9.83mmol, 1.00 equiv). The resulting solution was stirred for 2 h at room temperature. The resulting mixture was concentrated under vacuum. The resulting solution was diluted with 10ml of water. The pH value of the solution was adjusted to 8-9 with sodium carbonate (saturated). The resulting solution was extracted with DCM (3 x 100ml) and the combined organic layer was dried over anhydrous sodium sulfate, concentrated. The residue was applied onto a silica gel column with ethyl acetate/petroleum

ether (1:7) to give **Compound 50-1** as a white solid: ^{1}H NMR: (300MHz, $CDCl_3$) δ 7.69-7.75(m, 2H), 7.02-7.09(t, *J* = 9 Hz, 2H), 6.97(s, 1H), 4.01-4.06(t, *J* = 5.4Hz, 2H), 3.02-3.07(t, *J* = 5.4Hz, 2H), 2.49(s, 3H), 1.52-1.57(m, 6H).

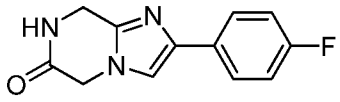


50-1

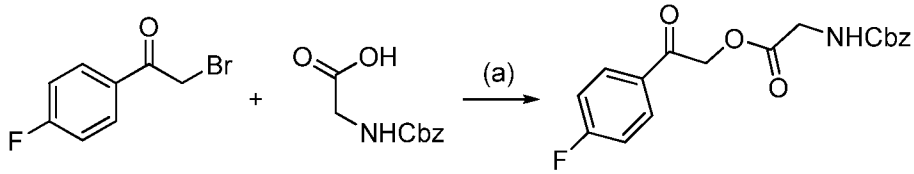
[00166] To a stirred solution of **Compound 50-1** (933 mg, 3.60 mmol) in 6 mL of DCM was added Br_2 (204 μL, 3.96 mmol) in 2 mL of acetic acid. The reaction mixture was stirred at room temperature for 30 mins. Solvent was removed via rotavap at a temperature no higher than 20 ºC. After neutralization, the residue was subjected to flash chromatography (40 g, 0-10% methanol in DCM, 50 mins, dry loading) purification to give 998 mg (82%) of the title compound as white solid.

[00167] **Reference Compound 51**

[00168] **2-(4-fluorophenyl)-7,8-dihydroimidazo[1,2-a]pyrazin-6(5H)-one**



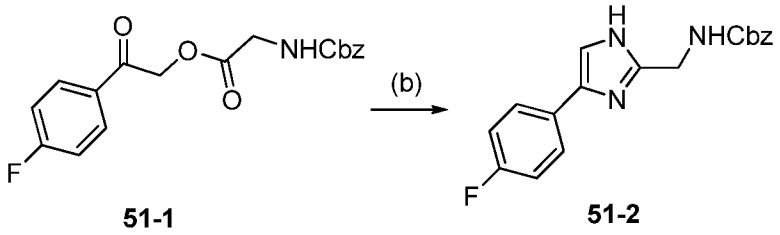
[00169] **Reference Compound 51** was prepared by the following way:



51-1

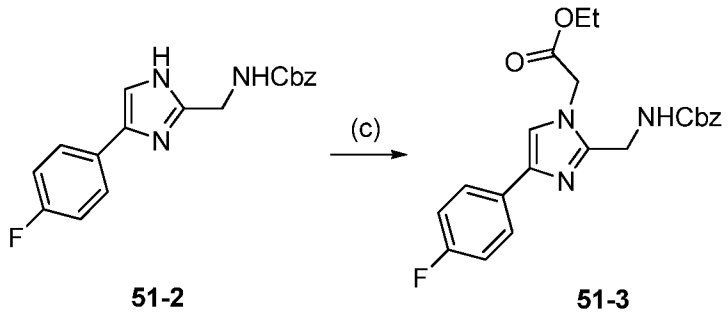
[00170] To a stirred solution of 2-bromo-1-(4-fluorophenyl)ethanone (3.0 g, 13.82mmol) in DMF (30mL) was added 2-(tert-butoxycarbonyl)acetic acid (2.5 g,

14.29mmol) and Cs_2CO_3 (5.0 g, 15.34mmol). The resulting solution was allowed to stir overnight at 30°C. The resulting solution was poured into 40ml of water. The aqueous layer was extracted with ethyl acetate (3x20mL) and the combined organic layer was washed with brine (3x20mL), dried over anhydrous sodium sulfate and concentrated under vacuum. The solid was washed with a mixture of n-hexane/ethyl acetate (10:1). This resulted in **Compound 51-1** as a white solid.



51-1 **51-2**

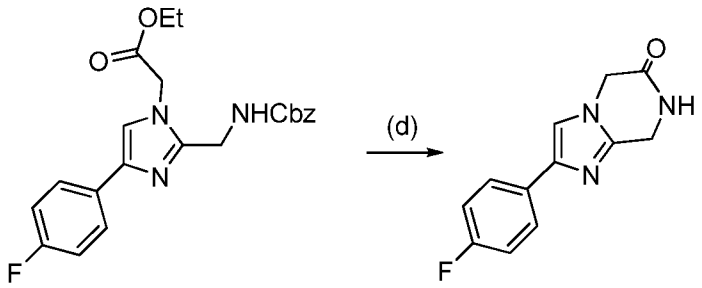
[00171] To a stirred solution of **Compound 51-1** (25.95 g, 75.14mmol) in toluene (200mL), was added NH_4OAc (110 g, 20.00 equiv). The resulting solution was heated to reflux for 4 h. The mixture was cooled to room temperature and concentrated under vacuum. The residue was diluted with 800mL of ethyl acetate. The resulting mixture was washed with brine (3x30mL), dried over anhydrous sodium sulfate and concentrated under vacuum. The residue was washed with 10mL of Petroleum Ether/EtOAc (20:1) to give **Compound 51-2** as a white solid.



51-2 **51-3**

[00172] To a stirred solution of **Compound 51-2** (2.58 g, 8.87mmol) in DMF (30mL) was added ethyl 2-bromoacetate (4.4 g, 26.35mmol, 3.00 equiv) and Cs_2CO_3 (8.7 g, 26.69mmol, 3.00 equiv). The resulting solution was stirred overnight at 30°C. The resulting solution was diluted with 30mL of ethyl acetate and the combined organic layer was washed

with brine (3x20mL), dried over anhydrous sodium sulfate and concentrated under vacuum. The residue was applied onto a silica gel column with ethyl acetate/petroleum ether (1:10). This resulted in **Compound 51-3** as a light white solid.



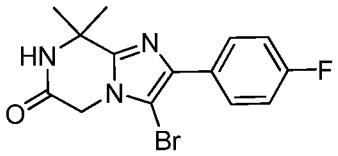
51-3

[00173] To a stirred solution of **Compound 51-3** (8 g, 19.46mmol) in methanol (200mL), was added Pd/C (0.8 g). The resulting solution was degassed and back filled with hydrogen. The mixture was stirred overnight at room temperature. The solids were filtered out. The resulting mixture was concentrated under vacuum. The resulting crude solid was washed with 100mL of Petroleum Ether /EtOAc (1:10). This resulted in the title compound as a white solid.

[00174] **Reference Compound 52** was prepared from **Reference Compound 51** by nitrating with fuming nitric acid in TFA. **Reference Compound 53** was prepared in the same way that **Reference Compound 19** was prepared: a three component Ugi reaction among 2-aminopyrazine, isonicotinaldehyde, and 2-isocyano-2-methylpropane followed by a TFA mediated deprotection. The free amine was subjected to $Pd_2(dba)_3$ mediated amination reaction with 1-bromo-4-methylbenzene followed by a PtO_2 mediated hydrogenation. **Reference Compound 54** was prepared from 2-aminopyrazine, 2-methoxybenzaldehyde, 1-isocyano-4-methylbenzene by the same three component Ugi reaction to prepare **Reference Compound 1,** and then followed by a PtO_2 mediated hydrogenation.

[00175] **Reference Compound 55**

[00176] **3-bromo-2-(4-fluorophenyl)-8,8-dimethyl-7,8-dihydroimidazo[1,2-a] pyrazin-6(5H)-one**



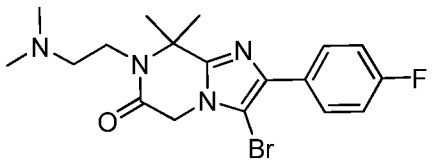
[00177] **Reference Compound 55** was prepared from **Compound 35-4** in the following way: To a stirred solution of **Compound 35-4** (390 mg, 1.51mmol, 1.00 equiv) in DCM (20mL) was added NBS (0.28 g, 1.00 equiv). The resulting solution was stirred for 2 hours at room temperature. The solid was filtered out and the mixture was washed with a saturated solution of $Na_2S_2O_3$, dried over Na_2SO_4. The mixture was concentrated under vacuum. The solids was purified by silica gel chromatography (Petroleum Ether /EtOAc= 1:2) to result in the title compound as a white solid.

[00178] **Reference Compound 56** was prepared from **Compound 35-5** by reacting with Boc-OSu in THF at 50 °C. **Reference Compound 57** was prepared from **Compound 35-4** by alkylation using NaH/ MeI. **Reference Compound 58** was prepared by the same way that **Compound 35-4** except that (*R*)-2-(benzyloxycarbonyl)-3-methylbutanoic acid was used in step (a). **Reference Compound 59** was prepared in the same way that **compound 35-4** except that 2-bromo-1-(3,4-difluorophenyl)ethanone was used in step (a). **Reference Compound 60** was prepared by the same way that **Compound 35-4** was made except that (*S*)-2-(benzyloxycarbonyl)propanoic acid was used in step (a). **Reference Compound 61** was prepared by the same way that **Compound 35-4** was made except that (*S*)-2-(benzyloxycarbonyl) 3-methylbutanoic acid was used in step (a). **Reference Compound 62** was prepared by the same way that **Compound 35-4** was made except that (*R*)-2-(benzyloxycarbonyl)propanoic acid was used in step (a). **Reference Compound 63** was prepared from by the same method that **Reference Compound 35** was prepared except that (*S*)-2-(benzyloxycarbonyl)-3-methylbutanoic acid was used in step (a). **Reference Compound 64** was prepared from by the same method that **Reference Compound 35** was prepared except that (*R*)-2-(benzyloxycarbonyl)-3-methylbutanoic acid was used in step (a).

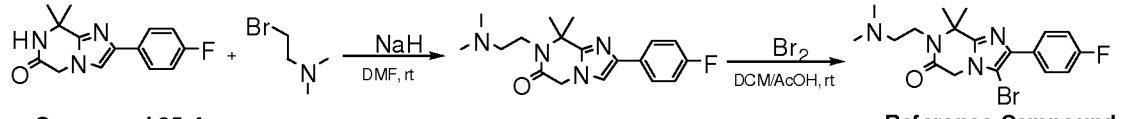
Reference Compound 65 was prepared from by the same method that **Reference Compound 35** was prepared except that (*S*)-2-(benzyloxycarbonyl)-3-methylbutanoic acid was used in step (a). **Reference Compound 66** was prepared from by the same method that **Reference Compound 35** was prepared except that (*R*)-2-(benzyloxycarbonyl)-3-methylbutanoic acid was used in step (a). **Reference Compound 67** was prepared in the same way that **Reference Compound 55** was made except that 2-bromo-1-(3-fluorophenyl)ethanone was used in step (a). **Reference Compound 68** was prepared from **Reference Compound 19** by an amination reaction with 1-bromo-2,4-difluorobenzene followed by a Pd/C mediated hydrogenation. **Reference Compound 69** was synthesized from **Reference Compound 32** was prepared from an amination reaction with 1-bromo-3-fluoro-4-chlorobenzene followed by a PtO_2 mediated hydrogenation. **Reference Compound 70** was synthesized from **Reference Compound 11** was prepared from an amination reaction with 1-bromo-3-fluoro-4-chlorobenzene followed by a PtO_2 mediated hydrogenation. **Reference Compound 71** was synthesized from **Reference Compound 51** in a similar way as **Reference Compound 49** was prepared.

[00179] **Reference Compound 72**

[00180] **3-bromo-7-(2-(dimethylamino)ethyl)-2-(4-fluorophenyl)-8,8-dimethyl-7,8-dihydroimidazo[1,2-a]pyrazin-6(5H)-one**



[00181] **Reference Compound 72** was prepared from **Compound 35-4** by the following reaction:



Compound 35-4 **Reference Compound 72**

[00182] To a solution of **Compound 35-4** (259 mg, 1.0 mmol) in 5 mL of DMF were added 60% NaH (60 mg, 1.5 mmol, and 2-bromo-N,N-dimethylethanamine (228 mg, 1.5 mmol) at room temperature. The reaction mixture was stirred at room temperature for 6 hours. LC/MS test showed that **Compound 35-4** was gone and the desired product ([M+1] = 331 was one the major peaks.

[00183] The reaction mixture was diluted with ethyl acetate and washed with water twice. The organic solution was dried and concentrated. The obtained crude product was used in the next step without further purifications.

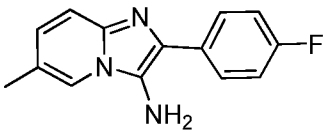
[00184] To a stirred solution of crude product obtained from the previous step (198 mg, 0.60 mmol) in 3 mL of DCM was added Br_2 (34 μL, 0.66 mmol) in 1 mL of acetic acid. The reaction mixture was stirred at room temperature for 30 minutes. HPLC/MS test showed that starting material gone and **Reference Compound 72** was the major product.

[00185] Solvent was removed via rotavap at a temperature no higher than 20 ℃. The residue was subjected to a mass-triggered HPLC purification to give 110 mg of **Reference Compound 72**.

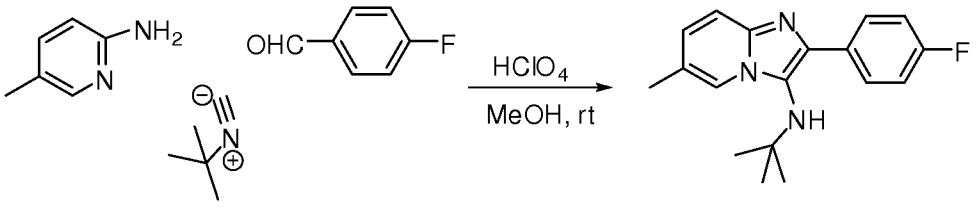
[00186] **Reference Compound 73:** 3-(4-fluoro-3-methylphenylamino)-2-(3-fluorophenyl)-8,8-dimethyl-7,8-dihydroimidazo[1,2-a]pyrazin-6(5H)-one was synthesized from **Reference Compound 67** by a $Pd_2(dba)_3$ mediated amination reaction with 4-fluoro-3-methylaniline. **Reference Compound 74**: *tert*-butyl 3-bromo-2-(4-fluorophenyl)-8,8-dimethyl-5,6-dihydro imidazo[1,2-a]pyrazine-7(8H)-carboxylate was prepared from **Reference Compound 56** by a bromination reaction with Br_2. **Reference Compound 75**: 2-bromo-1-(2-(4-fluorophenyl)-3-(4-fluorophenylamino)-8,8-dimethyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)ethanone was prepared from **Example 493** by an amidate reaction with 2-bromoacetyl bromide.

[00187] **Reference Compound 76**

[00188] 2-(4-fluorophenyl)-6-methylimidazo[1,2-a]pyridin-3-amine.



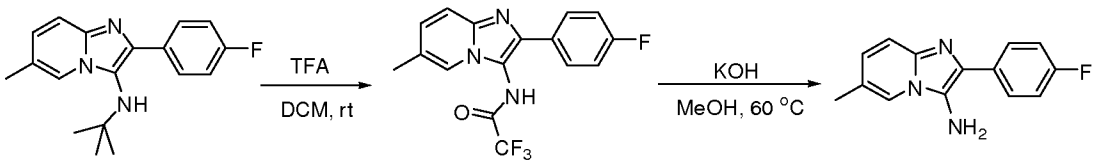
[00189] **Reference Compound 76** was prepared by the following steps:



Reference Compound 76-1

[00190] To a stirred solution of 5-methylpyridin-2-amine (260 mg, 2.4 mmol) in 20 mL of MeOH was added 4-fluorobenzaldehyde (0.26 mL, 2.40 mmol), and followed by 1.0 N $HClO_4$ in MeOH (0.20 mL, 0.20 mmol). The reaction mixture was stirred at room temperature for 0.5 hour which was followed by addition of 2-isocyano-2-methylpropane (0.23 mL, 2.0 mmol). The stirring was continued at room temperature overnight. HPLC/MS test showed that the desired product **Reference Compound 76-1** was a major peak.

[00191] The reaction mixture was subjected to direct mass-triggered HPLC purification. The obtained 62 mg of the Ugi adduct as yellow solid.



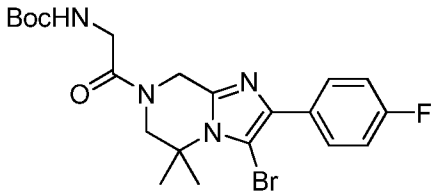
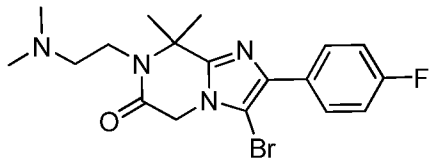
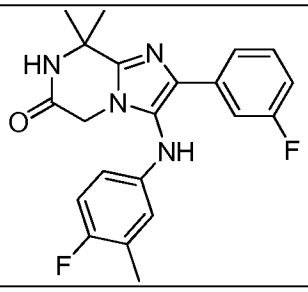
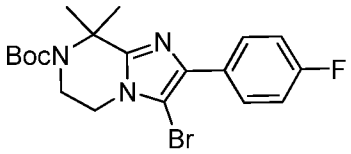
Reference Compound 76-1 **Reference Compound 76-2** **Reference Compound 76**

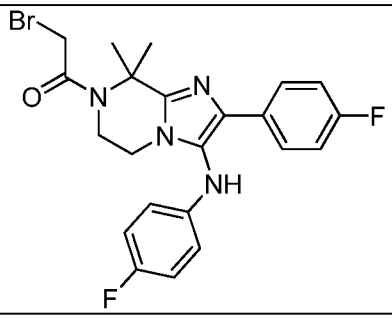
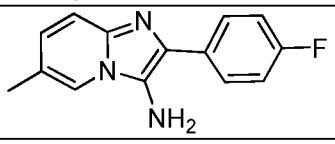
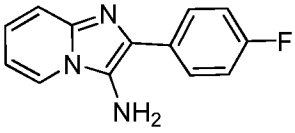
[00192] To a solution of the Ugi adduct (366 mg, 1.23 mmol) in 5 mL of DCM was added 5 mL of TFA. The reaction mixture was stirred at room temperature. LC/MS test showed a major peak with [M+1] = 338, which corresponded to **Reference Compound 76-2**. The reaction mixture was concentrated to give 431 mg yellow solid.

[00193] To a solution of **Reference Compound 76-2** (101 mg, 0.30 mmol) in 3 mL of

MeOH and 3 mL of water was added KOH (168 mg, 3.0 mmol). The reaction mixture was stirred at 60°C for 3 hours. LC/MS test showed a major peak with [M+1] = 242, which corresponded to the desired product of **Reference Compound 76**. The reaction mixture was concentrated and the residue was dissolved in DCM. The organic solution is washed with $NaHCO_3$, dried and concentrated. The product was used without further purifications.

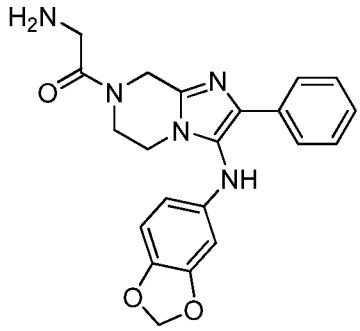
[00194] **Reference Compound 77**: 2-(4-fluorophenyl)imidazo[1,2-a]pyridin-3-amine was prepared by the same steps as **Reference Compound 76.**

Compound	Structure	Physical Data MS (*m/z*) and/or ^{1}H NMR
Ref. comp.71		[M+1] = 481 ^{1}H NMR (400 MHz, $CDCl_3$): δ 7.77 (d, *J* = 7.2 Hz, 2H), 7.05 (d, *J* = 8.8 Hz, 2H), 4.67-4.82 (m, 2H), 4.05 (s, 2H), 3.55-3.78 (m, 2H), 1.71 (s, 3H), 1.67 (s, 3H), 1.41 (s, 9H)
Ref. comp. 72		[M+1] = 409 ^{1}H NMR (400 MHz, CD_3OD): δ 7.61-7.65 (m, 2H), 7.31 (d, *J* = 8.4 Hz, 2H), 7.23-7.26 (m, 2H), 7.08 (d, *J* = 8.4 Hz, 2H), 4.26 (s, 2H), 4.15 (s, 2H), 4.11 (s, 2H), 3.88 (s, 2H), 2.08 (s, 6H)
Ref. comp. 73		[M+1] = 383
Ref.comp. 74		[M+1] = 424 ^{1}H NMR (400 MHz, $CDCl_3$): δ 7.87-7.90 (m, 2H), 7.08 (t, *J* = 8.8 Hz, 2H), 3.88-3.94 (m, 4H), 1.85 (s, 6H), 1.53 (s, 9H)

Ref. comp. 75		[M+1] = 475
Ref. comp. 76		[M+1] = 242
Ref. comp. 77		[M+1] = 228 ^{1}H NMR (400 MHz, $CDCl_3$): δ 7.94-7.80 (m, 3H), 7.52 (dt, *J* = 1.2, 9.2 Hz, 1H), 7.10-7.15 (m, 3H), 6.81 (dt, *J* = 1.2, 6.8 Hz, 1H), 3.33 (br, 2H)

[00195] **Example 1**

[00196] 2-amino-1-(3-(benzo[d][1,3]dioxol-5-ylamino)-2-phenyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)ethanone



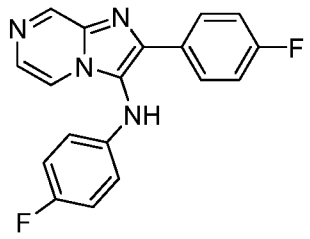
[00197] **Example 1** was prepared in the following way: to a stirred solution of *N*-BOC-glycine (142 mg, 0.81 mmol) in 2 mL of DMF were added HATU (308 mg, 0.81 mmol) and DIEA (0.28 mL, 1.62 mmol). After stirring for 10 minutes, **Reference Compound 1** (180 mg, 0.54 mmol) was added. The reaction mixture was stirred at room temperature for 3 hours.

[00198] Solvent was removed and the crude product was subjected to MS-triggered HPLC purification. The collected MeCN/water solution was concentrated till no more MeCN was left. The remaining aqueous solution was neutralized with $NaHCO_3$ and extracted with DCM. The organic solution was dried and concentrated. The residue was dissolved in 1:1 MeCN/water solvent, dried on a lyophilizer to give 192 mg powdery product.

[00199] A solution of the above obtained amide (265 mg, 0.54 mmol) in 10 mL of 4:1 DCM and TFA was stirred at room temperature for 2 hours. Solvent was removed and the crude product was subjected to MS-triggered HPLC purification. The collected MeCN/water solution was concentrated till no more MeCN was left. The remaining aqueous solution was neutralized with $NaHCO_3$ and extracted with DCM. The organic solution was dried and concentrated. Then was dissolved in 1:1 MeCN/water solvent, dried on lyophilizer to give powdery product.

Example 26

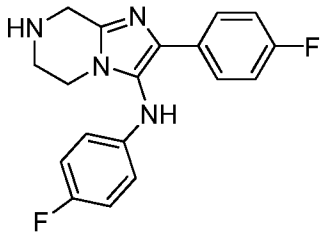
N,2-bis(4-fluorophenyl)imidazo[1,2-a]pyrazin-3-amine



[00200] **Example 26** was synthesized by the following way: to a stirred solution of 2-aminopyrazine (683 mg, 7.18 mmol) in 50 mL of MeOH were added 4-fluorobenzaldehyde (1.16 mL, 10.8 mmol), 1-fluoro-4-isocyanobenzene (1.0 g, 8.25 mmol), and followed by 1.0 N $HClO_4$ in MeOH (0.72 mL, 0.72 mmol). The reaction mixture was stirred at room temperature overnight. The reaction mixture was concentrated and the residue was subjected to flash chromatography purification. The collected organic solution was concentrated to give the title compound as yellow oil.

[00201] **Example 28**

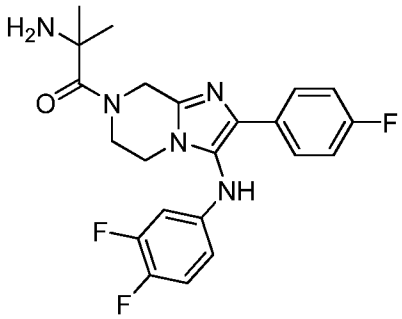
[00202] *N*,2-bis(4-fluorophenyl)-5,6,7,8-tetrahydroimidazo[1,2-a]pyrazin-3-amine.



[00203] **Example 28** was synthesized by the following way: to a stirred solution of **Example 26** (761 mg, 2.36 mmol) in 10 mL of MeOH was added Pd/C (258 mg, 0.24 mmol). The reaction mixture was evacuated and back filled with H_2. The reaction mixture was stirred at room temperature overnight. The solid was filtered off and solvent was removed. The product was subjected to mass-triggered HPLC purification. The obtained MeCN/water solution was combined and concentrated to give the final product as yellow oil after neutralization.

[00204] **Example 29**

[00205] 2-amino-1-(3-(3,4-difluorophenylamino)-2-(4-fluorophenyl)-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)-2-methylpropan-1-one.

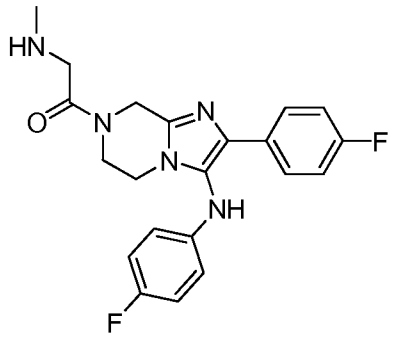


[00206] **Example 29** was synthesized by the following way: To a stirred solution of 2-(tert-butoxycarbonylamino)-2-methylpropanoic acid (25 mg, 0.12 mmol) in 2 mL of DMF were added HATU (46 mg, 0.12 mmol) and DIEA (63 μL, 0.36 mmol). After stirring for 10 minutes, **Example 331**(21 mg, 0.06 mmol) was added. The reaction mixture was stirred at

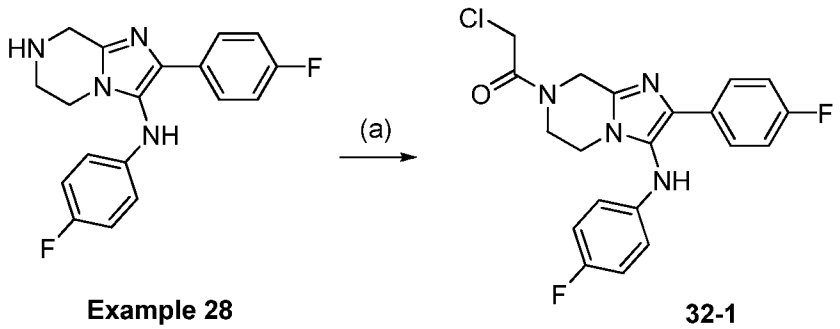
room temperature for 3 hours. The reaction mixture was directly subjected to a mass-triggered HPLC purification. The collected MeCN/water solution was concentrated and neutralized. The obtained product (26 mg, 0.05 mmol) in 5 mL of 4:1 DCM and TFA was stirred at room temperature for 2 hours. The reaction mixture was concentrated and the residue was subjected to mass-trigger HPLC purification. The collected MeCN/water solution was combined and MeCN was removed.

[00207] **Example 32**

[00208] 1-(2-(4-fluorophenyl)-3-(4-fluorophenylamino)-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)-2-(methylamino)ethanone.



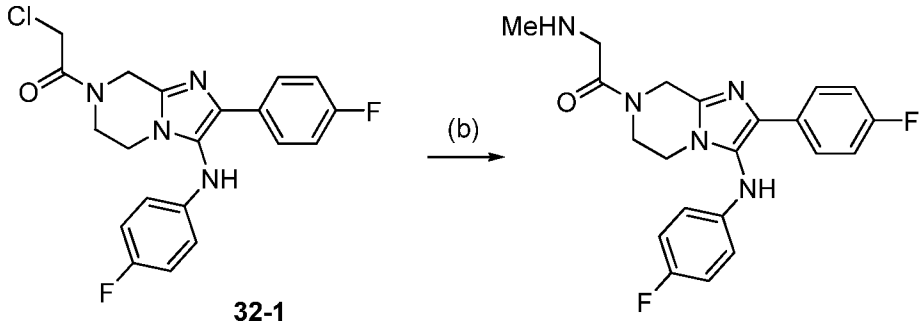
[00209] **Example 32** was prepared from **Example 28** by the following way:



Example 28 **32-1**

[00210] **Example 28** (33 mg, 0.10 mmol) in 10 mL of DCM were added Et_3N (84 μL, 0.60 mmol) and 2-chloroacetyl chloride (24 μL, 0.30 mmol) at 0 °C. The reaction mixture was stirred at the same temperature for 2 hours and at room temperature for 2 additional hours. Solvent was removed and the residue was subjected to MS-triggered HPLC

purification to give 40 mg of **Compound 32-1** as yellow solid (100%) after neutralization: ^{1}H NMR ($CDCl_3$, 400 MHz) δ 7.63-7.66 (m, 2H), 6.99 (t, *J* = 8.8 Hz, 2H), 6.90 (t, *J* = 8.4 Hz, 2H), 6.60-6.63 (m, 2H), 4.97-5.14 (m, 2H), 4.13-4.21 (m, 2H), 4.03 (d, *J* = 3.2 Hz, 2H), 3.91 (s, 2H).

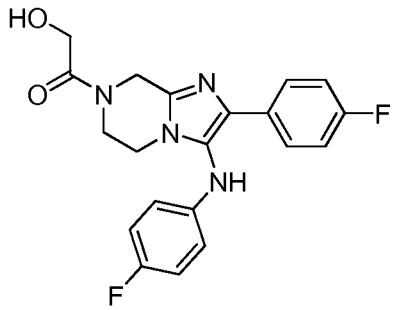


32-1

[00211] **Compound 32-1** (20 mg, 0.05 mmol) in 5 mL of DMF were added K_2CO_3 (21 mg, 0.15 mmol) and 2.0 M $MeNH_2$ (0.30 mL, 0.60 mmol) at room temperature. The reaction mixture was stirred at the same temperature overnight. Solvent was removed and the residue was subjected to MS-triggered HPLC purification to give the title compound as yellow solid after neutralization.

[00212] **Example 44**

[00213] 1-(2-(4-fluorophenyl)-3-(4-fluorophenylamino)-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)-2-hydroxyethanone

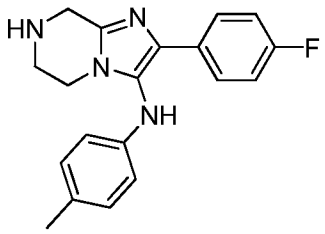


[00214] **Example 44** was synthesized by the following way: to a solution of **Compound 32-1** (20 mg, 0.05 mmol) in 5 mL of DMF were added KI (8 mg, 0.05 mmol) and

AcOK (15 mg, 0.15 mmol) at room temperature. The reaction mixture was stirred at the same temperature overnight. Solvent was removed and the residue was subjected to MS-triggered HPLC purification to give yellow solid. A solution of the solid (21 mg, 0.05 mmol) in 3 mL of methanol and 1 mL of water was added LiOH (6 mg, 0.25 mmol). The reaction mixture was stirred at 40 °C for 2 hours. The reaction mixture was cooled to room temperature and organic solvent was removed. The residue was taken to mass triggered HPLC separation. The collected MeCN/water solution was concentrated to give the title compound as yellowish oil.

[00215] **Example 113**

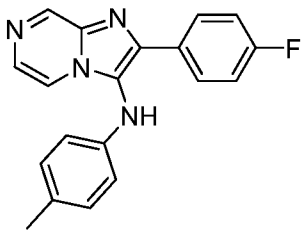
[00216] 2-(4-fluorophenyl)-*N*-p-tolyl-5,6,7,8-tetrahydroimidazo[1,2-a]pyrazin-3-amine



[00217] **Example 113** was prepared by the following way: to a stirred solution of the **Example 136** (64 mg, 0.20 mmol) in 5 mL of MeOH was added Pd/C (21 mg, 0.02 mmol). The reaction mixture was evacuated and back filled with H_2. The reaction mixture was stirred at room temperature overnight. The solid was filtered off and solvent was removed. The residue was subjected to mass-triggered HPLC purification to give a yellow solid.

[00218] **Example 136**

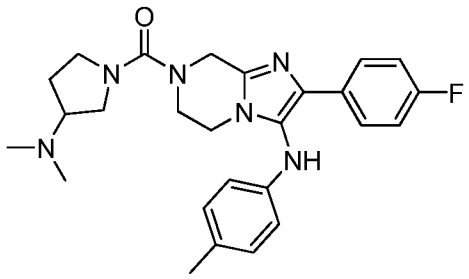
[00219] 2-(4-fluorophenyl)-*N*-p-tolylimidazo[1,2-a]pyrazin-3-amine



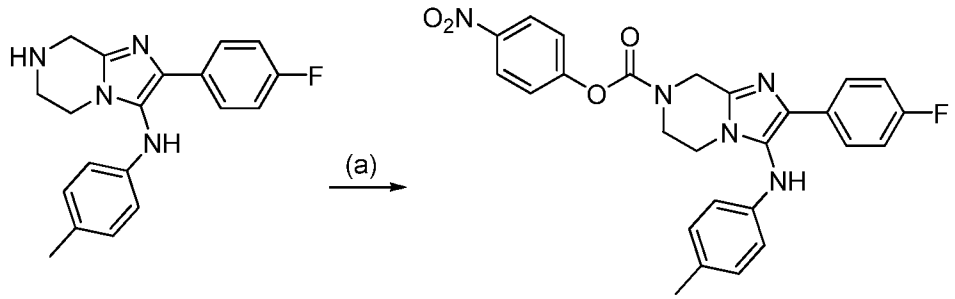
[00220] **Example 136** was prepared by the following way: to a solution of **Reference Compound 19** (69 mg, 0.30 mmol) in 6 mL of dioxane were added 4-bromotoluene (74 μL, 0.60 mmol), $Pd_2(dba)_3$ (8 mg, 0.009 mmol), Xantphos (11 mg, 0.018 mmol) and Cs_2CO_3 (196 mg, 0.60 mmol) at room temperature. The reaction mixture was degassed and stirred at 120 °C under N_2 for 5 hours. The reaction mixture was cooled to room temperature and solid was filtered off. The resulting filtrate was concentrated. The residue was subjected to mass-triggered HPLC purification to give about 72 mg of the title compound as yellow oil (75%) after neutralization.

[00221] **Example 251**

[00222] (3-(dimethylamino)pyrrolidin-1-yl)(2-(4-fluorophenyl)-3-(p-tolylamino)-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)methanone.



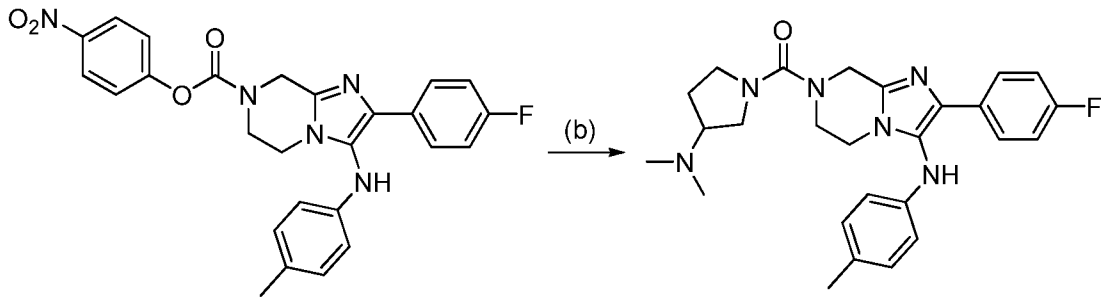
[00223] **Example 251** was prepared from **Example 113** by the following way:



Example 113 **251-1**

[00224] To a stirred solution of **Example 113** (161 mg, 0.50 mmol) and Et_3N (139 μL, 1.5 mmol) in 10 mL of DCM were added 4-nitrophenyl carbonochloridate (202 mg, 1.0

mmol). The reaction mixture was stirred at room temperature for 3 hours. The reaction mixture was subjected to MS-triggered HPLC separation. The collected MeCN/water solution was combined and concentrated to give **Compound 251-1** as yellow oil: ^{1}H NMR: (300 MHz, DMSO-d_6) δ8.34-8.31 (m, 3H) 7.80-7.75 (m, 2H) 7.54 (m, 2H) 7.35-7.29 (m, 1H) 7.20-7.14 (m, 2H) 6.60-6.50 (m, 2H) 4.93 (s, 1H) 4.74 (s, 1H) 4.07 (s, 1H) 3.92 (s, 1H) 3.81 (m, 2H).

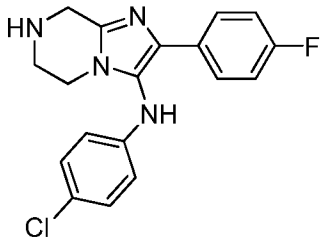


251-1

[00225] **Compound 251-1** (20 mg, 0.041 mmol) and Et_3N (17 μL, 0.123 mmol) in 2 mL of NMP were added *N,N*-dimethylpyrrolidin-3-amine (15 μL, 0.123 mmol). The reaction mixture was stirred at room temperature for 3 hours. The reaction mixture was subjected to MS-triggered HPLC purification. The collected MeCN/water solution was combined and concentrated to give the title compound as yellow oil.

[00226] **Example 262**

[00227] *N*-(4-chlorophenyl)-2-(4-fluorophenyl)-5,6,7,8-tetrahydroimidazo[1,2-a]pyrazin-3-mine

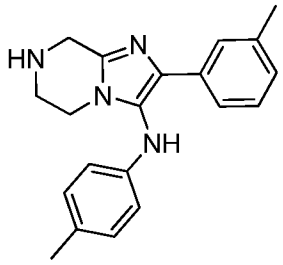


[00228] **Example 262**: was prepared by the following way: to a solution of **Reference Compound 19** (69 mg, 0.30 mmol) in 6 mL of dioxane were added 1-bromo-4-

chlorobenzene (115 mg, 0.60 mmol), $Pd_2(dba)_3$ (8 mg, 0.009 mmol), Xantphos (11 mg, 0.018 mmol) and Cs_2CO_3 (196 mg, 0.60 mmol) at room temperature. The reaction mixture was degassed and stirred at 120 °C under N_2 for 5 hours. The reaction mixture was cooled to room temperature and solid was filtered off. The resulting filtrate was concentrated. The residue was subjected to mass-triggered HPLC purification to give a yellow oil after neutralization. To a stirred solution of the obtained adduct (68 mg, 0.20 mmol) in 5 mL of MeOH was added Pd/C (21 mg, 0.02 mmol). The reaction mixture was evacuated and back filled with H_2. The reaction mixture was stirred at room temperature overnight. The solid was filtered off and solvent was removed. The residue was subjected to mass-triggered HPLC purification to give 39 mg (57%) of the title compound as yellow solid.

[00229] **Example 266**

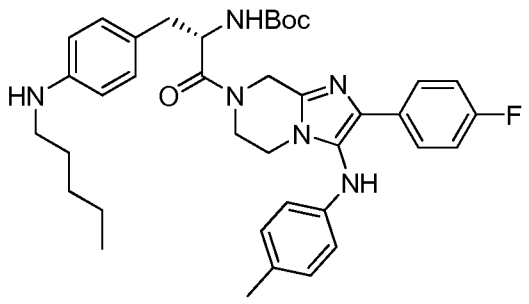
[00230] 2-m-tolyl-*N*-p-tolyl-5,6,7,8-tetrahydroimidazo[1,2-a]pyrazin-3-amine



[00231] **Example 266** was synthesized by the following way: to a 100-mL round-bottom flask, was placed a solution of pyrazin-2-amine (1.2 g, 12.6 mmol), 3-methylbenzaldehyde (1.44 g, 12.0 mmol) and $HClO_4$ (200 mg, 2.0 mmol) in methanol (10mL). The reaction mixture was stirred at room temperature for 30 minutes, then to the mixture was added 1-isocyano-4-methylbenzene (1.2 g, 10.3 mmol). The resulting solution was allowed to stir for 12 hr at room temperature. After removing the solvent, the residue was applied onto a silica gel column with dichloromethane/methanol (10:1) to result 1.1g the Ugi adduct. To a solution of the obtained Ugi adduct (1.0 g, 3.18mmol) in methanol (50mL) was added PtO_2 (72 mg, 0.32mmol). Then the reaction mixture was evacuated and back filled with H_2. The reaction mixture was stirred at RT overnight. The solid was filtered out and the filtrate was concentrated under vacuum to result in the title compound as a white solid.

[00232] **Example 267**

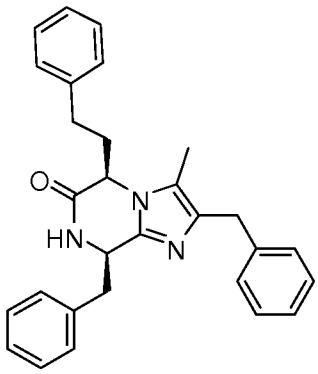
[00233] (*S*)-tert-butyl 1-(2-(4-fluorophenyl)-3-(p-tolylamino)-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)-1-oxo-3-(4-(pentylamino)phenyl)propan-2-ylcarbamate.



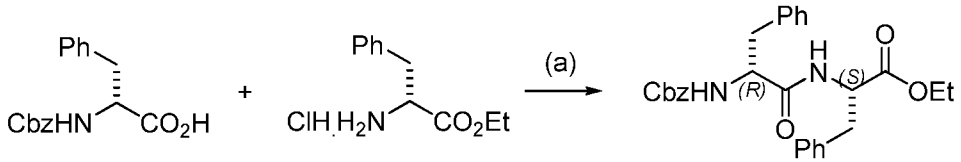
[00234] **Example 267** was synthesized from **Example 113** by a HATU mediated coupling with (*S*)-2-(tert-butoxycarbonylamino)-3-(4-nitrophenyl)propanoic acid followed by Pd/C mediated hydrogenation for the aniline derivative. To a stirred solution of aniline derivative (33 mg, 0.056 mmol) in 5 mL of dry THF was added pentanal (18 μL, 0.168 mmol) under nitrogen at room temperature. $NaBH_4$ (6 mg, 0.168 mmol) was added after 30 mins. The reaction mixture was stirred at room temperature for 3 hours. Solvent was removed. The residue was dissolved in methanol and subjected to mass-triggered HPLC purification. The obtained MeCN/water solution was combined and concentrated to give yellow oil.

Example 289

(5R,8R)-2,8-dibenzyl-3-methyl-5-phenethyl-7,8-dihydroimidazo[1,2-a]pyrazin-6(5H)-one

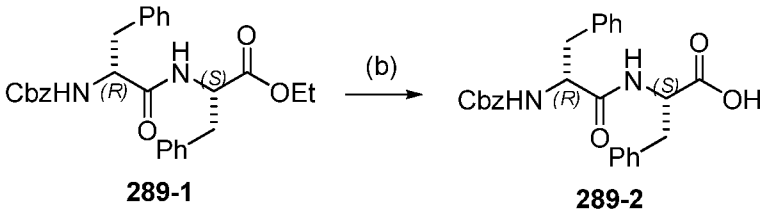


[00235] **Example 289** was prepared in the following way:



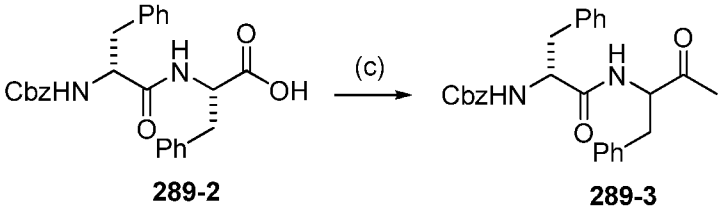
289-1

[00236] To a stirred solution of (R)-2-(benzyloxycarbonylamino)-3-phenylpropanoic acid (5 gm, 1.0 eq.) and (R)-ethyl 2-amino-3-phenylpropanoate hydrochloride (3.83 gm, 1.0 eq.) in 30 mL of DMF were added HATU (6.98 gm, 1.1eq.) and DIEA (3.44 ml, 1.1 eq.). The reaction mixture was stirred at room temperature for 6 hours. HPLC/MS test showed that desired product **Compound 289-1** was the only product, but was contaminated with other peak. The reaction was partitioned between EtOAc/water and then crude was purified with flash chromatography to give **Compound 289-1**.



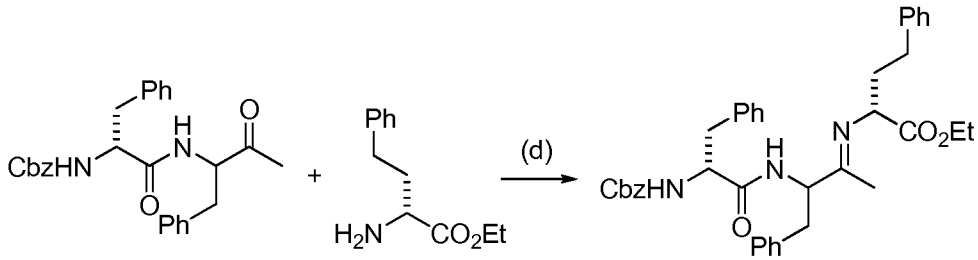
289-1 289-2

[00237] To a stirred solution of **Compound 289-1** (3 gm, 1.0 eq.) and 9.5 ml of 2 N NaOH and 30 ml THF were mixed. The reaction mixture was stirred at room temperature for 6 hours. The reaction was acidified and then partitioned between EtOAc/water and then crude was as such in the next step.



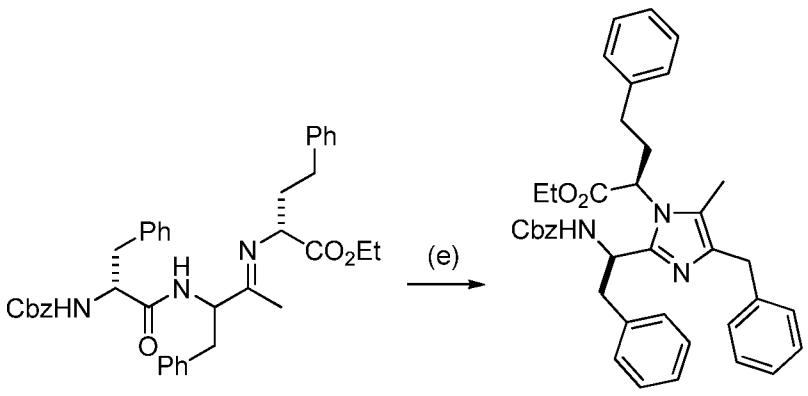
289-2 289-3

[00238] To a stirred solution of **Compound 289-2** (1 gm, 1.0 eq.) and acetic anhydride (0.254 ml, 1.2 eq.) in dichloromethane (25 ml) were added DIEA (0.756 ml, 4.4 eq.)) and DMAP (13.4 mg, 5m%). The reaction mixture was stirred at room temp. for 8 hrs. LCMS indicated that the desired product was formed. The organic layer was quenched with MeOH and concentrated. The organic layer was washed with water/EtOAc and used as crude in next step.



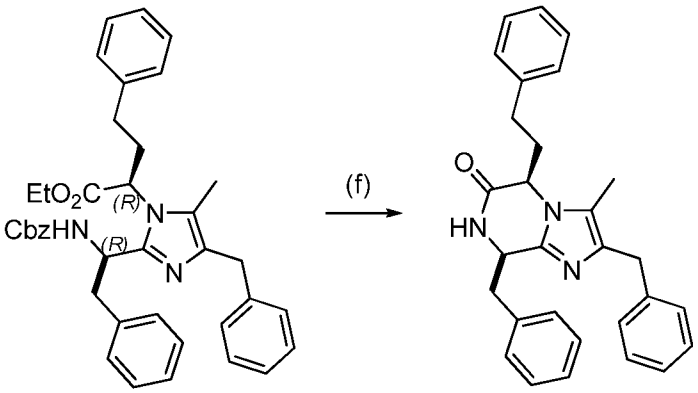
289-3 289-4

[00239] **Compound 289-3** (0.8 gm, 1.0 eq.) and (R)-ethyl 2-amino-4-phenylbutanoate (0.596 gm, 1.6 eq.) were mixed along with PTSA (10 m%). The reaction was heated to 130 °C in a Dean-Stark apparatus. Slight vacuum was applied from the top to get vigorous reflux. The reaction was heated for 2 hrs. Toluene was removed from the side arm and the volume was replenished in the main vessel 3-4 times to drive the reaction to completion. LCMS indicated completion of reaction as indicated by formation of new peak. The new peak had no mass. The reaction was concentrated and crude was subjected to next step.



289-4 289-5

[00240] **Compound 289-4** was dissolved in pyridine and $POCl_3$ was added the reaction was stirred for 48 hrs. LCMS indicated that desired product was formed. The reaction was concentrated,. The oil was neutralized with sat. $NaHCO_3$. and extracted with dichloromethane. The organic layer was dried /concentrated and subjected to column chromatography.

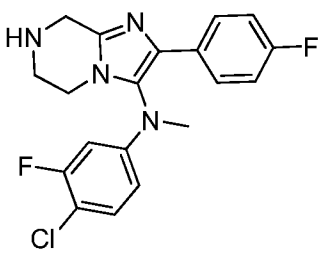


289-5

[00241] To a stirred solution of **Compound 289-5** (0.7 g, 1.0 eq.) in 30 mL of MeOH was added Pd/C (0.007 g,). The reaction mixture was evacuated and back filled with H_2. The reaction mixture was stirred at room temperature overnight. HPLC test showed that the starting material is all gone and (II) was the major peak. Solid was filtered off and solvent was removed to give the title compound. LCMS indicated that the reaction had racemized (2 peaks).

Example 292

N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-*N*-methyl-5,6,7,8-tetrahydro imidazo[1,2-a]pyrazin-3-amine



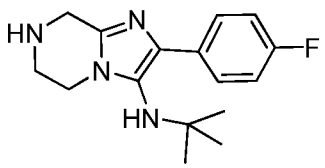
[00242] **Example 292** was prepared by the following way: to a stirred solution of pyrazin-2-amine (2.4 g, 25.26 mmol) in 20ml of MeOH, were added 4-fluorobenzaldehyde (3.0 g, 24.19mmol), and $HClO_4$ (70%, 0.4g), then the mixture was stirred at room temperature for 30min which was followed by addition of 1-chloro-2-fluoro-4-isocyanobenzene (3.2 g, 20.58mmol). The stirring was continued at room temperature overnight, Then the solvent was removed in vacuo, and the crude product was purified by silica gel chromatography with dichloromethane/methanol to yield the Ugi adduct as a yellow solid.

[00243] To a solution of the obtained Ugi adduct (1.2 g, 3.36mmol, 1.00 equiv) in DMF (10mL) was added sodium hydride (1.0 g, 25.00mmol, 1.20 equiv, 60%) at 0°C. The reaction mixture was stirred at this temperature for 30mins, which was followed by addition of iodomethane (1.7 g, 11.97mmol, 3.56 equiv). The resulting solution was allowed to react, with stirring, for 30 min at 0°C. The reaction mixture was poured into 20ml of ice water. The solid was collected by filtration and washed with 10ml of water to result in 1.1g (88%) of the *N*-methyl product.

[00244] To a solution of the *N*-methyl product (1.0 g, 2.70mmol, 1.00 equiv) in methanol (100mL) was added PtO_2 (30 mg, 0.13mmol, 0.10 equiv). The resulting solution was allowed to react, with stirring, for 8 hr at room temperature. The solids were filtrated out, and the resulting solution was concentrated under vacuum. The residue was applied onto silica gel chromatography with dichloromethane/methanol (20:1) to result in 500 mg (49%) of the title compound as a white solid.

Example 297

N-tert-butyl-2-(4-fluorophenyl)-5,6,7,8-tetrahydroimidazo[1,2-a]pyrazin-3-amine .

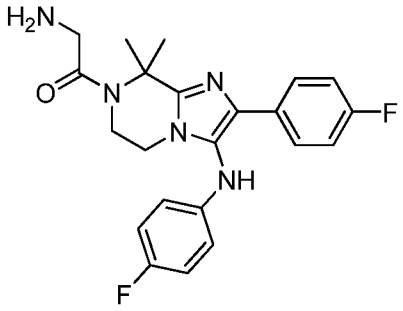


[00245] **Example 297** was synthesized from the precursor of **Reference Compound 19-1** by the following way: to a solution of **Reference Compound 19-1** (1.0 g, 3.52mmol, 1.00 equiv) in methanol (20mL), was added PtO_2 (80 mg, 0.35mmol, 0.10 equiv). The

resulting solution was evacuated and back filled with hydrogen, and the stirring was continued at room temperature overnight. The solid was filtered off and the solvent was evaporated under vacuum. The residue was applied to silica gel chromatography with dichloromethane/methanol (50:1) to give 837 mg (83.7%) of the title compound as a white solid.

Example 412

2-amino-1-(2-(4-fluorophenyl)-3-(4-fluorophenylamino)-8,8-dimethyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)ethanone



[00246] **Example 412** was prepared from **Reference Compound 35** by a $Pd_2(dba)_3$ mediated amination reaction with p-toluidine follo107wed by a TFA mediated deprotection.

[00247] *Synthesis of Reference compound 35-4*: To a stirred solution of **Reference Compound 35-3** (70 g, 159.45 mmol, 1.00 equiv.) in methanol (800 mL) was added Palladium on carbon (10g). The resulting solution was degassed and back filled with hydrogen. The solution was stirred for 3 days at 25°C. T he solids were filtered out and washed with MeOH. The filtrate was concentrated under reduced pressure. This resulted in **Reference Compound 35-4** (38 g, 145.56 mmol, 91%) of as a white solid. LC-MS: (ES, m/z): $[M+H]^+$ calculated for $C_{14}H_{14}FN_3O$ 260, found 260. H-NMR: (DMSO, 300Hz) δ7.79-7.74(2H, m), 7.13-7.07(3H, m), 6.35(H, s), 4.73(2H, s), 1.79(6H, s).

[00248] *Synthesis of Reference compound 35-5*: **Reference Compound 35-4** (5 g, 19.2 mmol, 1 equiv.) was dissolved in 50 mL of THF, 1M Borane/THF complex (57 ml, 57 mmol, 3 equiv.) was added slowly and reaction was refluxed overnight. LCMS indicated that the reaction was complete. THF was removed under reduced pressure. The

reaction was quenched with MeOH. The crude product of **Reference Compound 35-5** (4.5 g, 18.3 mmol, 95%) was used in the next step. LC-MS: (ES, m/z): $[M+H]^+$ calcd for $C_{14}H_{17}FN_3$ 246, found 246. H-NMR: (DMSO, 300Hz) δ7.75-7.70 (2H, m), 7.4 (s, 1H), 7.14 (2H, *J = 9 Hz*, t), 3.9 (2H, *J = 5.4 Hz*, t), 2.51 (2H, *J = 5.4 Hz*, t), 1.41(6H, s).

[00249] *Synthesis of Reference compound 35-6*: To a stirred solution of **Reference Compound 35-5** (2.9 g, 11.82 mmol, 1.1 equiv.) and 2-(tert-butoxycarbonylamino)acetic acid (2.27 g, 13 mmol, 1.1 equiv.) in 15 mL of dichloromethane were added DIEA (2.47 ml, 14.18 mmol, 1.2 equiv.), HATU (5.39 gm, 14.18 mmol, 1.2 equiv.). The reaction mixture was stirred at room temperature for 8 hours. HPLC/MS analysis showed that desired product **Reference Compound 35-6** was the major product. The reaction was diluted 70 ml dichloromethane. The organic layer was washed with washed with water (1X30 ml), followed by saturate $NaHCO_3$ (1X30 ml) and finally with brine (1X30 ml). The organic layer was then dried over anhydrous Na_2SO_4, and concentrated *in vacuo*. The resulting oil was purified using column chromatography with hexanes / ethyl acetate (0-100% linear gradient) used as eluant. The desired product **Reference Compound 35-6** was obtained as an oil (3.3 g, 8.27 mmol, 70%). ^1H NMR: (300Hz, DMSO-d_6,) δ7.77~7.72(2H, m), 7.54(1H, s), 7.20~7.14(2H, m), 6.84~6.80(1H, m), 4.07(2H, s), 3.90(2H, *d*,*J* = 3Hz), 3.70(2H, s), 1.80(6H, s), 1.40(9H, s). LC-MS: (ES, m/z): $[M+H]^+$ calcd for $C_{21}H_{28}FN_4O_3$ 403 found 403.

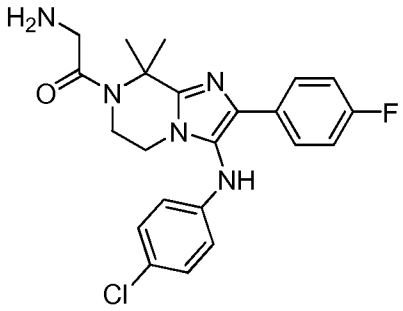
[00250] *Synthesis of Reference compound 36*: To a solution of **Reference Compound 35-6** (2.0 g, 4.97 mmol, 1.00 equiv.) in MeCN (20 mL) was added NBS (0.88 g, 1.00 equiv). The resulting solution was stirred for 15 minutes at room temperature. HPLC/MS indicated that the desired product **Reference Compound 36** was formed exclusively. The reaction was evaporated under reduced pressure. The solids were dissolved in 50 ml dichloromethane. The organic layer was then dried over anhydrous Na_2SO_4, and concentrated *in vacuo*. The resulting solids were purified with column chromatography using hexanes/ ethyl acetate (0-100%) as eluant. The desired compound **Reference Compound 36** was obtained as an off white/glassy solid (1.9 g, 3.96 mmol, 80%). LC-MS: (ES, m/z): $[M+H]^+$ calcd for $C_{21}H_{27}BrFN_4O_3$ 482 found 482. H-NMR: (*MeOH-d_4*, 400Hz) δ7.84-7.81 (2H, m), 7.14 (2H, *J = 8.8 Hz*, t), 4.09-4.01 (4H, m), 3.81 (2H, *J = 4.8 Hz*, t),1.89 (6H, s), 1.46(9H, s).

[00251] *Synthesis of Example 412*: In a glass vial, Cs_2CO_3, 4F-aniline (0.462 g, 4.1 mmol, 2.0 equiv.), $Pd_2(dba)_3$ (0.095 g, 0.104 mmol, 0.05 equiv.), Xantphos (0.120 g, 0.208 mmol, 0.1 equiv.) and dioxane were stirred for 5 minutes at room temperature. **Reference Compound 36** (1 g, 2.08 mmol, 1.0 equiv.) was added to the reaction mixture after which the reaction mixture was degassed for 15 mins and then stirred at 120 °C under N_2 for 8 hours. HPLC/MS test showed that the starting material **Reference Compound 36** was consumed and desired product was formed predominantly along with some **Reference Compound 35-6**. The reaction was filtered to remove solids. The reaction mixture was concentrated and then purified by normal phase column chromatography (silicagel 80 gm) using a gradient of 100%-0 to 0-100% hexane: EtOAc. The desired product elutes at 60:40 EtOAc:hexanes. The organic layer was concentrated at reduced pressure to yield the Boc derivative (950 mg, 89.3%) yield. LC-MS: (ES, m/z): $[M+H]^+$ calcd for $C_{27}H_{32}F_2N_5O_3$ 512 found 512 .

[00252] The Boc-compound was treated with 20% TFA in CH_2Cl_2 (50 ml) was the reaction was stirred for 4 hours.) was added to the mixture. After the completion of this reaction (monitored by LCMS), the resulting mixture was concentrated under reduced pressure. The resulting residue was purified by reverse phase HPLC to yield product as a TFA salt. The ACN-water layer was concentrated to remove all the solvents. The residue was dissolved in dichloromethane and carefully neutralized by sat. $NaHCO_3$. The organic layer was successively washed with brine followed by water. The organic layer was concentrated to yield **Example 412** (450 mg, 52% for 2 steps). LC-MS: (ES, m/z): $[M+H]^+$ calcd for $C_{22}H_{23}F_2N_5O$ 412 found 412. H-NMR: (*MeOH-d_4*, 400Hz) δ7.61-7.57 (2H, m), 6.94 (2H, *J = 8.8 Hz*, t), 6.81 (2H, *J = 8.8 Hz*, t), 6.47 (2H, m), 3.72 (2H, m), 3.58 (2H, m), 3.42 (2H, m),1.85 (6H, s). Elemental Analysis: (Example 412 with 0.65 equiv. H_2O): C, 62.44; N, 16.55; H, 5.79, (calculated). C =62.54/62.44; N=16.35/16.29; H=5.52/5.61 (experimental).

Example 417

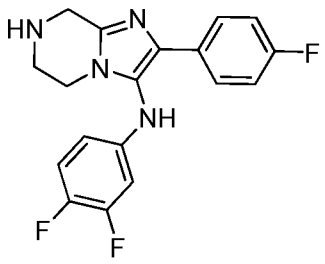
2-amino-1-(3-(4-chlorophenylamino)-2-(4-fluorophenyl)-8,8-dimethyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)ethanone



[00253] **Example 417** was prepared from **Reference Compound 36** by a $Pd_2(dba)_3$ mediated amination reaction with 4-chloroaniline followed by a 6N HCl mediated deprotection.

Example 331

N-(3,4-difluorophenyl)-2-(4-fluorophenyl)-5,6,7,8-tetrahydroimidazo[1,2-a]pyrazin-3-amine



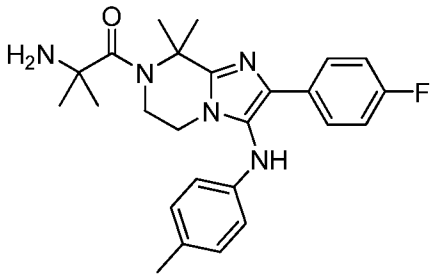
[00254] **Example 331** was synthesized from **Reference Compound 19** by the following way: to a 250-mL 3-necked round-bottom flask purged and maintained with an inert atmosphere of nitrogen, was placed a solution of **Reference Compound 19** (1.5 g, 6.12mmol) and 4-bromo-1,2-difluorobenzene (2.4 g, 12.44mmol)in 1,4-dioxane (100mL) were added $Pd_2(dba)_3$ (170 mg, 0.19mmol), X-Phos (175 mg, 0.37mmol) and Cs_2CO_3 (4 g, 12.28mmol) under nitrogen. The resulting solution was heated to 120°C and stirred overnight. The solids were filtrated out and the resulting mixture was concentrated under vacuum. The residue was applied onto a silica gel column with ethyl acetate/petroleum ether (1:2) to result in 1.9 g (87%) of diaryl amine as a brown solid.

[00255] To a solution of the obtained diaryl amine (1.9 g, 5.33mmol) in methanol (50mL) was added PtO_2 (130 mg, 0.57mmol). The mixture was degassed and backed filled with hydrogen. The resulting solution was allowed to react, with stirring, overnight at room temperature. The solids were filtrated and the resulting mixture was concentrated under

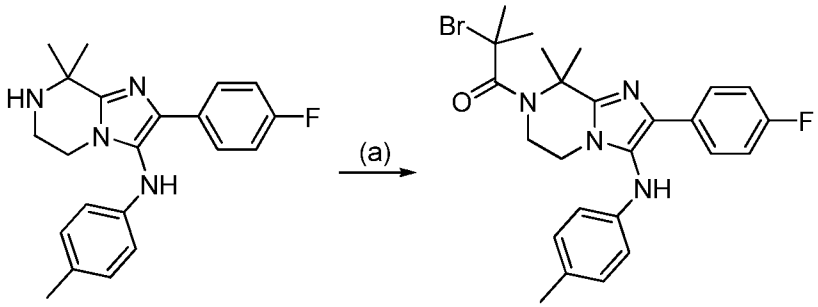
vacuum. The residue was applied onto a silica gel column with DCM/MeOH (50:1) to result in the title compound as a brown solid.

Example 529

2-amino-1-(2-(4-fluorophenyl)-8,8-dimethyl-3-(p-tolylamino)-5,6-dihydro imidazo[1,2-a]pyrazin-7(8H)-yl)-2-methylpropan-1-one

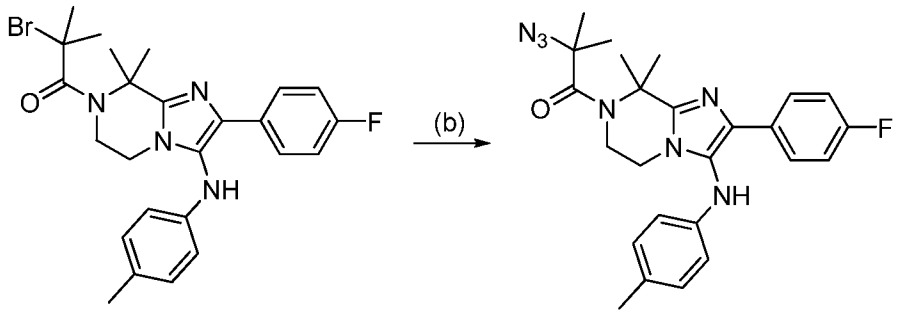


[00256] **Example 529** was prepared from **Example 415** by the following way:



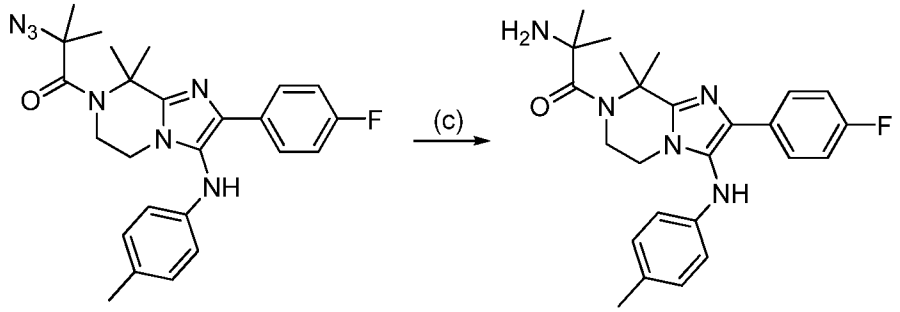
Example 415 **529-1**

[00257] To a stirred solution of **Example 415** (21 mg, 0.06 mmol) and Et_3N (83 μL, 0.60 mmol) in 6 mL of dry DCM was added 2-bromo-2-methylpropanoyl bromide (71 μL, 0.60 mmol). The reaction mixture was stirred at room temperature for 5 hour. The reaction mixture was concentrated and subjected to mass-triggered LC/MS purification directly. The obtained solutions were concentrated to give 22 mg (73%) of **Compound 529-1** as yellow oil after neutralization.



529-1 529-2

[00258] To a solution of **Compound 529-1** (22 mg, 0.044 mmol) in 3 mL of DMF was added NaN_3 (8.6 mg, 0.132 mmol) at room temperature. The reaction mixture was stirred at room temperature for 2 hours. The reaction mixture was directly subjected to mass-triggered LC/MS purification directly. The obtained MeCN/aqueous solution was combined and concentrated to give 15 mg (75%) of **Compound 529-2** as yellow oil after neutralization.

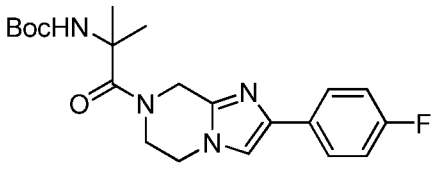


529-2

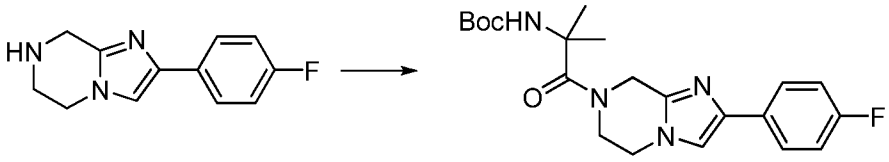
[00259] To a solution of **Compound 529-2** (15 mg, 0.033 mmol) in 3 mL of MeOH was added 10% Pd/C (4 mg, 0.003 mmol) at room temperature. Air was removed and H_2 was filled. The reaction mixture was stirred at room temperature for 2 hours. Solid was filtered off and solvent was removed. The reaction mixture was directly subjected to mass-triggered HPLC purification to give 15 mg (100%) of the title compound yellow oil.

Example 530

tert-butyl 1-(2-(4-fluorophenyl)-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)-2-methyl-1-oxopropan-2-ylcarbamate.



[00260] **Example 530** was prepared from **Compound 540-1** by the following way:

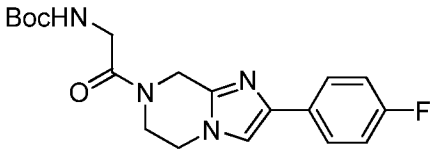


540-1

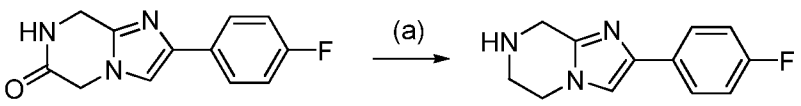
[00261] To a stirred solution of **Compound 540-1** (1.0 g, 4.61mmol, 1.00 equiv) in DMF(20mL) was added 2-(tert-butoxycarbonyl)-2-methylpropanoic acid (1.12 g, 5.52mmol, 1.20 equiv), EDC (1.06 g, 5.52mmol, 1.20 equiv), HOBT (1.8 g, 13.24mmol, 2.87 equiv), DIEA (1.78 g, 13.80mmol, 2.99 equiv). The resulting solution was stirred overnight at 60°C. The resulting mixture was concentrated under vacuum. The resulting solution was diluted with 100mL of water. The resulting solution was extracted with ethyl acetate (2x150mL) and the organic combined layer was concentrated. The residue was applied onto a silica gel column with ethyl acetate/petroleum ether (1:10~1:2~1). This resulted in the title compound as a yellow solid.

Example 540

tert-butyl 2-(2-(4-fluorophenyl)-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)-2-oxoethylcarbamate.

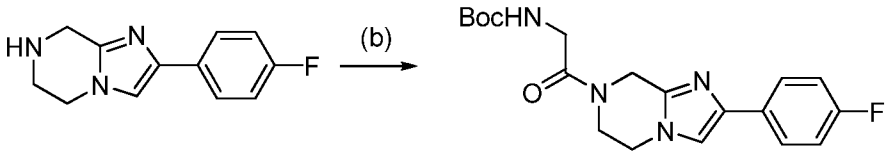


[00262] **Example 540** was prepared from **Reference Compound 51** by the following way:



Reference compound 51 **540-1**

[00263] To a stirred solution of **Reference Compound 51** (4.2 g, 18.18mmol, 1.00 equiv) in THF (150mL) was added BH_3Me_2S (45mL, 2M) dropwise at room temperature in 10mins. The resulting solution was heated to reflux overnight. The resulting mixture was concentrated under vacuum. The resulting solution was diluted with 100mL of methanol. The pH value of the solution was adjusted to 1 with conc. HCl, and the mixture was refluxed for 1 hr. The resulting mixture was concentrated under vacuum. The residue was dissolved in 100mL of water. Potassium carbonate was employed to adjust the pH to 10. The resulting solution was extracted with THF (4x200mL) and the combined organic layer was washed with brine (2x200mL), dried over anhydrous sodium sulfate and concentrated under vacuum. This resulted in 3 g (76%) of **Compound 540-1** as a white solid.

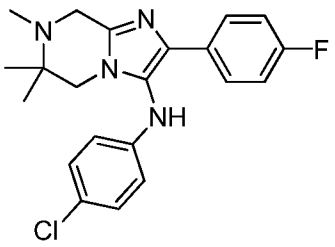


540-1

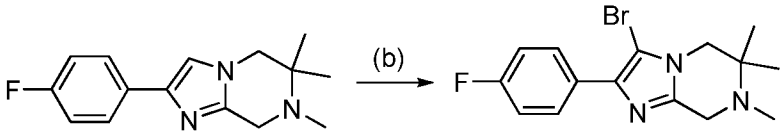
[00264] To a stirred solution of **Compound 540-1** (1.0 g, 4.61mmol, 1.00 equiv) in DMF (20mL) was added 2-(tert-butoxycarbonyl)acetic acid (1.2 g, 6.86mmol, 1.49 equiv) and HATU (5.2 g, 13.68mmol, 2.97 equiv). The resulting solution was stirred for 4 h at room temperature. The resulting mixture was concentrated under vacuum. The residue was applied onto a silica gel column with ethyl acetate/petroleum ether (1:1). This resulted in 300 mg (17%) of the title compound as a white solid.

Example 556

N-(4-chlorophenyl)-2-(4-fluorophenyl)-6,6,7-trimethyl-5,6,7,8-tetrahydroimidazo [1,2-a]pyrazin-3-amine



[00265] **Example 556** was prepared from **Reference Compound 41** bromination followed by a $Pd_2(dba)_3$ mediated amination reaction with 4-chloroaniline. The bromination procedure is shown below:

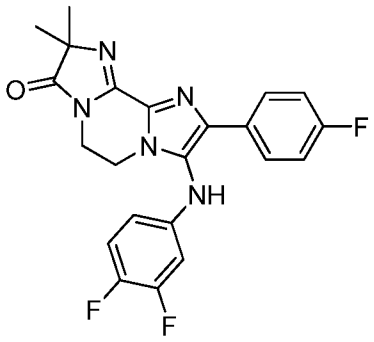


41-1

[00266] To a stirred solution of **Compound 41-1** (52 mg, 0.20 mmol) in 6 mL of DCM was added Br_2 (11.3 μL, 0.22 mmol) in 2 mL of acetic acid. The reaction mixture was stirred at room temperature for 30 mins. Solvent was removed via rotavap at a temperature no higher than 20 ºC. After neutralization, the residue was subjected to flash chromatography (40 g, 0-10% methanol in DCM, 50 mins, dry loading) purification to give 59 mg (87%) of the title compound as white solid.

Example 645

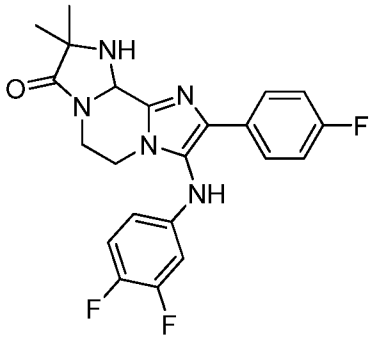
8-(3,4-difluorophenylamino)-9-(4-fluorophenyl)-2,2-dimethyl-5,6-dihydrodiimidazo[1,2-a:2',1'-c]pyrazin-3(2H)-one



[00267] **Example 645** was prepared from **Example 29** by the following method: to a stirred solution of **Example 29** (12 mg, 0.03 mmol) was added MnO_2 (52 mg, 0.60 mmol). The reaction mixture was stirred at room temperature for 2 hours. LC/MS test showed that **Example 29** was almost gone and the desired product ([M+1] = 526) was detected as one of the major peaks. Solid was filtered off and solvent was removed. The residue was subjected to a mass-triggered HPLC purification to give **Example 645**.

Example 646

8-(3,4-difluorophenylamino)-9-(4-fluorophenyl)-2,2-dimethyl-1,2,5,6-tetrahydrodiimidazo[1,2-a:2',1'-c]pyrazin-3(10bH)-one

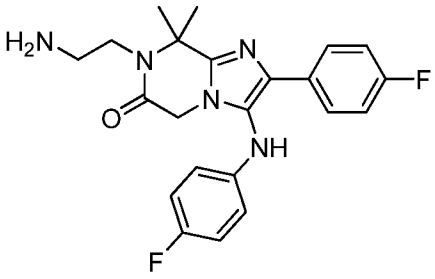


[00268] **Example 646** was prepared from **Example 29** by the following method: to a stirred solution of **Example 29** (12 mg, 0.03 mmol) was added MnO_2 (52 mg, 0.60 mmol). The reaction mixture was stirred at room temperature for 2 hours. LC/MS test showed that **Example 29** was almost gone and the desired product ([M+1] = 528) was

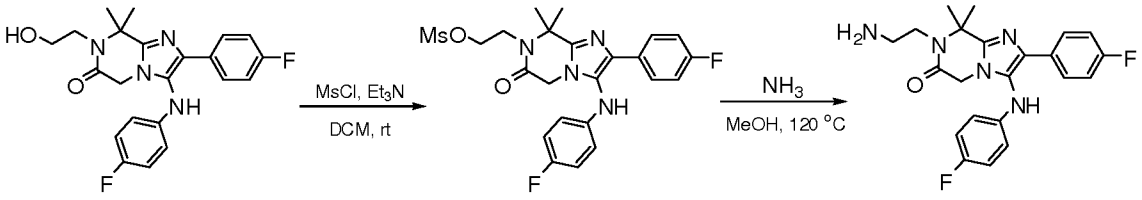
detected as one of the major peaks. Solid was filtered off and solvent was removed. The residue was subjected to a mass-triggered HPLC purification to give **Example 646**.

Example 687

7-(2-aminoethyl)-2-(4-fluorophenyl)-3-(4-fluorophenylamino)-8,8-dimethyl-7,8-dihydroimidazo[1,2-a]pyrazin-6(5H)-one.



[00269] **Example 687** was prepared from **Example 688** by the following steps:



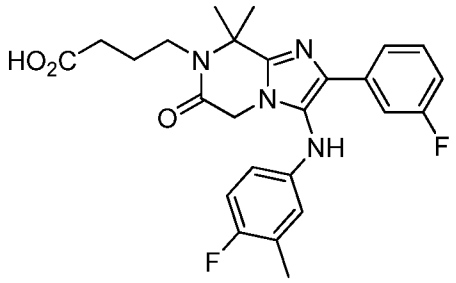
Example 688 Example 687

[00270] To a stirred solution of **Example 688** (22 mg, 0.05 mmol) and Et_3N (42 µL, 0.30 mmol) in 3 mL of DCM were added MsCl (12 µL, 0.15 mmol). The reaction mixture was stirred at room temperature for 3 hours. HPLC/MS test showed that **Example 688** was all gone and the desired product ([M+1] = 519) was formed as the only major peak. Solvent was removed and the residue was subjected to a mass-triggered HPLC purification to give 18 mg of mesylate. To a stirred solution of the mesylate (5 mg, 0.01 mmol) in 2 mL of MeOH was added 1 mL of 5 M in MeOH. The reaction mixture was stirred at 120 °C for 20 minutes in a microwave oven. HPLC/MS test showed that the mesylate was all gone and **Example 687** ([M+1] = 440) was formed as

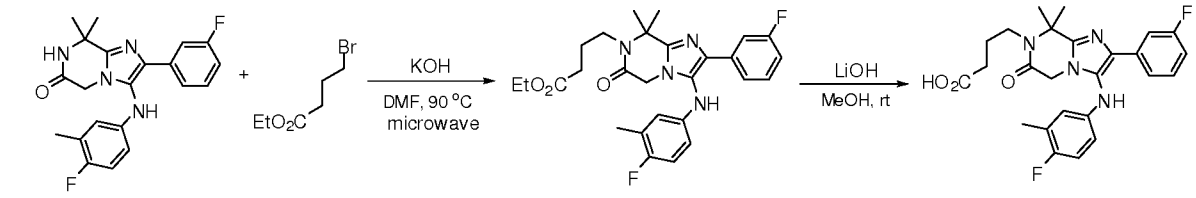
the one of the major peaks. Solvent was removed and the residue was subjected to a mass-triggered HPLC purification to give 3 mg of **Example 687**.

Example 692

4-(3-(4-fluoro-3-methylphenylamino)-2-(3-fluorophenyl)-8,8-dimethyl-6-oxo-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)butanoic acid.



[00271] **Example 692** was prepared from **Reference Compound 73** by the following steps:

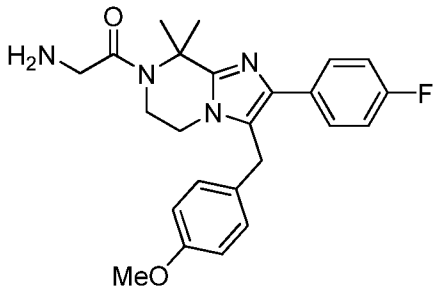


Reference Compound 73 **Example 692**

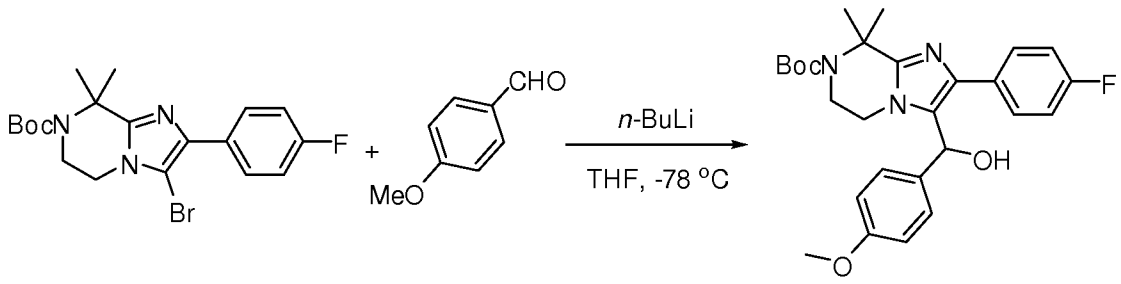
[00272] To a solution of **Reference Compound 73** (10 mg, 0.03 mmol) in 3 mL of DMF were added KOH (8 mg, 0.12 mmol), and ethyl 4-bromobutanoate (24 mg, 0.12 mmol) at room temperature. The reaction mixture was stirred in a microwave oven at 90 °C for 20 minutes. LC/MS test showed that 50% of starting material was remaining and the desired product ester ([M+1] = 497) was the major product. The reaction mixture was filtered and subjected to mass-triggered HPLC purification to give the ester as colorless oil. The obtained ester was hydrolyzed by LiOH to give **Example 692**.

Example 695

2-amino-1-(2-(4-fluorophenyl)-3-(4-methoxybenzyl)-8,8-dimethyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)ethanone.

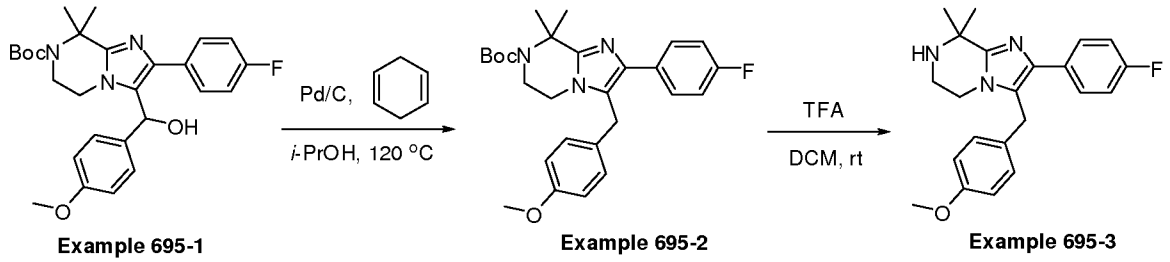


[00273] **Example 695** was prepared from **Reference Compound 74** by the following steps:



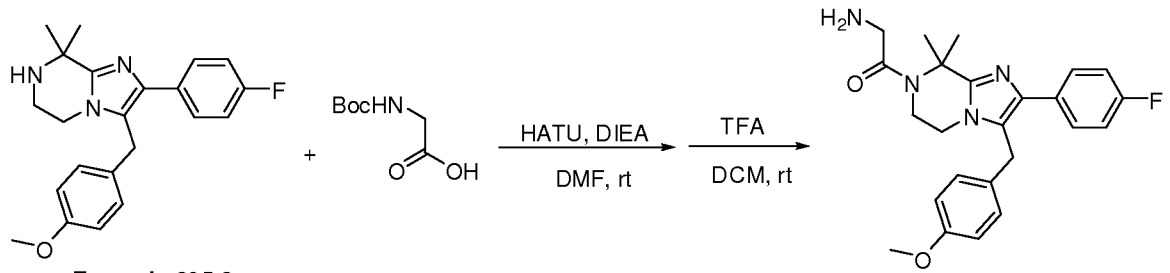
Reference Compound 74 **Example 695-1**

[00274] To a solution of **Reference Compound 74** (21 mg, 0.05 mmol) in 3 mL of dry THF was added 2.5 N (0.025 mL, 0.06 mmol) at -78 °C. The reaction mixture was stirred at the same temperature for 20 mins and (II) (41 mg, 0.30 mmol) in 1 mL of dry THF was added. The reaction mixture was stirred for another 5 hours while the temperature raised to room temperature. LC/MS test showed that starting material was all gone and the desired adduct **Example 695-1** (20 mg, 84%) was isolated as the major product.



Example 695-1 Example 695-2 Example 695-3

[00275] To a solution of **Example 695-1** (10 mg, 0.021 mmol) in 3 mL of *i*-PrOH were added 10% Pd/C (3 mg, 0.004 mmol) and 1,4-cyclohexadiene (20 µL, 0.21 mmol). The reaction mixture was stirred at 120 °C for 3 hours in a Q-tube. LC/MS test showed that the starting material was gone and there was a major peak with [M+1] = 466, which corresponded to the desired product. Solid was filtered off and solvent was removed. The residue was subjected to mass-triggered HPLC purification to give 16 mg of crude **Example 695-2** as brown oil. **Example 695-2** was subjected to a TFA mediated deprotection to get 3 mg of **Example 695-3** ([M+1] = 366).



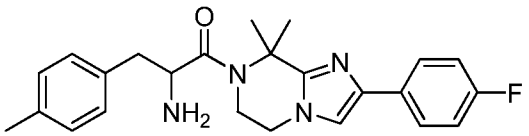
Example 695-3 Example 695

[00276] To a stirred solution of **Example 695-3** (4 mg, 0.01 mmol) and 2-(tert-butoxycarbonylamino)acetic acid (5.2 mg, 0.03 mmol) in 2 mL of DMF were added HATU (12 mg, 0.03 mmol) and DIEA (5.2 µL, 0.03 mmol). The reaction mixture was stirred at room temperature for 3 hours. LC/MS test showed that the starting material was almost gone and the desired adduct ([M+1] = 523) was formed as the one of the major peaks. The reaction subjected to a mass-triggered HPLC purification to give the adduct, which was subjected to a TFA mediated deprotection to get 6 mg of **Example 695** ([M+1] = 422).

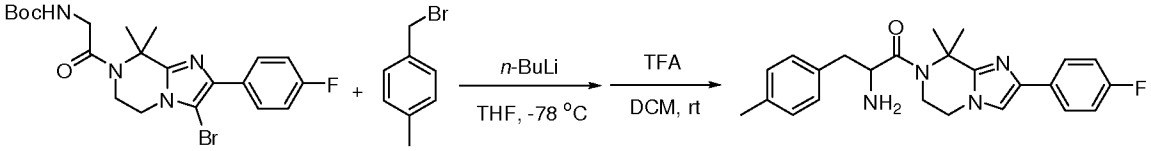
Example 700

2-amino-1-(2-(4-fluorophenyl)-8,8-dimethyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)-3-

p-tolylpropan-1-one.



[00277] **Example 700** was prepared from **Reference Compound 35** by the following steps:

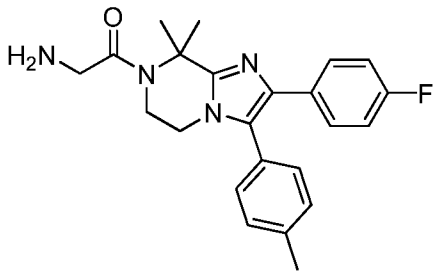


Reference Compound 35 Example 700

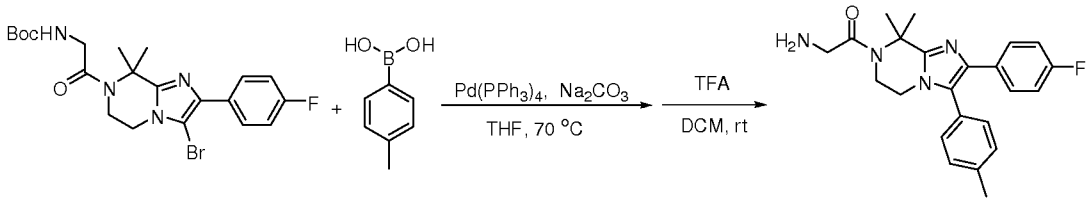
[00278] To a solution of **Reference Compound 35** (48 mg, 0.10 mmol) in 3 mL of dry THF was added 2.2 N *n*-BuLi (0.11 mL, 0.24 mmol) at -78 °C. The reaction mixture was stirred at the same temperature for 20 minutes and 1-(bromomethyl)-4-methylbenzene (111 mg, 0.60 mmol) in 1 mL of dry THF was added. The reaction mixture was stirred for another 5 hours while the temperature raised to room temperature. LC/MS test showed that starting material was all gone and adduct. The reaction mixture was quenched with NH_4Cl aqueous solution and diluted with ethyl acetate. The organic solution was separated, dried and concentrated. The residue was subjected to a mass-triggered HPLC purification to give 28 mg of the adduct as clear oil. This was subjected to a TFA mediated deprotection to give **Example 700**.

Example 704

2-amino-1-(2-(4-fluorophenyl)-8,8-dimethyl-3-p-tolyl-5,6-dihydroimidazo-[1,2-a]pyrazin-7(8H)-yl)ethanone



[00279] **Example 704** was prepared from **Reference Compound 35** in the following steps:

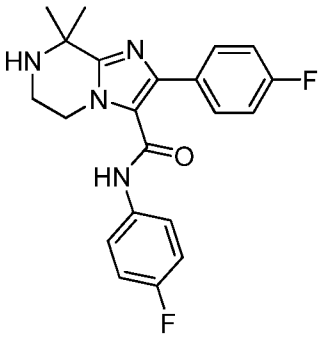


Reference Compound 35 **Example 704**

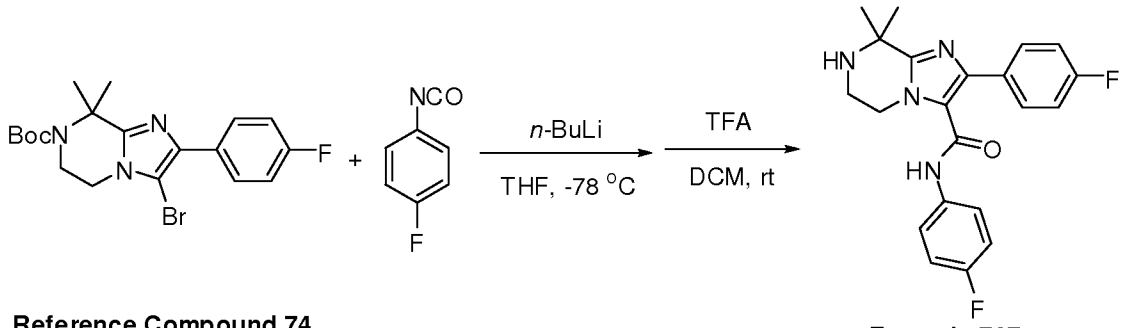
[00280] **Reference Compound 35** (48 mg, 0.10 mmol), p-tolylboronic acid (27 mg, 0.20 mmol), $Pd(PPh_3)_4$ (12 mg, 0.01 mmol), and 1.0 N Na_2CO_3 (0.20 mL, 0.20 mmol) were combine in a 40 mL vial. 5 mL of THF was added. The reaction mixture was de-gassed by repeated evacuation and re-fill with nitrogen. And the reaction mixture was stirred at 70 °C for 2 hours. LC/MS test showed that **Reference Compound 35** was almost gone and the desired adduct was detected as one of the major peaks. Solid was filtered and solvent was removed. The residue was subjected to a mass-triggered HPLC purification to give 22 mg of the desired adduct. This was subjected to a TFA mediated deprotection to give **Example 704**.

Example 707

N,2-bis(4-fluorophenyl)-8,8-dimethyl-5,6,7,8-tetrahydroimidazo[1,2-a] pyrazine-3-carboxamide.



[00281] **Example 707** was prepared from **Reference Compound 74** by the following steps:



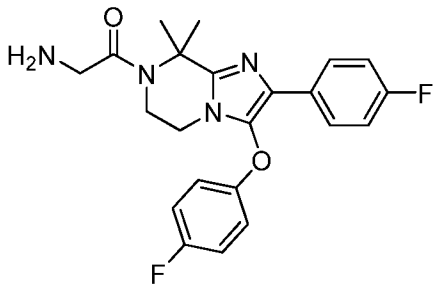
Reference Compound 74

Example 707

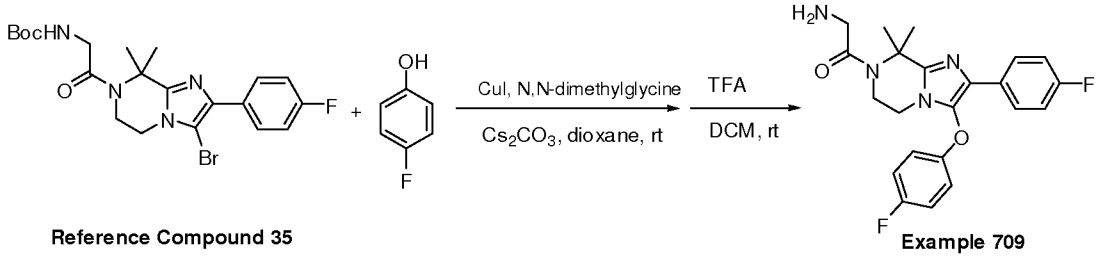
[00282] To a solution of **Reference Compound 74** (21 mg, 0.05 mmol) in 3 mL of dry THF was added 2.5 N *n*-BuLi (0.04 mL, 0.10 mmol) at -78 °C. The reaction mixture was stirred at the same temperature for 20 mins and 1-fluoro-4-isocyanatobenzene (33 μL, 0.30 mmol) in 1 mL of dry THF was added. The reaction mixture was stirred for another 5 hours while the temperature raised to room temperature. LC/MS test showed that starting material was all gone and the desired adduct was detected as a major peak. Solid was filtered and solvent was removed. The residue was subjected to mass-triggered HPLC purification to give 56 mg of the desired adduct as brown oil. The adduct was subjected to a TFA mediated deprotection to get 22 mg of **Example 707** ([M+1] = 393) as yellow solid.

Example 709

2-amino-1-(3-(4-fluorophenoxy)-2-(4-fluorophenyl)-8,8-dimethyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)ethanone



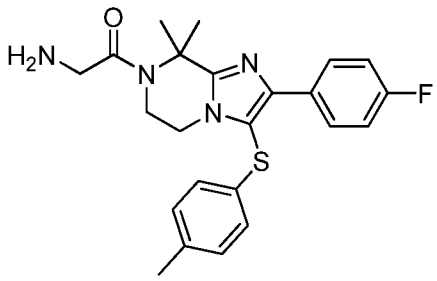
[00283] **Example 709** was prepared from **Reference Compound 35** in the following steps:



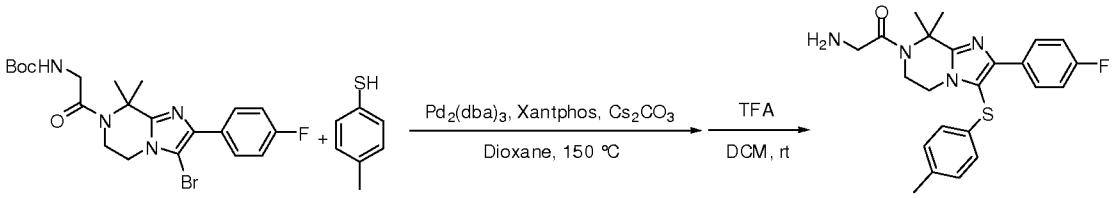
[00284] To a solution of **Reference Compound 35** (48 mg, 0.10 mmol) in 5 mL of dioxane were added 4-fluorophenol (34 mg, 0.30 mmol), CuI (3.8 mg, 0.02 mmol), N,N-dimethylglycine (4.1 mg, 0.04 mmol) and Cs_2CO_3 (98 mg, 0.30 mmol) at room temperature. The reaction mixture was degassed and stirred at 120 °C under N_2 overnight. LC/MS test showed that the starting material was all gone and the desired adduct ([M+1] = 513) was detected as a major peak. Solid was filtered and solvent was removed. The residue was subjected to a mass-triggered HPLC purification to give 28 mg of the desired adduct. This was deprotected with TFA to give **Example 709**.

Example 713

2-amino-1-(2-(4-fluorophenyl)-8,8-dimethyl-3-(p-tolylthio)-5,6-dihydro imidazo[1,2-a]pyrazin-7(8H)-yl)ethanone



[00285] **Example 713** was prepared from **Reference Compound 35** in the following steps:

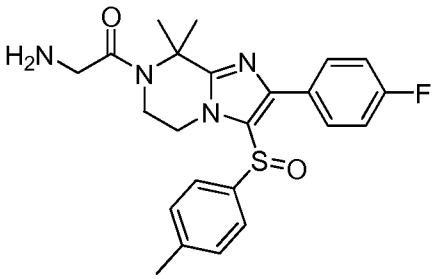


Reference Compound 35 Example 713

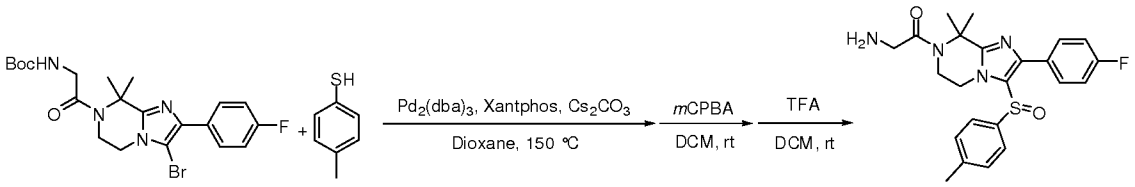
[00286] To a solution of **Reference Compound 35** (24 mg, 0.05 mmol) in 3 mL of dioxane were added 4-methylbenzenethiol (17 mg, 0.15 mmol), $Pd_2(dba)_3$ (9.2 mg, 0.01 mmol), XantPhos (12 mg, 0.02 mmol) and Cs_2CO_3 (33 mg, 0.10 mmol) at room temperature. The reaction mixture was degassed and stirred at 150 °C under N_2 overnight. LC/MS test showed that about 50% of the starting material was remaining and the desired adduct was one of the major peaks ([M+1] = 525). Solid was filtered and solvent was removed. The residue was subjected to mass-triggered HPLC purification to give 32 mg of the adduct as brown oil. This was deprotected with TFA to give **Example 713**.

Example 721

2-amino-1-(2-(4-fluorophenyl)-8,8-dimethyl-3-(p-tolylsulfinyl)-5,6-dihydro imidazo[1,2-a]pyrazin-7(8H)-yl)ethanone



[00287] **Example 721** was prepared from **Reference Compound 35** in the following steps:\

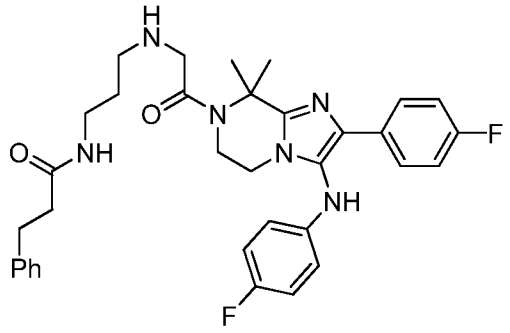


Reference Compound 35 **Example 721**

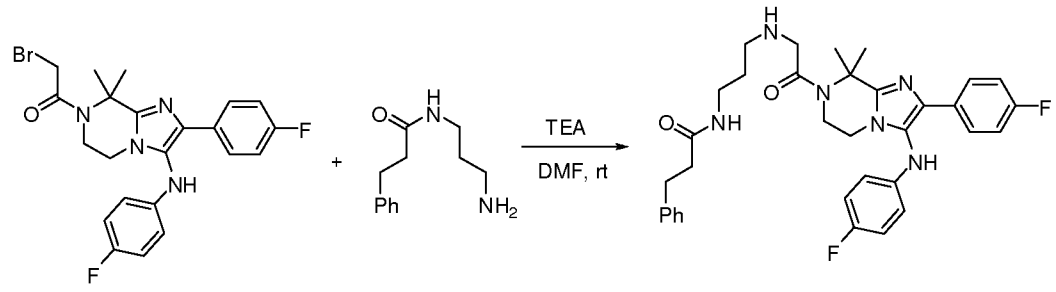
[00288] To a solution of **Reference Compound 35** (24 mg, 0.05 mmol) in 3 mL of dioxane were added 4-methylbenzenethiol (17 mg, 0.15 mmol), $Pd_2(dba)_3$ (9.2 mg, 0.01 mmol), XantPhos (12 mg, 0.02 mmol) and Cs_2CO_3 (33 mg, 0.10 mmol) at room temperature. The reaction mixture was degassed and stirred at 150 °C under N_2 overnight. LC/MS test showed that about 50% of the starting material was remaining and the desired adduct was one of the major peaks ([M+1] = 525). Solid was filtered and solvent was removed. The residue was subjected to mass-triggered HPLC purification to give 32 mg of the adduct as brown oil. To a solution of the adduct (32 mg, 0.061 mmol) in 10 mL of DCM was added *m*CPBA (63 mg, 0.37 mmol) at 0 °C. The reaction mixture was stirred at the same temperature for 20 mins allowed to warm to room temperature. LC/MS test showed that starting material was all gone and the desired sulfoxide ([M+1] = 557) was the major peak. The reaction mixture was quenched with NH_4Cl aqueous solution and diluted with ethyl acetate. The organic solution was separated, dried and concentrated. The residue was subjected to a mass-triggered HPLC purification to give 27 mg of the desired sulfoxide as clear oil. This was deprotected with TFA to give **Example 721**.

Example 730

N-(3-(2-(2-(4-fluorophenyl)-3-(4-fluorophenylamino)-8,8-dimethyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)-2-oxoethylamino)propyl)-3-phenylpropanamide



[00289] **Example 730** was prepared from **Reference Compound 75** by the following way:



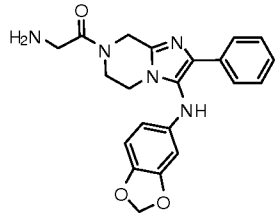
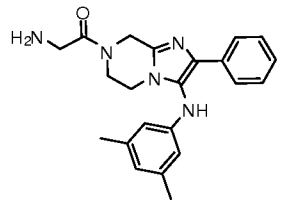
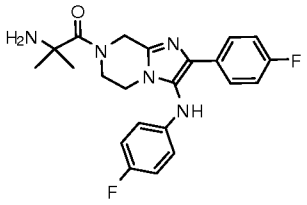
Reference Compound 75 **Example 730**

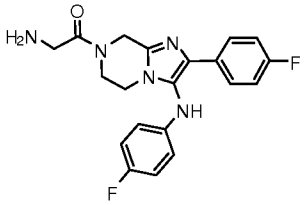
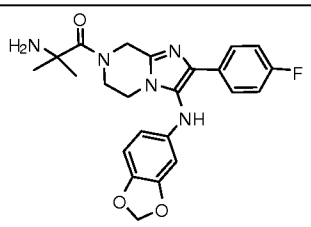
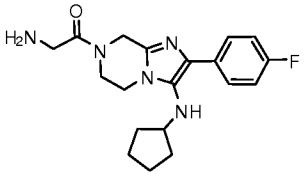
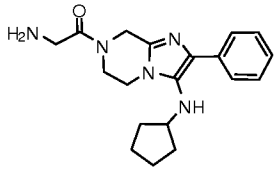
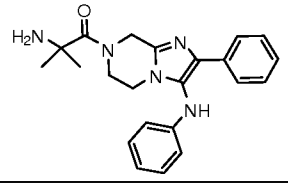
[00290] To a solution of **Reference Compound 75** (10 mg, 0.02 mmol) in 2 mL of DMF were added N-(3-aminopropyl)-3-phenylpropanamide (9 mg, 0.04 mmol) and Et_3N (21 µL, 0.15 mmol) at room temperature. The reaction mixture was stirred at room temperature for 3 hours. HPLC/MS test showed that the starting material was gone and the desied product ([M+1] = 601) was detected as a major peak. Reaction mixture was subjected to mass-triggered HPLC purification to give 8 mg of **Example 730**.

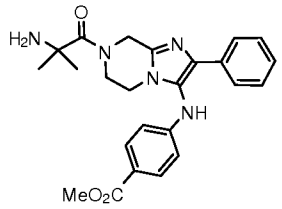
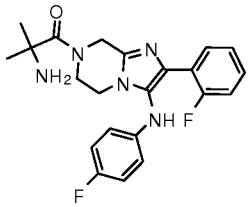
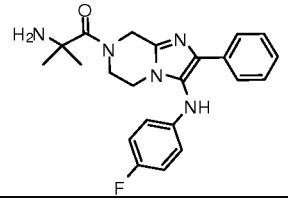
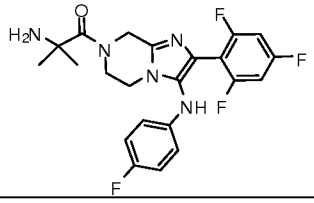
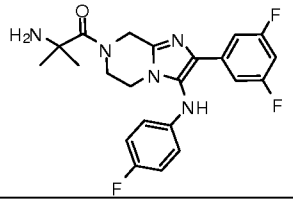
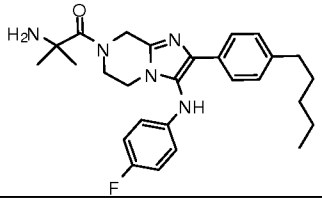
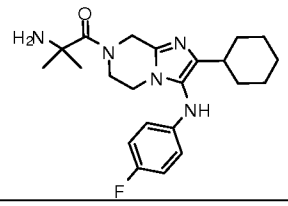
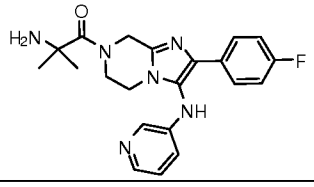
[00291] By repeating the procedures described in the above examples, using appropriate starting materials, the following compounds of Formula Ia, Ib or Ic, as

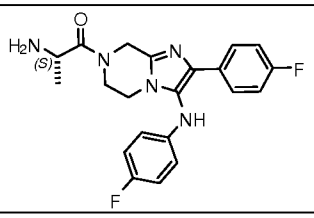
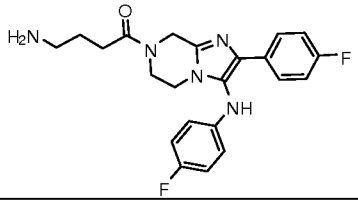
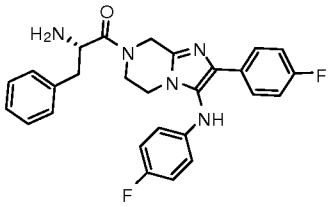
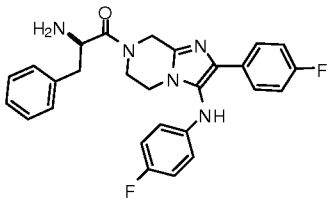
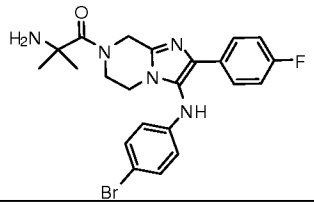
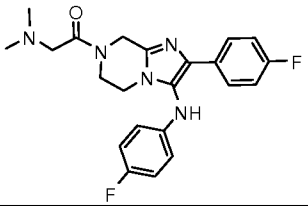
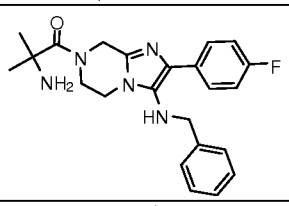
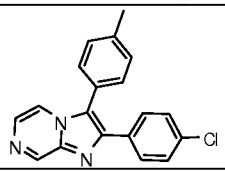
identified in Table 2, are obtained. Table 2 also documents the physical data obtained from the associated examples above.

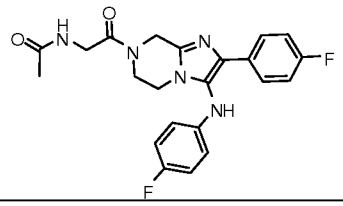
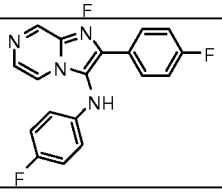
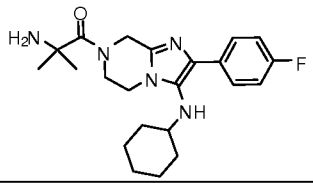
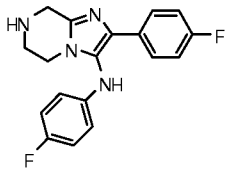
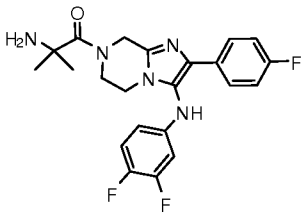
Table 2

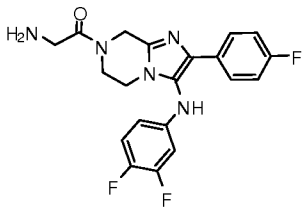
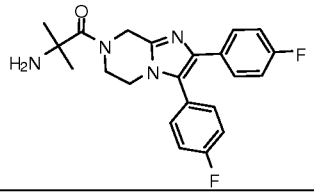
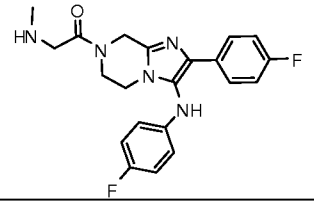
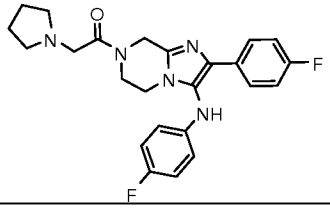
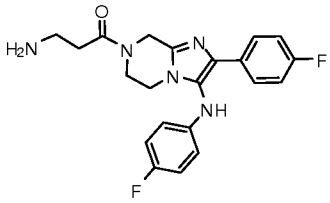
Compound	Structure	Physical Data MS (*m/z*) and/or ^{1}H NMR	EC_{50} 3D7 strain (μM)	EC_{50} W2 strain (μM)
1		392.5 (M+1)	0.46	0.473
2		376.4 (M+1) ^{1}H-NMR: (MeOH-d_4, 400Hz) δ 7.93 (d, *J = 7.6 Hz*, 2H); 7.33 (t, *J = 7.6 Hz*, 2H); 7.19 (t, *J = 7.6 Hz*, 2H); 6.97 (d, *J = 7.6 Hz*, 2H); 6.81 (d, *J = 7.6 Hz*, 1H); 5.08 (m,1H); 4.85-4.67 (m, 2H); 3.93-3.38 (m, 6H); 2.17-2.08 (ss, 6H)	3.48	3.348
3		412.2 (M+1) ^{1}H-NMR: (MeOH-d_4, 400Hz) δ7.70-7.67 (m, 2H); 7.22 (t, *J = 8.8 Hz*,2H); 6.97(t, *J = 8.8 Hz*,2H), 6.8-6.77 (m, 2H); 5.16 (s, 2H); 4.24 (m,2H), 4.07 (m,2H); 1.76 (s,6H). Elemental	0.02	0.025

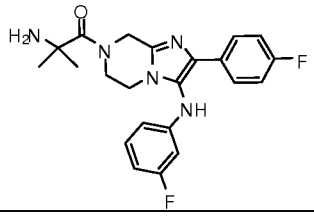
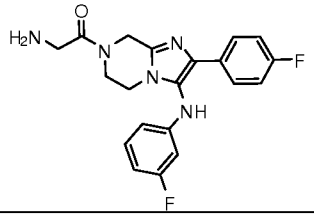
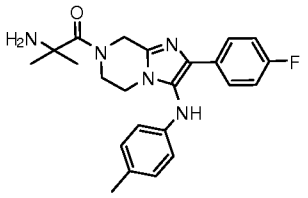
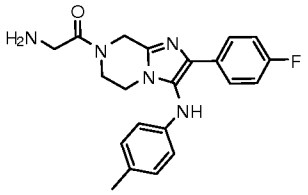
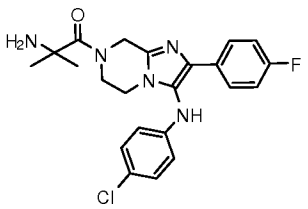
		Analysis: (compound + 2HCl + 0.50 H_2O): Elemental Analysis: % C, 53.56; H, 5.31; N, 14.19 (calculated). %C =53.98/53.69; %N = 14.07/13.97; %H= 5.16/4.98 (experimental).		
4		384.2(M+1) ^{1}H-NMR (400 MHz, MeOH-d_4) δ 7.59-7.56 (m, 2H); 7.12 (t, *J = 8.8 Hz*, 2H); 6.86 (t, *J = 8.8 Hz*, 2H); 6.68-6.65 (m, 2H); 5.04-5.00 (m, 2H); 4.08-3.92 (m, 6H).	0.02	0.023
5		438.2 (M+1)	4.33	>8.9
6		358.4 (M+1)	4.38	4.643
7		340.4 (M+1)	15.82	7.78
8		376.4 (M+1)	0.62	0.501

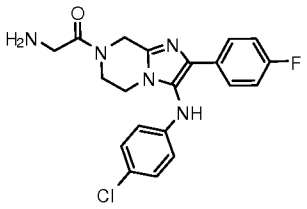
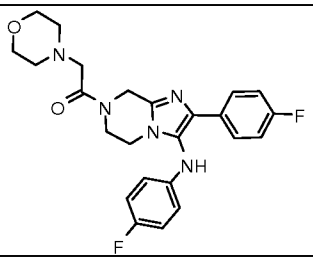
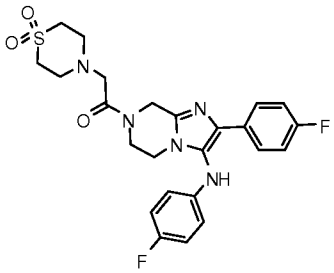
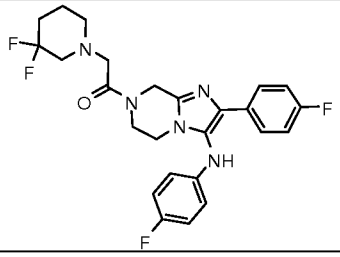
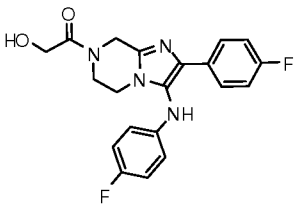
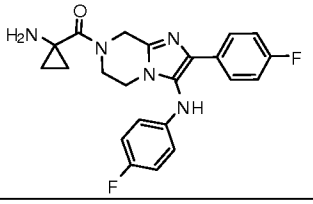
9		434.4 (M+1)	13.84	3.988
10		412.4(M+1)	1.39	1.284
11		394.4 (M+1)	0.2	0.168
12		448.4 (M+1)	7.4	2.956
13		430.4 (M+1)	0.26	0.137
14		464.5 (M+1)	3.59	5.871
15		400.4 (M+1)	2.63	2.111
16		395.4 (M+1)	14.13	3.325

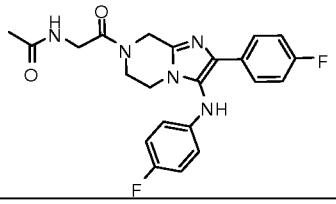
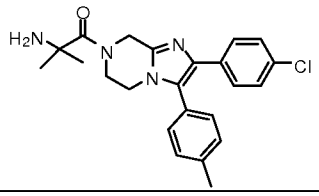
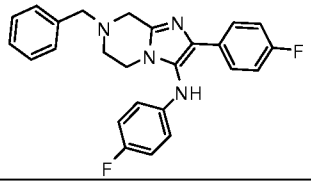
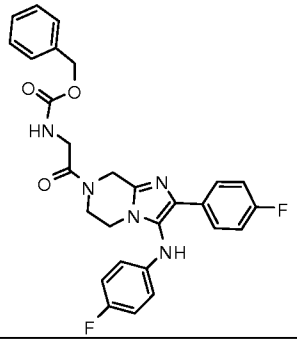
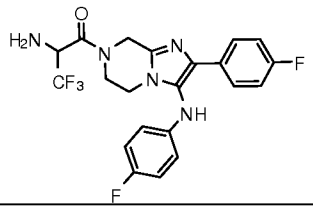
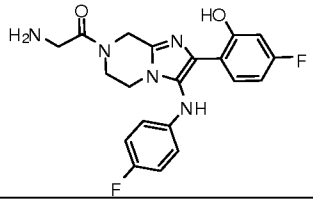
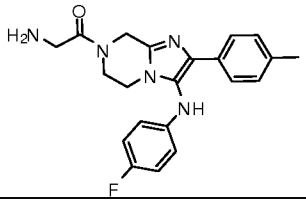
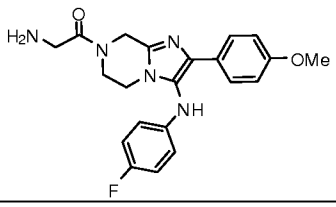
17		398.4 (M+1)	0.09	0.064
18		412.2 (M+1)	12.27	8.139
19		474.2 (M+1)	0.07	0.059
20		474.2 (M+1)	0.11	0.121
21		474.0 (M+1)	0.1	0.078
22		412.2(M+1)	1.3	0.691
23		408.2 (M+1)	>10.58	10.489
24		320.3 (M+1)	8.92	2.862

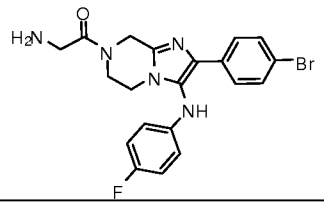
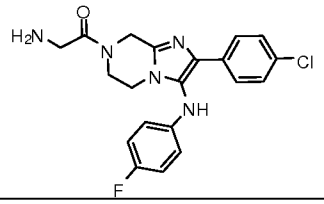
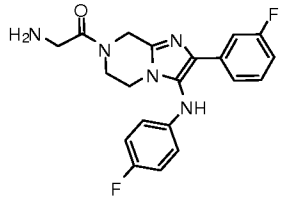
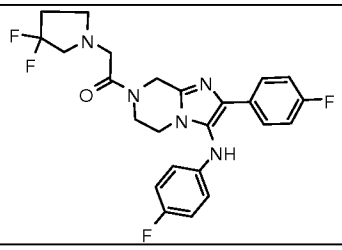
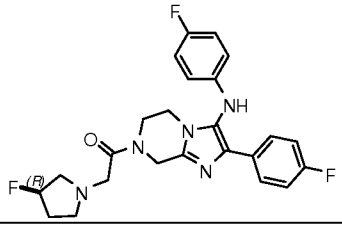
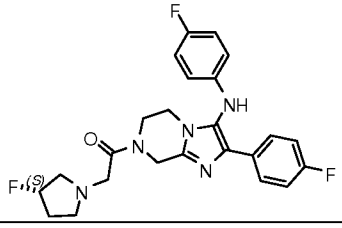
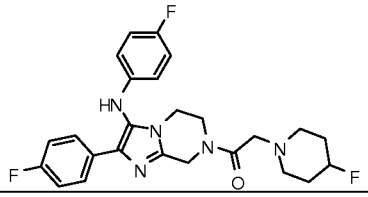
25		426.2 (M+1)	>10.6	4.347
26		323.3 (M+1)	>10	5.521
27		400.2 (M+1)	9.61	5.984
28		327.2 (M+1) ^{1}H NMR (300MHz, DMSO-d_6): δ 7.81-7.72 (m, 2H), 7.11 (m, 2H), 6.97 (m, 2H), 6.56-6.52 (m, 2H), 3.86 (s, 2H), 3.55 (m, 2H), 3.02 (m, 2H)	0.2	0.175
29		430.2 (M+1) ^{1}H-NMR (400 MHz, MeOH-d_4) δ 7.64-7.70 (m, 1H); 6.95-6.91 (m, 3H); 6.33-6.39 (m, 1H); 6.27-6.22 (m, 1H); 4.97 (s, 2H); 4.17 (m, 2H); 3.73 (t, *J = 2.8 Hz*, 2H); 1.36 (s, 6H). Elemental Analysis: (compound + 2HCl + 0.40 H_2O): Elemental Analysis: % C, 51.85; %H, 4.91; %N,	0.03	0.036

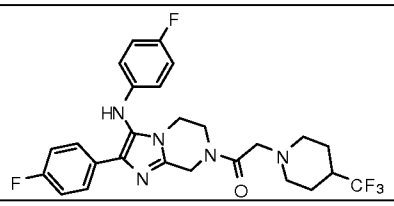
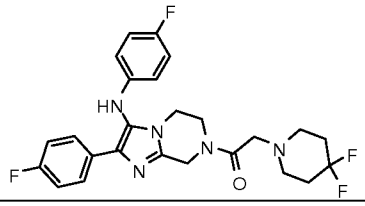
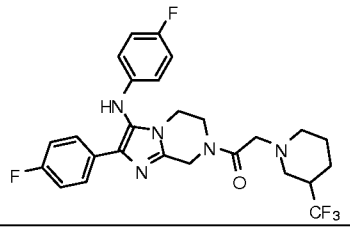
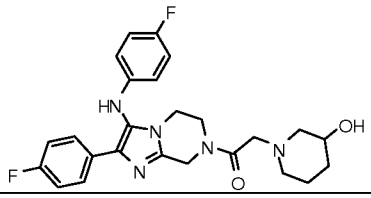
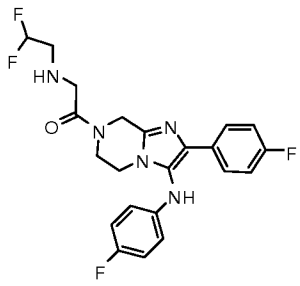
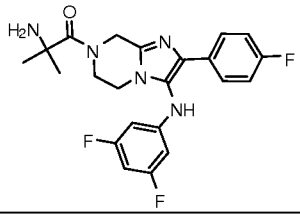
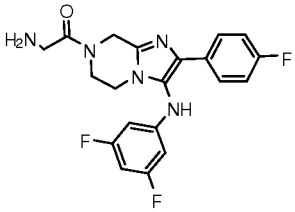
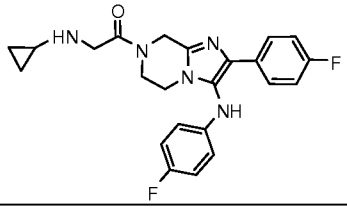
		13.74; (calculated). %C = 51.73, 51.85; %N = 13.5.13.51; %H =4.87, 4.94 (experimental).		
30		402.1 (M+1) ^{1}H-NMR: (*MeOH-d_4*, 400Hz) δ7.64-7.59 (m,2H); 6.96-6.89 (m,2H); 6.38-6.34 (m,1 H); 6.27-6.23 (m, 1H); 4.74-4.63 (m, 2H); 3.94-3.41 (m, 6H).	0.03	0.023
31		397.2(M+1)	13.08	6.893
32		398.2 (M+1)	0.21	0.219
33		438.2(M+1)	0.74	1.617
34		398.4 (M+1) ^{1}H-NMR (400 MHz, MeOH-*d_4*) δ 7.64-7.60 (m, 2H); 6.93-6.87 (m, 2H); 6.80-6.75 (m,2H); 6.49-6.45 (m,2H); 4.71-4.70 (m,2H); 3.85 (t, *J = 5.2 Hz*, 1H); 3.82 (t, *J = 5.2 Hz*, 1H) 3.72 (t, *J = 5.2*	0.07	0.075

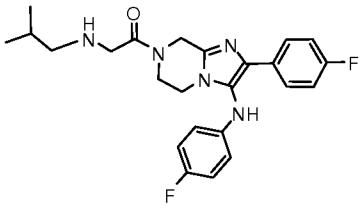
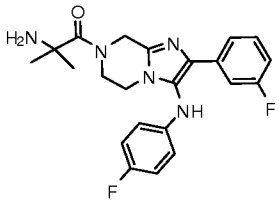
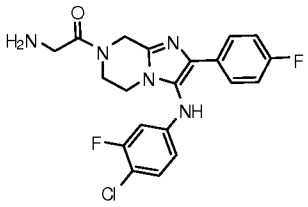
		Hz, 1H); 3.63 (t, *J = 5.2 Hz*, 1H); 2.83 (m, 2H); 2.54 (m, 2H).		
35		412.2(M+1)	0.12	0.105
36		384.4 (M+1)	0.05	0.034
37		408.2(M+1) ^{1}H-NMR: (MeOH-d_4, 400Hz) δ7.72 (m, 2H); 7.18 (t, *J = 8.0 Hz*, 2H); 7.02 (m,2H), 6.7 (m, 2H); 5.19 (s, 2H); 4.07 (m,2H), 2.21 (s,6H); 1.77 (s,6H)	0.05	0.043
38		380.4 (M+1) ^{1}H-NMR (400 MHz, MeOH-d_4) δ 7.74-7.71 (m, 2H); 7.21-7.17 (m, 2H); 7.03 (t, *J = 8.0 Hz*, 2H); 6.67 (d, *J = 8.4 Hz*, 2H); 5.17-5.15 (m, 2H); 4.22-3.98 (m, 6H) ; 2.22 (s, 3H).	0.01	0.013
39		428.1 (M+1) ^{1}H-NMR: (MeOH-d_4, 400Hz) δ7.70 (m, 2H); 7.21(m, 4H); 6.8(m,2H),	0.02	0.024

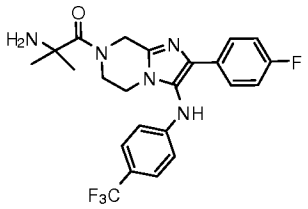
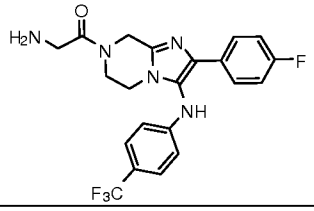
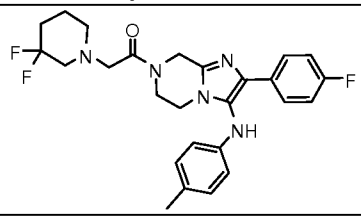
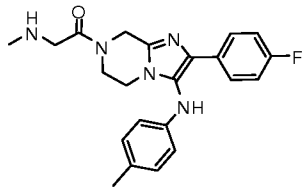
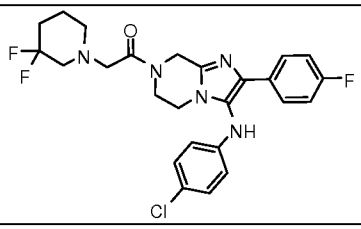
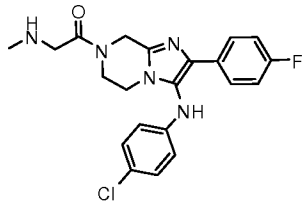
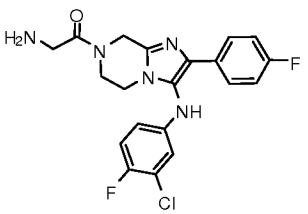
		4.26 (m, 2H); 4.0 (m,2H), 1.77 (s,6H)		
40		400.1 (M+1) ^{1}H-NMR: (MeOH-d_4, 400Hz) δ7.59-7.56 (m, 2H); 7.15-7.09 (m, 4H); 6.68-6.65 (m,2H), 5.05 (m,2H); 4.04-3.87 (m,6H).	0.01	0.009
41		454.2 (M+1)	2.65	1.79
42		502.3 (M+1)	6.1	4.611
43		488.2 (M+1)	0.18	0.149
44		385.2(M+1)	0.72	0.477
45		410.2(M+1)	0.98	1.335

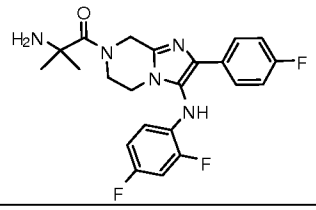
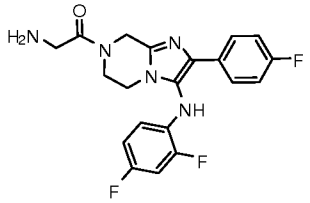
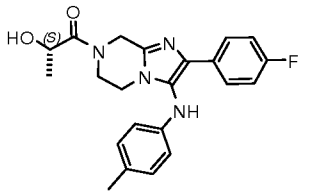
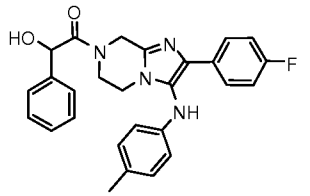
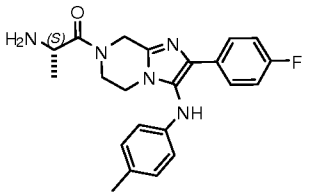
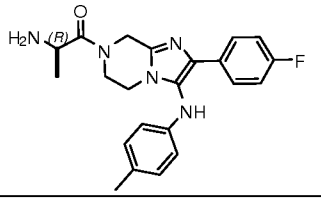
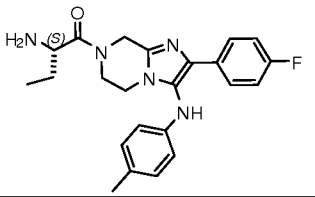
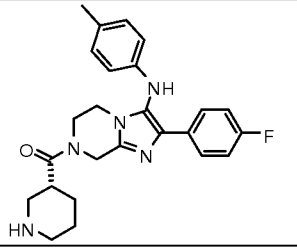
46		454.2(M+1)	13.99	3.11
47		409.2(M+1)	6.98	6.183
48		417.2(M+1)	1.84	1.752
49		518.2(M+1)	2.29	1.9
50		452.2(M+1)	0.18	0.187
51		400.2(M+1)	0.07	0.062
52		380.2(M+1)	3.14	3.36
53		396.2(M+1)	2.27	1.703

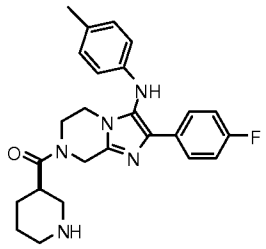
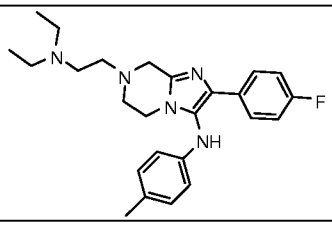
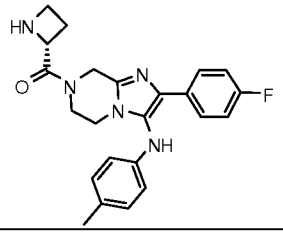
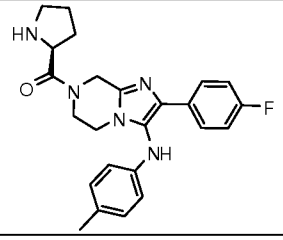
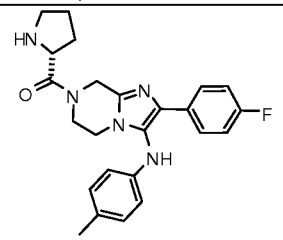
54		445.3(M+1)	1.29	0.764
55		400. 3(M+1)	0.66	0.437
56		384.2(M+1) ^{1}H-NMR: (*MeOH-d_4*, 400Hz) δ7.55-7.53 (m, 1H); 7.47-7.45 (m, 2H); 7.15 (m,1H); 6.96-6.94 (m, 2H); 6.84-6.81 (m, 2H); 5.20(m, 2H); 4.25-4.20 (m,6H), 3.35 (s, NH).	0.01	0.013
57		474.2(M+1)	0.31	0.294
58		456.2(M+1)	0.47	0.28
59		456.2(M+1)	1.09	0.735
60		470.2(M+1)	2.46	2.129

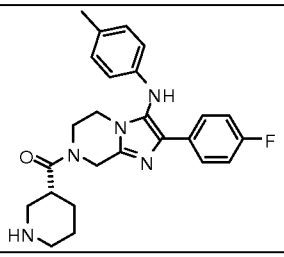
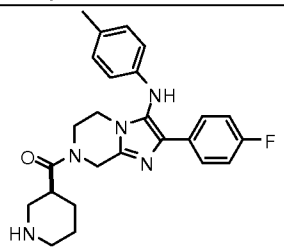
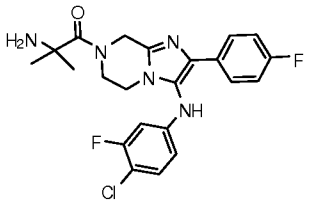
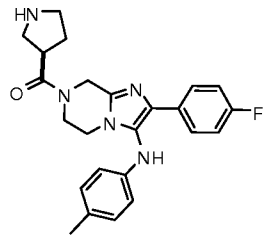
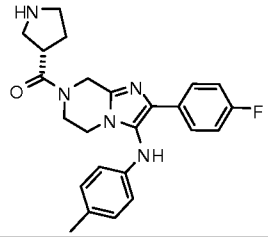
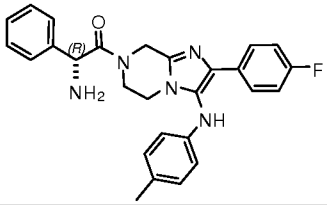
61		520.2(M+1)	9.24	
62		488.2(M+1)	4.74	4.738
63		520.2(M+1)	1.95	1.606
64		468.2(M+1)	9.37	6.465
65		448.2(M+1)	0.47	0.509
66		430.2(M+1)	0.22	0.244
67		402.2(M+1)	0.19	0.197
68		424.2(M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.71-7.67 (m, 2H); 7.22 (t, *J* = *8.8*	0.15	0.264

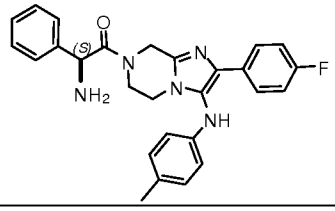
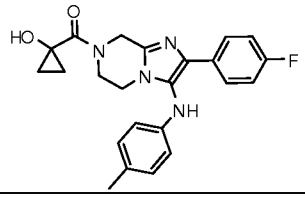
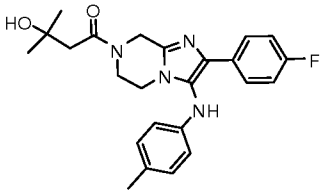
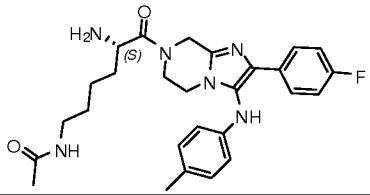
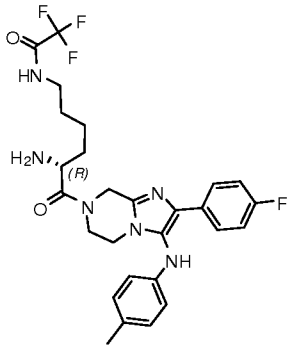
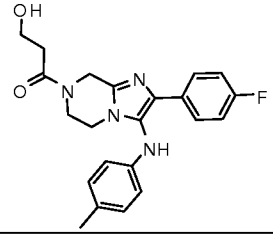
		Hz, 2H); 6.97-6.95 (m, 2H), 6.8-6.77 (m, 2H); 5.15 (s, 2H); 4.19-3.99 (m,4H), 3.74-3.58 (m,2H); 2.9-2.82 (m,1H);0.98-0.97 (m,4H).		
69		440.2 (M+1)	0.08	0.094
70		412.2 (M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.50-7.48 (m, 2H); 7.44-7.40 (m,2H); 7.18 (m, 1H); 6.98 (t, *J = 8.8 Hz*, 2H); 6.82-6.79 (m, 2H); 5.18 (m, 2H); 4.25 (t, *J = 4.8 Hz*, 2H); 4.07 (t, *J = 4.8 Hz*, 2H);1.76 (s, 6H)	0.05	0.079
71		418.1 (M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.7 (m, 2H); 7.28-7.22 (m,2H); 6.71 (m, 1H); 6.64 (m, 1H); 5.16 (s, 2H); 4.18-4.01 (m, 6H)	0.0	0.004

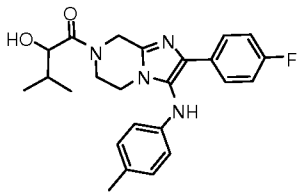
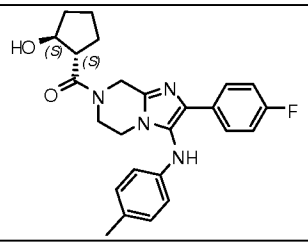
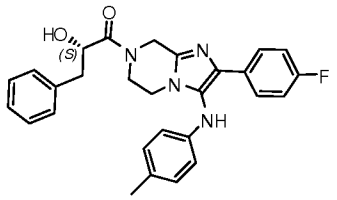
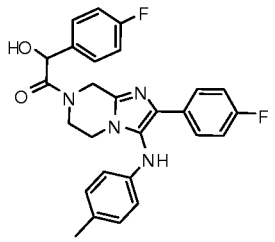
72		462.2(M+1)	0.95	0.589
73		434.2(M+1)	0.08	0.059
74		484.2(M+1)	0.07	0.067
75		394.2(M+1)	0.25	0.19
76		504.2(M+1)	0.06	0.061
77		414.2(M+1)	0.06	0.039
78		418.0 (M+1) ^{1}H-NMR (400 MHz, MeOH-d_4) δ 7.72-7.68 (m, 2H); 7.23 (t, *J = 8.8 Hz*, 2H); 7.08 (t, *J = 8.8 Hz*,1H); 6.91 (dd, *J = 3.2 Hz*, *J = 5.8 Hz*, 1H); 5.16 (m, 2H); 4.22-4.05 (m, 6H)	0.01	

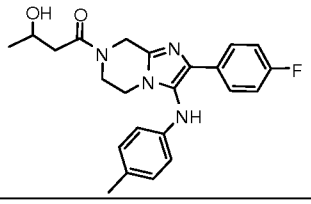
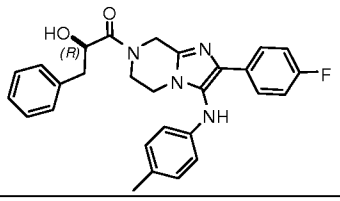
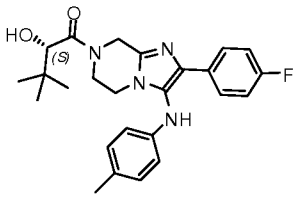
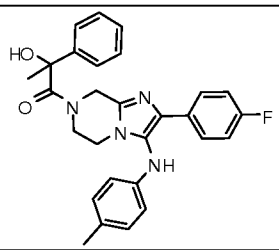
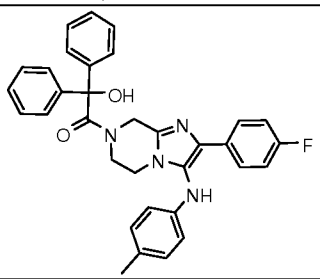
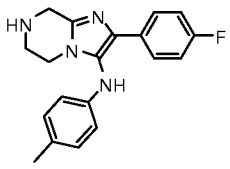
79		430.2(M+1)	0.11	0.09
80		402.2(M+1)	0.06	0.063
81		395.2(M+1)	0.3	0.449
82		457.2(M+1)	0.0	0.007
83		394.2(M+1)	0.08	0.131
84		394.2(M+1)	0.05	0.074
85		408.2(M+1)	0.02	0.031
86		434.2(M+1)	0.71	0.755

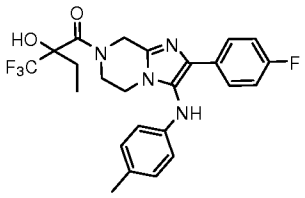
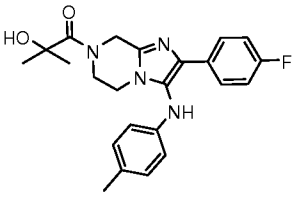
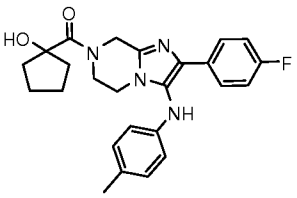
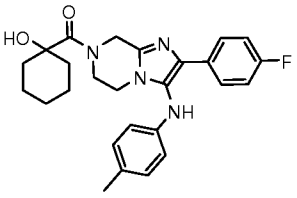
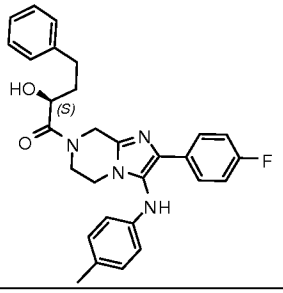
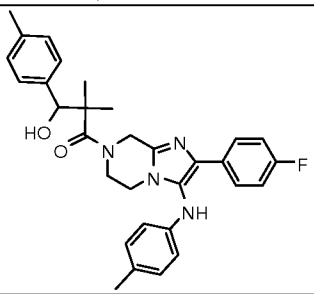
87		434.2(M+1) ^{1}H-NMR (400 MHz, MeOH-d_4) δ 7.71-7.68 (m, 2H); 7.21 (t, *J* = *8.8 Hz*, 2H); 7.03 (d, *J* = *8.0 Hz*, 2H) 6.67 (d, *J* = *8.4 Hz*, 2H); 5.35-4.96 (m,2H); 4.37-3.88 (m, 4H); 3.49-3.31 (m, 3H); 3.25-3.13 (m, 2H); 2.23 (s, 3H); 2.11-1.8 (m, 4H)	0.02	0.012
88		422.6(M+1)	0.15	0.081
89		406.2(M+1)	0.05	0.073
90		420.2(M+1)	0.65	0.6
91		420.2(M+1)	0.12	0.154

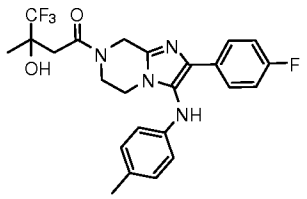
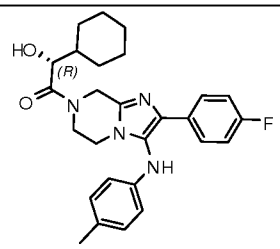
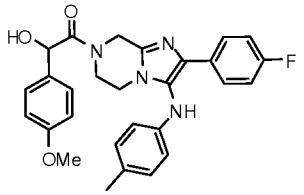
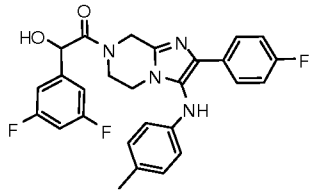
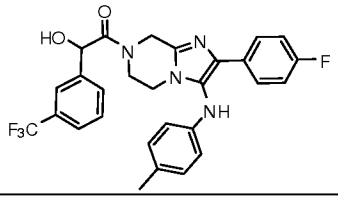
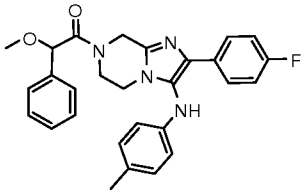
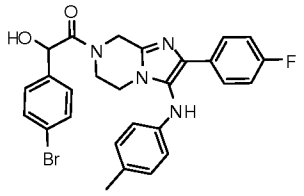
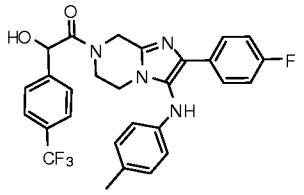
92		434.2(M+1)	1.3	1.484
93		434.2(M+1)	1.67	1.512
94		446.2 (M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.59-7.56 (m, 2H); 7.2-7.11 (m, 3H); 6.6-6.57 (m, 2H); 5.04 (s, 2H); 4.14 (m, 2H); 3.97 (m, 2H); 1.69 (s,6H).	0.04	0.052
95		420.2(M+1)	1.54	0.707
96		420.2(M+1)	0.58	0.321
97		456.2(M+1)	0.04	0.021

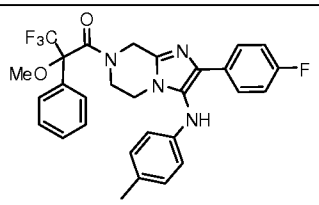
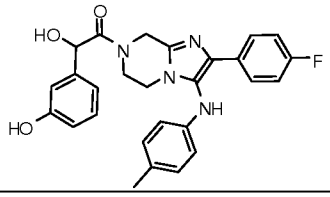
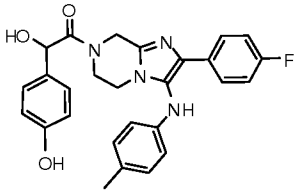
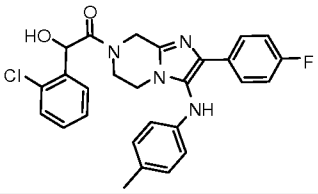
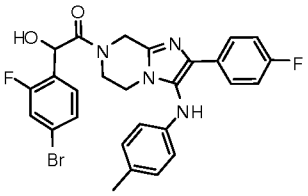
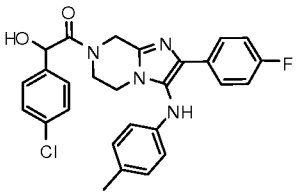
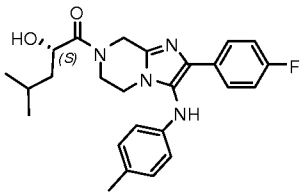
98		456.2(M+1)	0.01	0.008
99		407.2(M+1)	0.81	0.658
100		423.2(M+1) ^{1}H-NMR (400 MHz, MeOH-d_4) δ 7.78-7.68 (m, 2H); 7.16 (t, *J = 8.8 Hz*, 2H); 7.02 (d, *J = 8.0 Hz*, 2H) 6.64-6.60 (m, 2H);5.17-5.07 (m, 2H); 4.13-3.86 (m, 4H) ; 2.7 (s, 2H);2.22 (2, 3H); 1.32 (s, 6H).	0.15	0.143
101		493.6(M+1)	5.09	4.373
102		547.6(M+1)	0.65	0.426
103		395.2(M+1)	1.02	

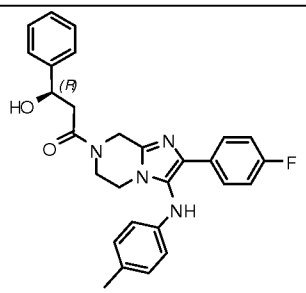
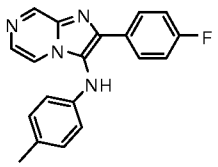
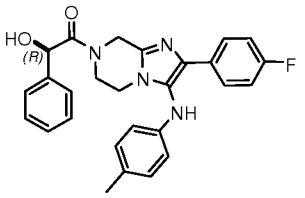
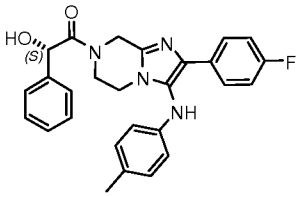
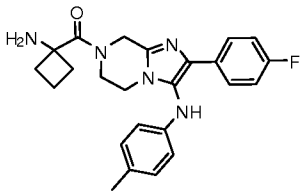
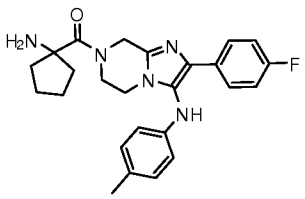
104		423.2(M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.76 - 7.73 (m, 2H); 7.02- 6.95 (m,4 H); 6.49 (m, 2H), 4.96-4.80 (m, 2H); 4.25-4.08 (m, 1H); 3.83-3.73 (m, 2H); 3.76-3.73 (m, 2H); 2.20 (s, 3H); 1.98 (m,1H); 0.96 (t, *J* = 6.8 Hz, 6H).	0.01	0.007
105		435.2(M+1)	0.85	
106		471.2(M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.64 - 7.59 (m, 2H); 7.13-6.85 (m,9 H); 6.83 (t, *J* = 8.4 Hz, 2H); 4.73-4.35 (m, 3H); 3.94-3.49 (m, 4H); 4.03-3.87 (m, 2H); 2.93-2.88 (m, 2H); 2.11 (s,3H).	0.0	0.004
107		475.2(M+1)	0.01	0.01

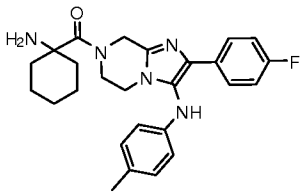
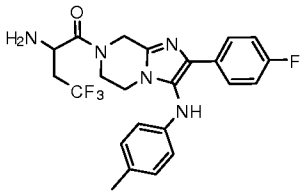
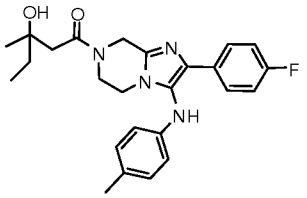
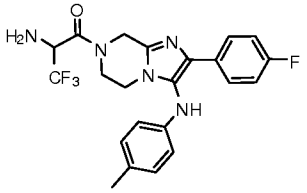
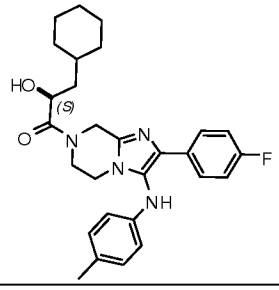
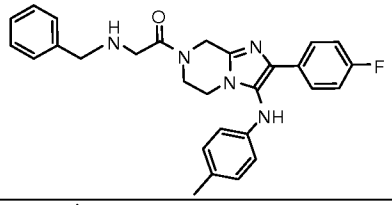
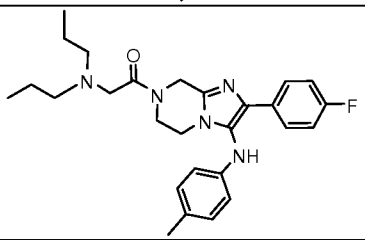
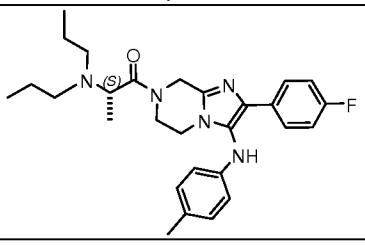
108		409.2(M+1)	0.96	
109		471.2(M+1)	0.04	
110		437.2(M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.65 - 7.62 (m, 2H); 6.92-6.84 (m,4 H); 6.49 (m, 2H), 6.39 (t, *J* = 8.8 Hz, 2H).4.95-4.62 (m, 2H); 4.18 (d, *J* = 8.4 Hz, 1H); 4.03-3.87 (m, 2H); 3.74-3.64 (m, 2H); 2.1 (s, 3H); 0.9 (d, *J* = 7.2 Hz, 9H).	0.02	0.015
111		471.2(M+1)	0.02	
112		533.6(M+1)	1.43	
113		323.2(M+1) ^{1}H NMR (400 MHz, CD_3OD) 7.73(d, *J* = 6.8Hz, 2H), 7.00-6.99 (m,	0.15	0.146

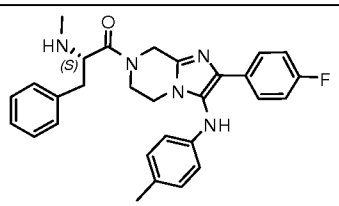
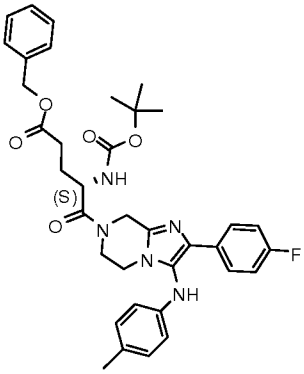
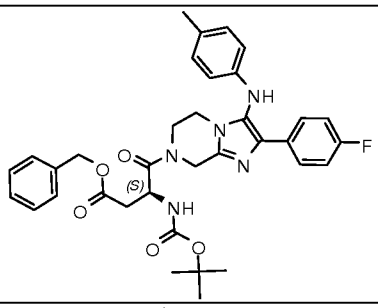
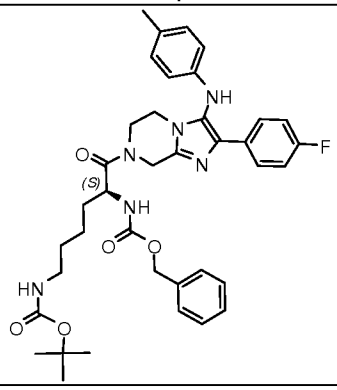
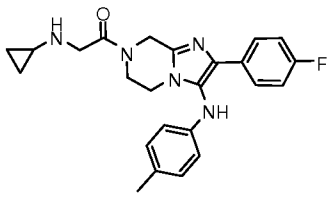
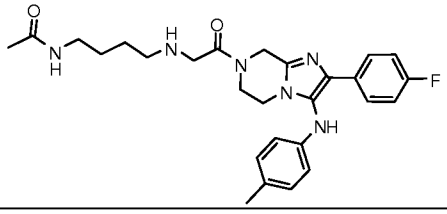
		4H), 6.49 (d, *J* = 8.0Hz, 2H), 4.01 (s, 2H), 3.72(s, 2H), 3.15(s, 2H), 2.19(s, 3H).		
114		409.2(M+1)	1.34	1.35
115		477.2(M+1)	0.15	0.153
116		435.2(M+1)	1.64	1.509
117		449.2(M+1)	1.26	1.186
118		485.6(M+1)	0.15	0.135
119		513.4(M+1)	4.74	

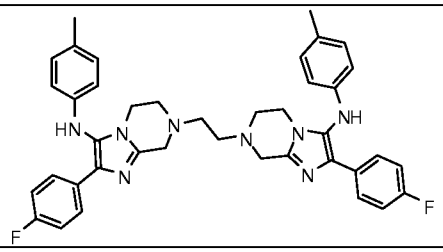
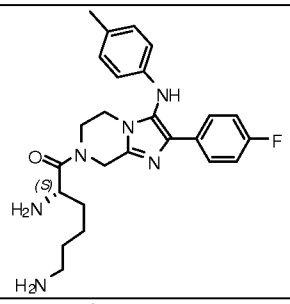
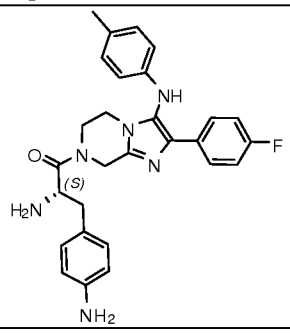
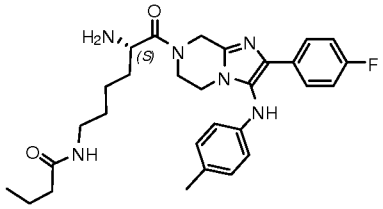
120		477.2(M+1)	0.11	0.123
121		463.4 (M+1)	0.02	0.033
122		487.2(M+1)	0.18	0.154
123		493.2(M+1)	0.03	
124		525.2(M+1)	0.04	0.028
125		471.3 (M+1)	0.05	0.044
126		536.2(M+1)	0.1	0.08
127		525.4 (M+1)	0.06	0.051

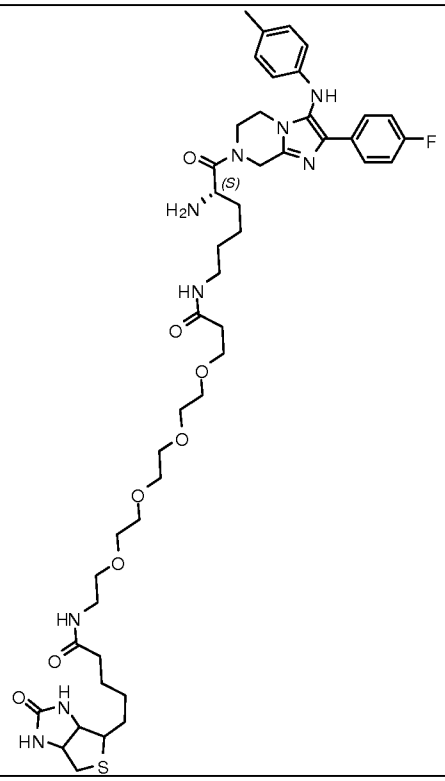
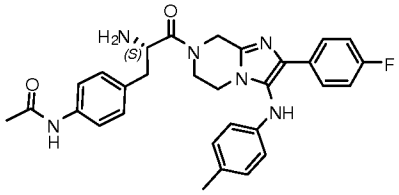
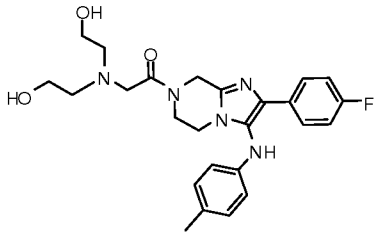
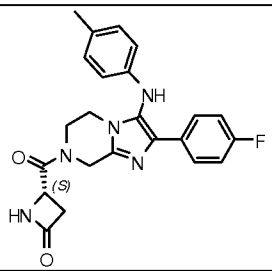
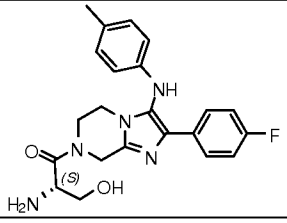
128		539.2(M+1)	1.18	0.743
129		473.2(M+1)	0.01	0.006
130		473.2(M+1)	0.01	
131		492.0(M+1)	0.04	0.03
132		554.2(M+1)	0.1	0.082
133		492.0(M+1)	0.05	0.039
134		437.1 (M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.76 - 7.73 (m, 2H); 7.02- 6.95 (m,4 H); 6.50 (d, *J* = 7.2 Hz, 2H), 4.95-4.72 (m, 2H); 4.59-4.51 (m, 1H); 4.08-3.51 (m, 4H); 2.20 (s, 3H); 1.86 (m,1H); 1.59(m, 1H);	0.01	0.007

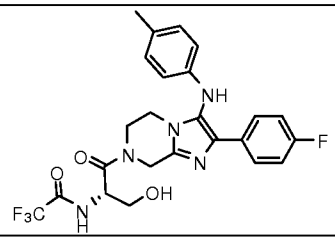
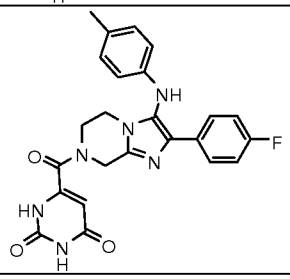
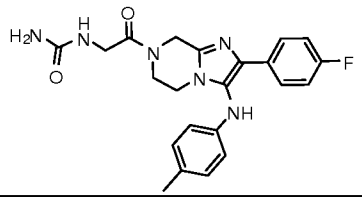
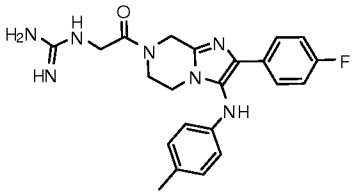
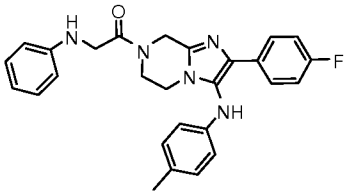
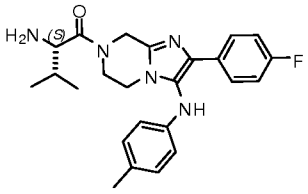
		1.48 (m, 1H); 0.96 (d, J = 7.2 Hz, 6H),		
135		471.2(M+1)	0.05	0.033
136		319.1(M+1) ^{1}H NMR (400 MHz, CD_3OD) 9.04 (s, 1H); 8.03(dd, J = 1.2 Hz, J = 4.8 Hz,1H), 7.97 (m, 2H), 6.90 (d, J = 8.0Hz, 2H), 6.41 (d, J = 8.4 Hz, 2H) 2.1(s, 3H).	2.02	2.693
137		457.2(M+1)	0.01	0.012
138		457.2(M+1)	0.01	0.015
139		420.2(M+1)	0.16	0.165
140		434.2(M+1)	0.09	0.128

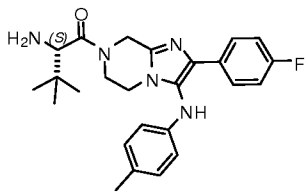
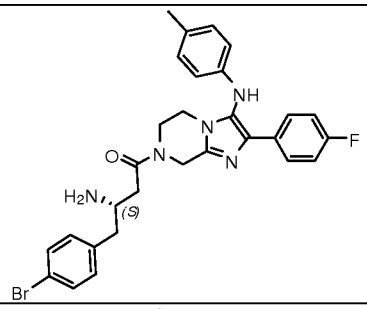
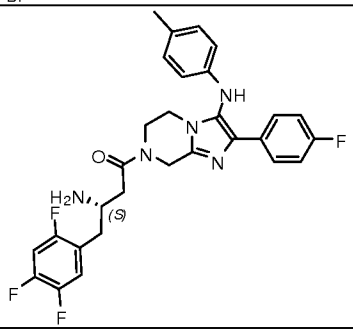
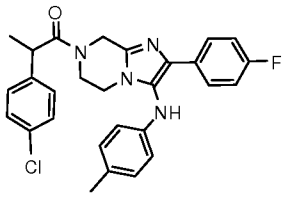
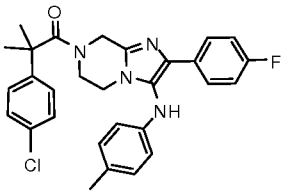
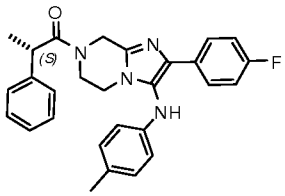
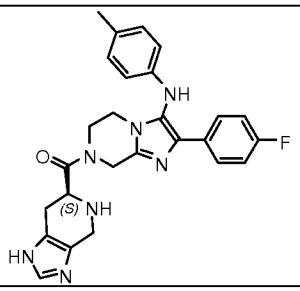
141		448.2(M+1)	0.07	0.09
142		462.4 (M+1)	0.08	0.12
143		437.2(M+1)	0.15	0.219
144		448.2(M+1)	0.05	0.073
145		477.5 (M+1)	0.09	0.068
146		470.5 (M+1)	0.02	0.014
147		464.5 (M+1)	2.43	1.519
148		478.5(M+1)	4.06	1.432

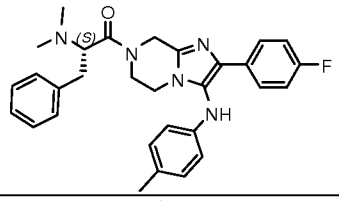
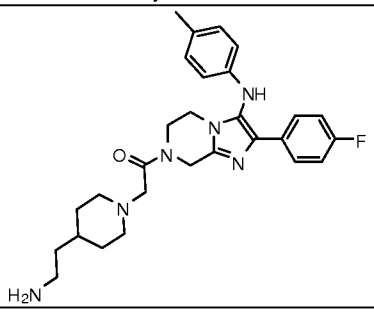
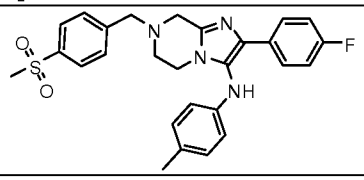
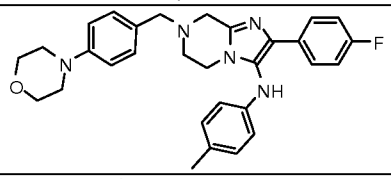
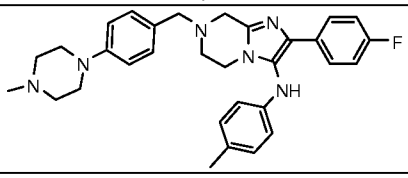
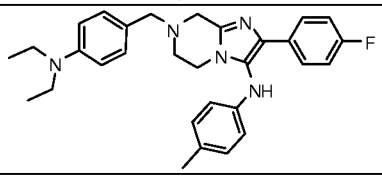
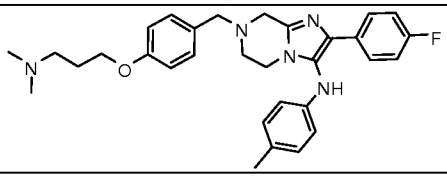
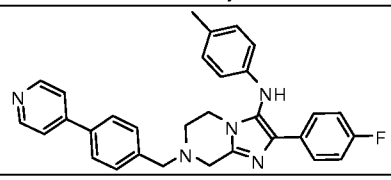
149		484.5 (M+1)	0.02	0.011
150		642.5(M+1)	0.96	0.673
151		628.5 (M+1)	0.82	0.386
152		685.4 (M+1)	3.87	0.873
153		420.5(M+1)	0.06	0.032
154		493.5 M+1)	4.27	3.411

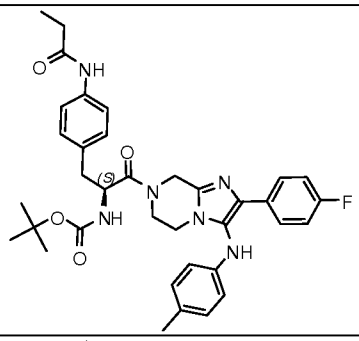
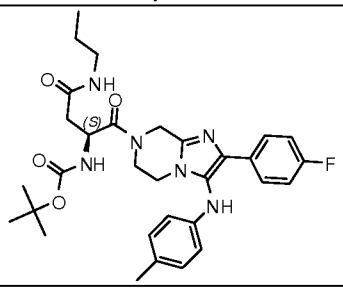
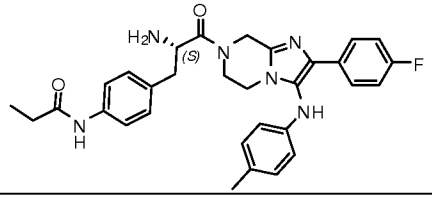
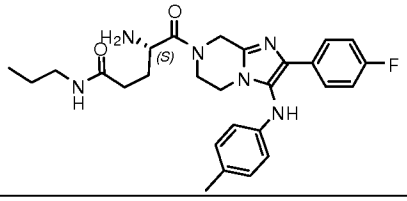
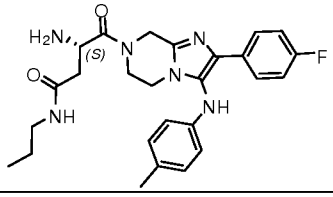
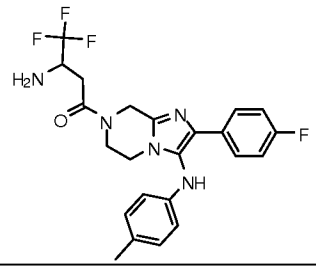
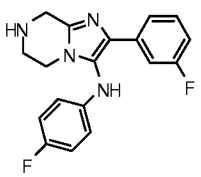
155		671.6 (M+1)	2.14	0.491
156		451.5(M+1)	1.83	0.458
157		485.5 (M+1)	0.1	0.097
158		521.5 (M+1)	7.54	4.763

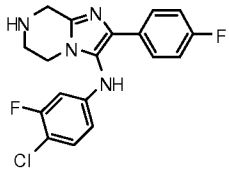
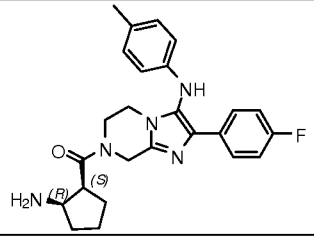
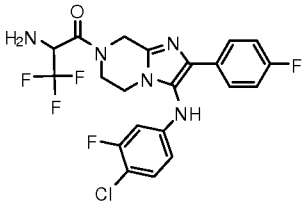
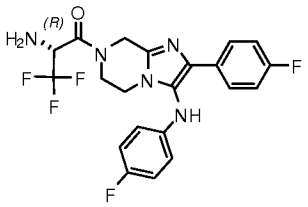
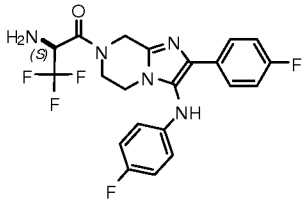
159		925.1(M+1)	5.7	2.91
160		527.5 (M+1)	4.32	2.39
161		468.2(M+1)	0.54	0.51
162		420.5 (M+1)	1.78	1.376
163		410.1(M+1)	0.02	0.026

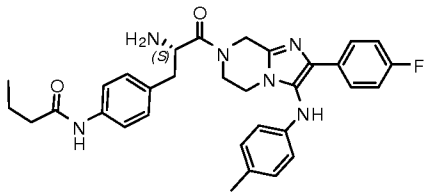
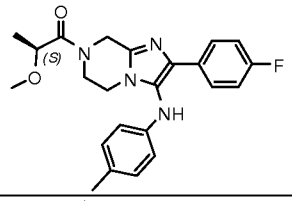
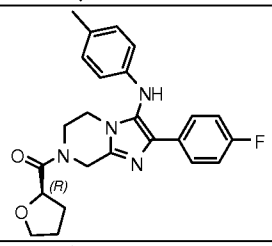
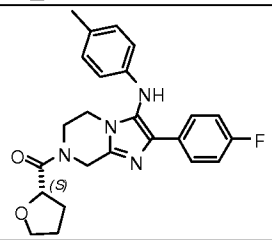
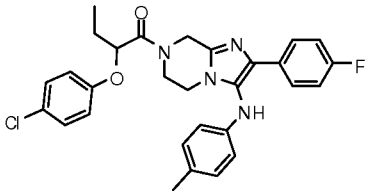
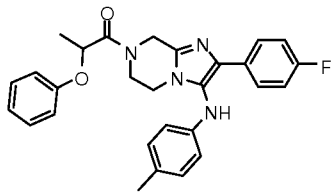
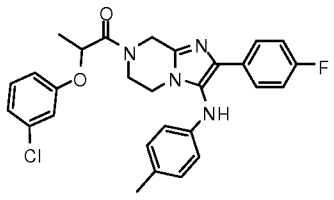
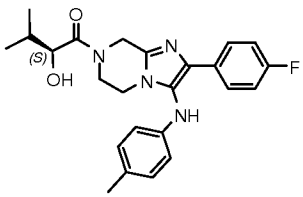
164		506.2(M+1)	>9.81	3.757
165		461.2(M+1)	>10.23	4.642
166		423.2(M+1)	2.87	2.229
167		422.2(M+1)	0.18	0.145
168		456.2(M+1)	0.01	0.011
169		422.5 (M+1) ^{1}H-NMR: (MeOH-d_4, 400Hz) δ7.59 - 7.56 (m, 2H); 7.13-7.00 (m,2 H); 6.95-6.93 (m, 2H); 6.56-6.54 (m, 2H); 5.17-4.8 (m, 2H); 4.37-3.72 (m, 5H); 1.23-1.19 (m, 1H); 1.03 (d, *J*= 8.8 Hz, 3 H); 1.03 (d, *J*= 8.8 Hz, 3 H); 0.95 (d, *J*=8.8 Hz, 3H).	0.04	

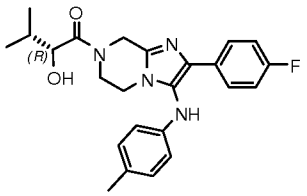
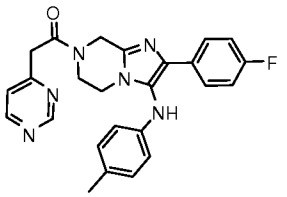
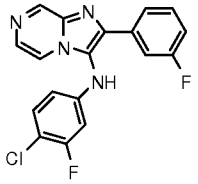
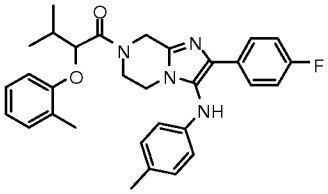
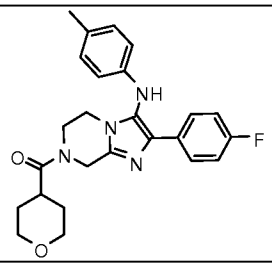
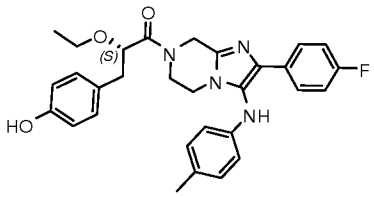
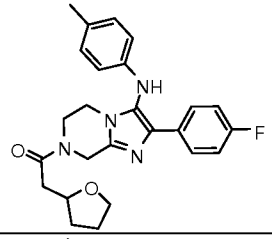
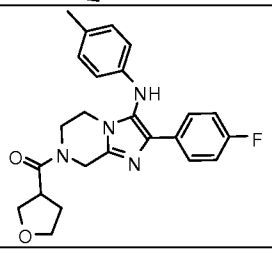
170		436.2(M+1)	0.09	0.054
171		563.2(M+1)	0.17	0.214
172		538.4 (M+1)	0.1	0.088
173		489.2 (M+1)	0.14	0.133
174		503.5 (M+1)	6.06	1.475
175		455.2(M+1)	0.08	0.105
176		472.2(M+1)	2.75	1.791

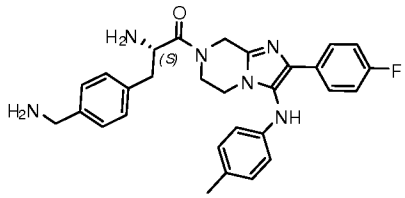
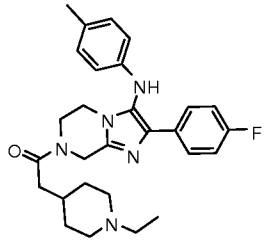
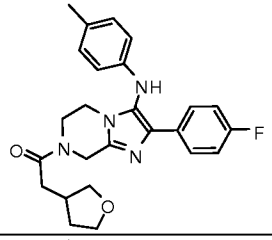
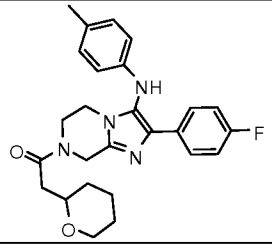
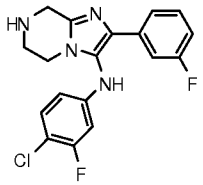
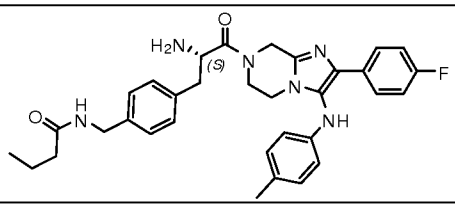
177		498.5 (M+1)	0.43	0.43
178		491.5 (M+1)	3.05	3.321
179		491.5 (M+1)	4.79	1.072
180		498.5 (M+1)	0.73	0.609
181		511.5 (M+1)	2.68	1.811
182		484.5 (M+1)	1.37	1.076
183		514.5 (M+1)	1.9	1.342
184		490.5 (M+1)	3.65	0.859

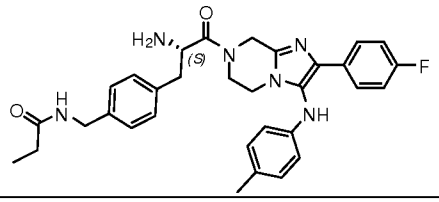
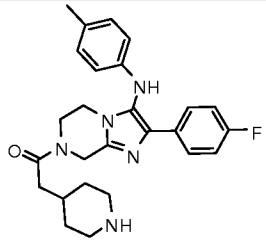
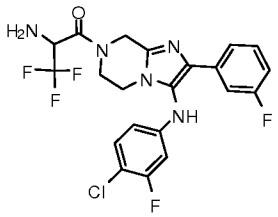
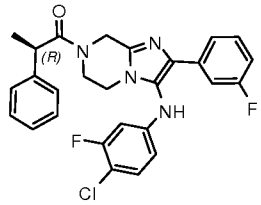
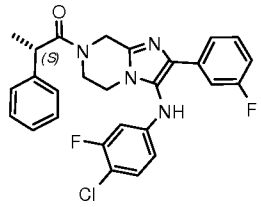
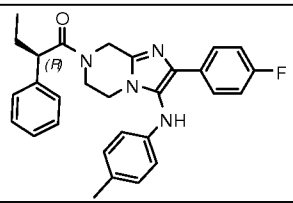
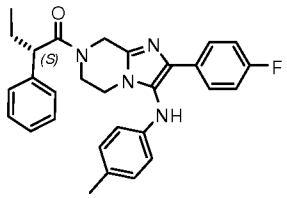
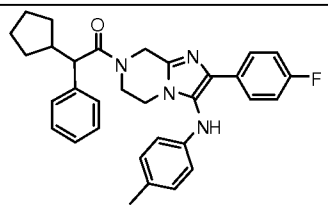
185		641.3(M+1)	0.35	0.136
186		579.3 (M+1)	5.63	2.56
187		541.3 (M+1)	6.68	3.551
188		493.6(M+1)	0.79	1.097
189		479.6(M+1)	0.37	0.392
190		462.2(M+1)	0.94	1.073
191		327.2(M+1) ^{1}H NMR: (300MHz, DMSO-d_6): δ 2.50-2.52 (2H, t, J=1.5Hz), 3.54-3.58 (2H, t, J=2.1Hz), 3.87 (s, 2H),	0.17	0.151

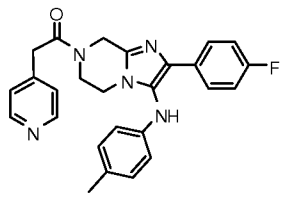
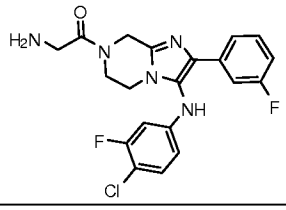
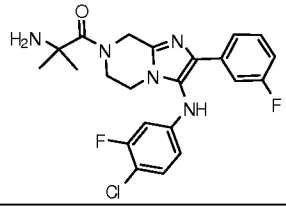
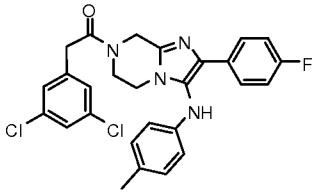
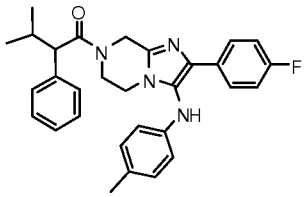
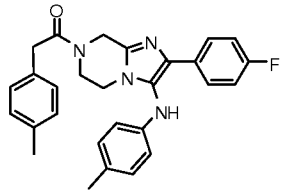
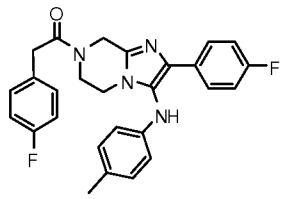
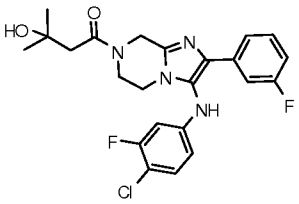
		6.53-6.58 (m, 2H), 6.91-7.02 (m, 3H), 7.27-7.36 (m, 1H), 7.50 (1H, d, *J*=10.5Hz), 7.62(1H, d, *J*=7.8Hz), 7.79 (s, 1H)		
192		361.1(M+1) ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.75-7.70 (m, 2H) 7.25-7.19 (m, H), 7.05-7.02 (m, 2H), 6.48-6.41 (m, 2H), 4.16(s, 2H), 3.70 (m, 2H), 3.24 (m, 2H).	0.11	0.095
193		434.2(M+1)	0.09	0.075
194		486.2(M+1)	0.05	
195		452.1(M+1)	0.02	0.02
196		452.1(M+1)	0.32	0.344

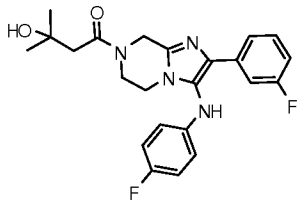
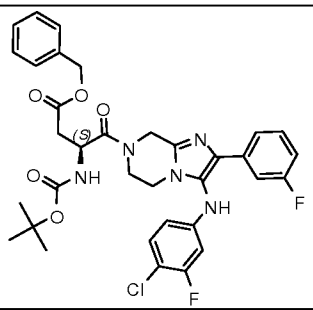
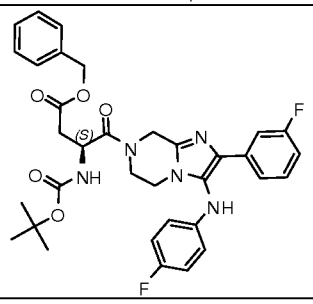
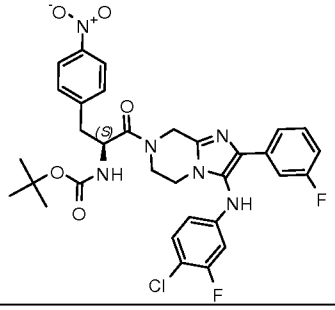
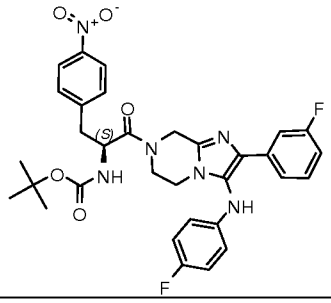
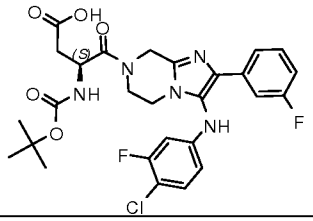
197		555.3 (M+1)	4.16	1.04
198		409.2(M+1)	1.36	
199		421.2(M+1)	0.24	0.157
200		421.2(M+1)	0.91	
201		485.6(M+1)	0.24	0.131
202		471.2(M+1)	0.16	0.102
203		505.1 (M+1)	0.97	0.369
204		423.2(M+1)	0.01	0.01

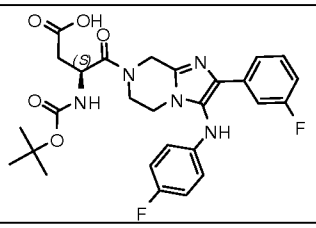
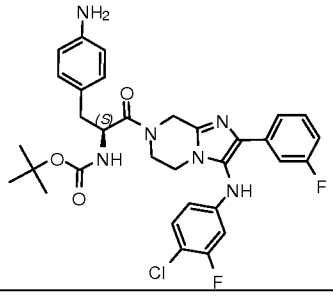
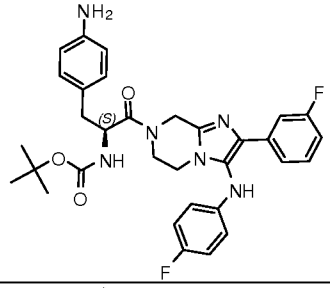
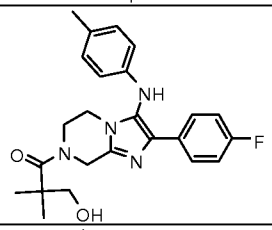
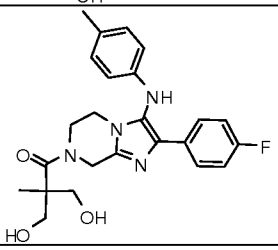
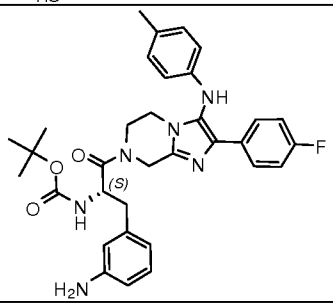
205		423.2 (M+1)	0.0	0.004
206		443.2 (M+1)	1.2	1.17
207		357.1 (M+1)	9.31	2.421
208		513.2 (M+1)	5.87	1.057
209		435.2 (M+1)	11.62	4.362
210		515.2 (M+1)	0.04	0.026
211		435.2 (M+1)	0.3	0.283
212		421.2(M+1)	1.95	1.984

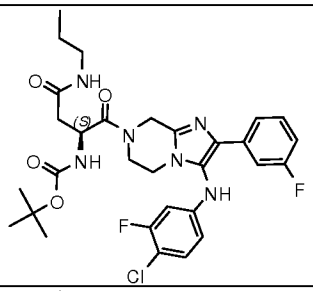
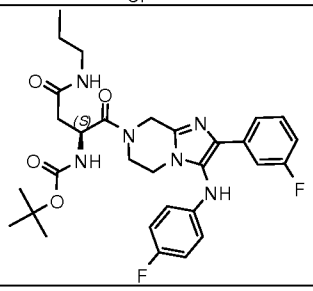
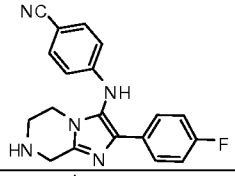
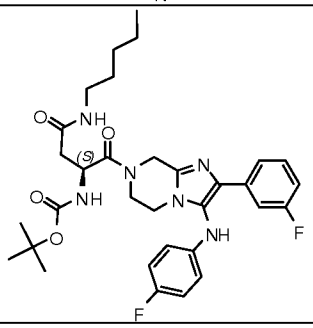
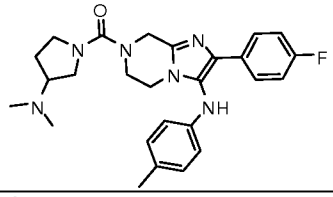
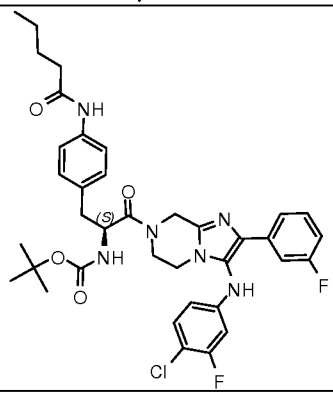
213		499.1 (M+1)	3.8	4.823
214		476.3 (M+1)	2.85	2.008
215		435.2 (M+1)	0.83	0.65
216		449.2 (M+1)	0.3	0.248
217		361.1(M+1) ^{1}H NMR (300MHz, DMSO-d_6) δ 3.04 (2H, t, *J*=5.1Hz), 3.57 (s, 2H), 3.88 (s, 2H), 6.42-6.52 (m, 2H), 6.94-7.00 (m, 1H), 7.28-7.38 (m, 2H), 7.48 (1H, d, *J*=7.2Hz), 7.58 (1H, d, *J*=7.8Hz), 8.27 (s, 1H)	0.13	0.106
218		569.0 (M+1)	4.71	4.015

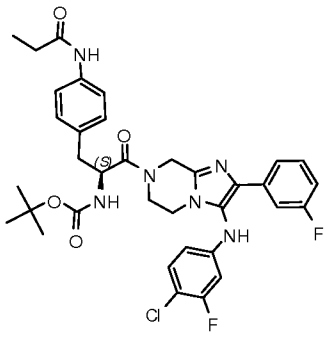
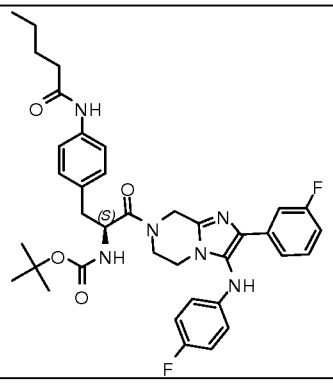
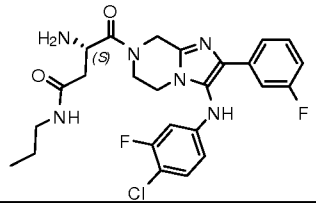
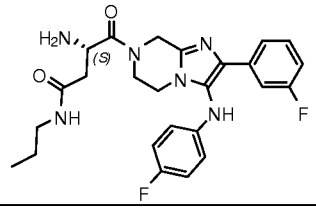
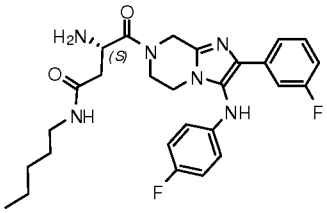
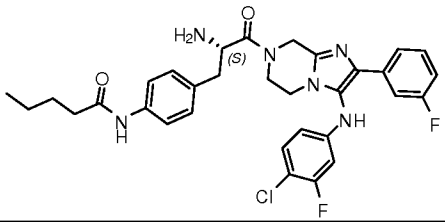
219		555.9 (M+1)	4.97	3.414
220		448.2(M+1)	1.13	0.937
221		486.0 (M+1)	0.09	0.083
222		493.0 (M+1)	0.14	0.103
223		493.0 (M+1)	0.26	0.206
224		469.1 (M+1)	0.02	0.018
225		469.1 (M+1)	0.55	0.316
226		509.1 (M+1)	0.48	0.348

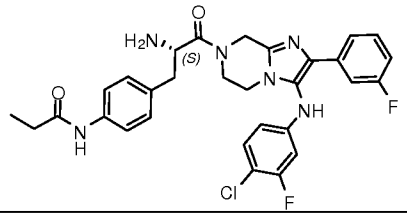
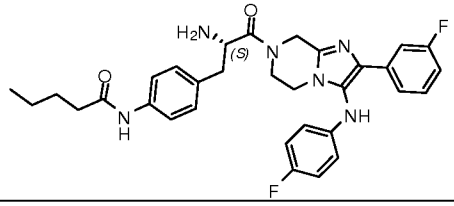
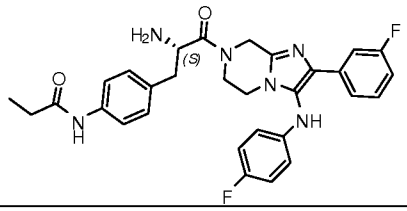
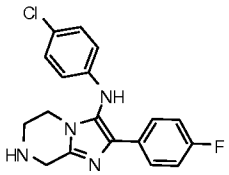
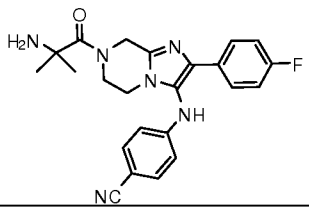
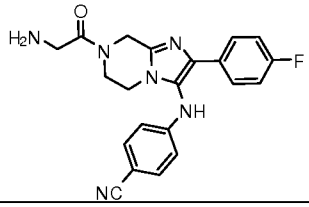
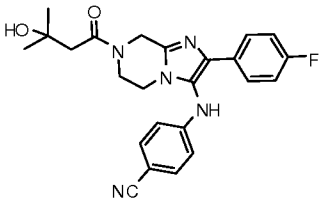
227		442.2 (M+1)	0.09	0.103
228		417.9 (M+1)	0.01	0.008
229		446.2 (M+1)	0.01	0.007
230		510.2 (M+1)	0.32	0.255
231		483.3 (M+1)	0.09	0.07
232		455.2 (M+1)	0.05	0.044
233		459.2 (M+1)	0.01	0.015
234		461.0 (M+1)	0.13	0.111

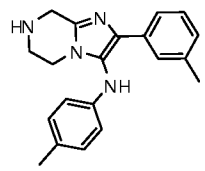
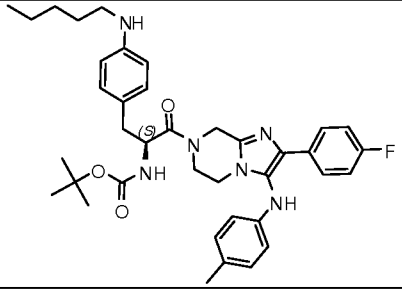
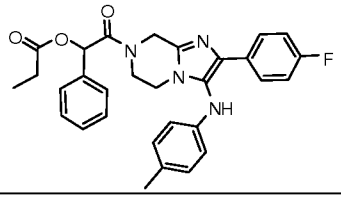
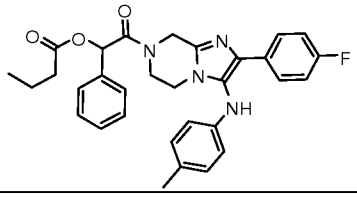
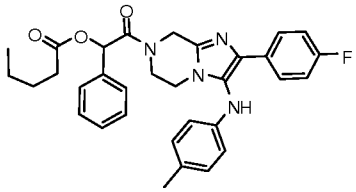
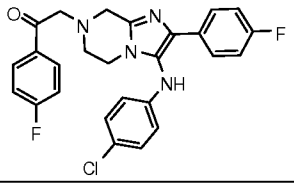
235		427.2 (M+1)	0.54	0.496
236		666.2 (M+1)	5.25	2.063
237		632.3 (M+1)	7.19	5.722
238		653.2 (M+1)	3.56	1.305
239		619.3 (M+1)	1.84	0.629
240		576.2 (M+1)	10.49	6.99

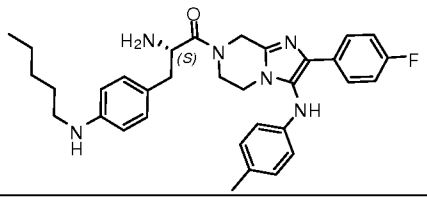
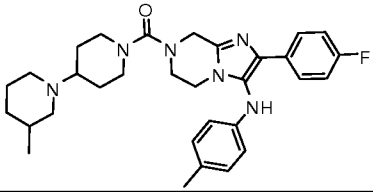
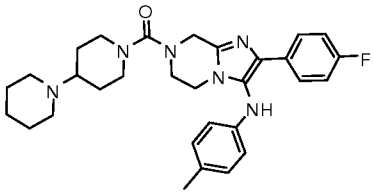
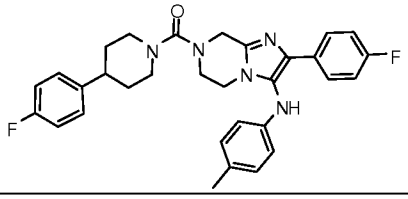
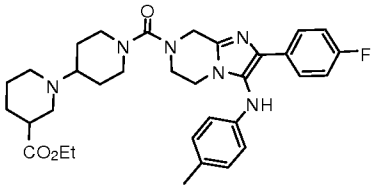
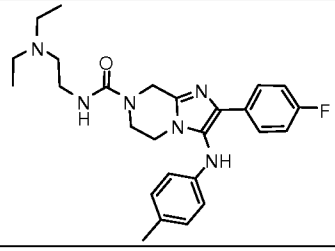
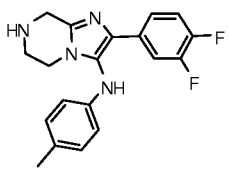
241		542.2 (M+1)	5.27	2.36
242		624.1 (M+1)	2.09	0.288
243		589.3 (M+1)	2.97	0.697
244		423.2 (M+1)	2.4	1.329
245		439.2 (M+1)	2.53	1.804
246		585.3 (M+1)	3.88	1.791

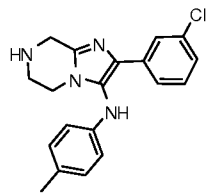
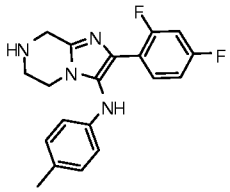
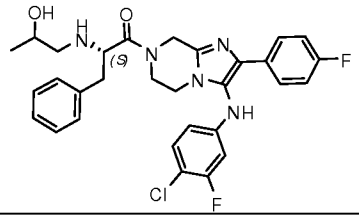
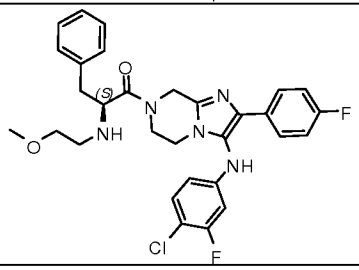
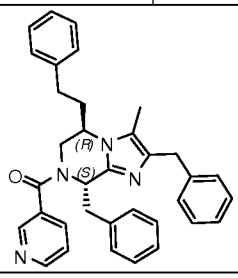
247		618.1 (M+1)	1.42	3.937
248		583.3 (M+1)	7.01	4.559
249		334.3 (M+1)	5.39	5.055
250		611.7 (M+1)	3.88	3.979
251		463.3 (M+1)	3.68	2.548
252		707.3 (M+1)	3.03	0.631

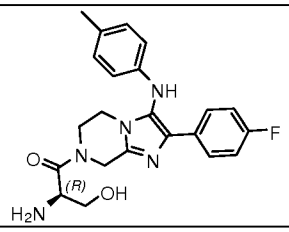
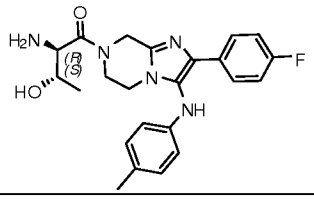
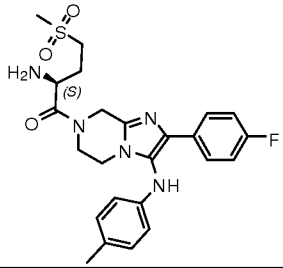
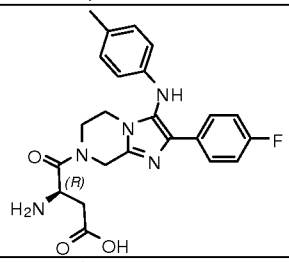
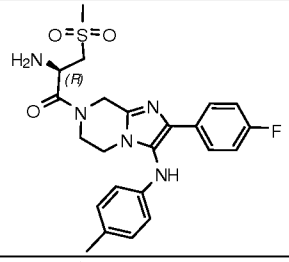
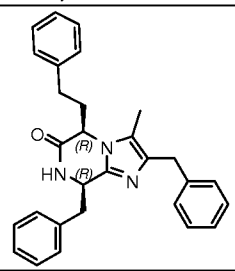
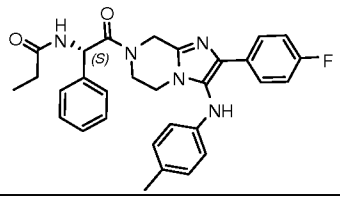
253		679.2(M+1)	0.78	0.254
254		673.4 (M+1)	3.44	0.727
255		517.3 (M+1)	0.61	0.653
256		483.2 (M+1)	1.16	1.475
257		511.3 (M+1)	6.68	7.003
258		608.1 (M+1)	4.92	3.513

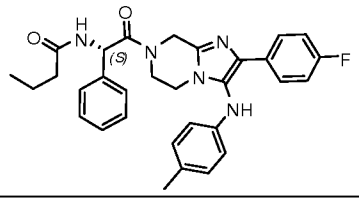
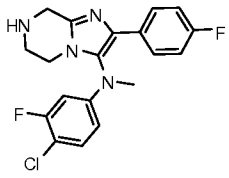
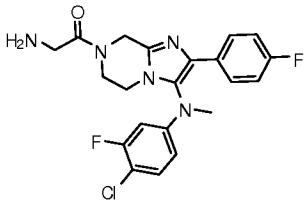
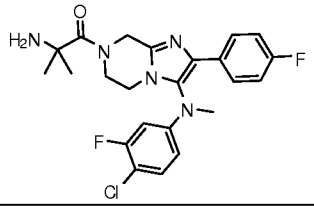
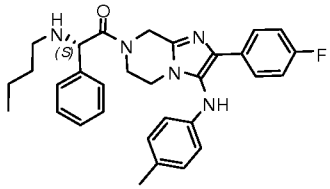
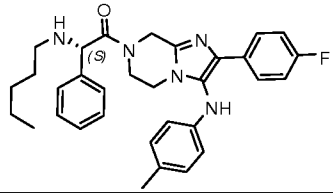
259		579.2 (M+1)	5.32	3.022
260		573.3 (M+1)	7.64	5.009
261		545.1 (M+1)	7.06	4.126
262		343.1(M+1) ^{1}H NMR: (DMSO, *ppm*): δ 7.94(s, 1H), 7.80-7.74(m, 2H), 7.18-7.09(m, 4H), 6.56 (d, *J* = 8.7Hz, 2H), 3.87(s, 2H), 3.55(s, 2H), 3.02(t, *J* = 5.4Hz, 2H).	0.24	0.267
263		419.2 (M+1)	0.35	0.653
264		391.2 (M+1)	0.11	0.154
265		434.2 (M+1)	1.35	1.585

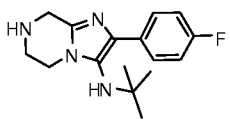
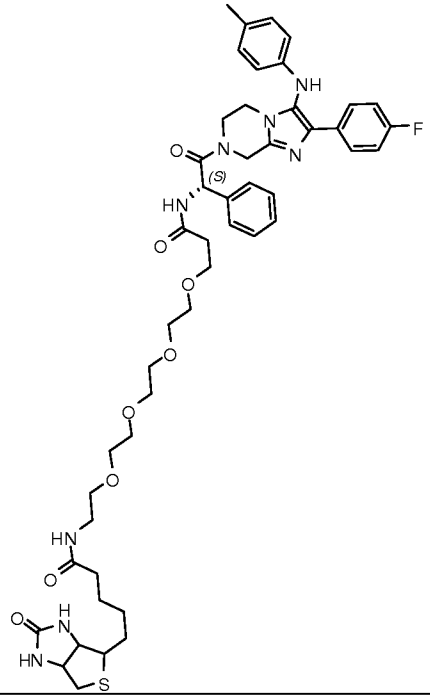
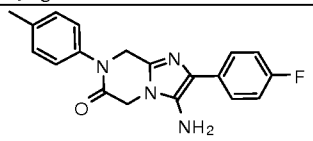
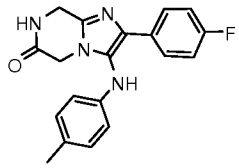
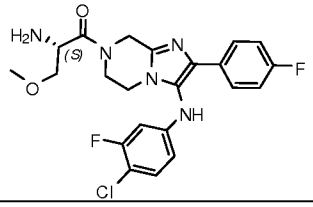
266		319.2 (M+1) ^{1}H NMR: (300MHz, $CDCl_3$) δ 7.70 (s, 1H), 7.56 (1H,d, *J*= 7.8Hz), 7.21-7.15 (1H, t, *J*= 7.5Hz), 7.04 (3H, d, *J*= 8.1Hz), 5.21 (1H,s), 4.18 (s, 2H), 3.73-3.68 (t, 2H, *J*= 5.4Hz), 3.23-3.18 (t, 2H, *J*=5.4Hz), 2.34 (s, 3H), 2.29 (s, 3H)	1.17	1.313
267		655.4 (M+1)	0.99	0.474
268		513.2 (M+1)	0.01	0.012
269		527.2 (M+1)	0.01	0.006
270		541.2 (M+1)	0.05	
271		479.0 (M+1)	0.44	0.385

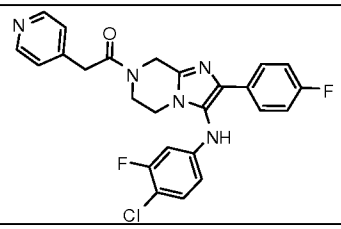
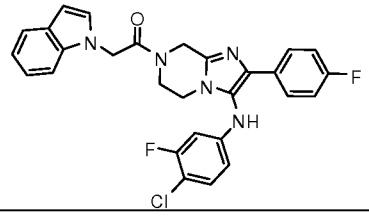
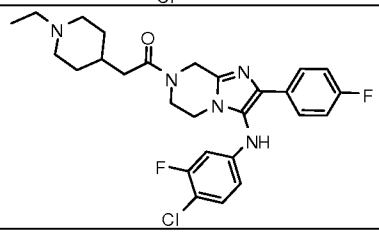
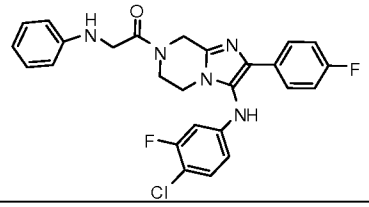
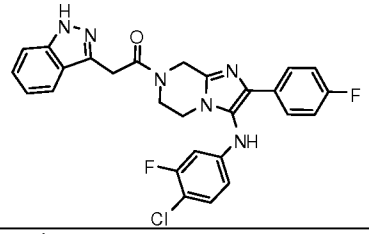
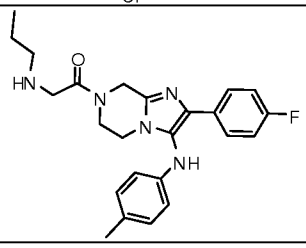
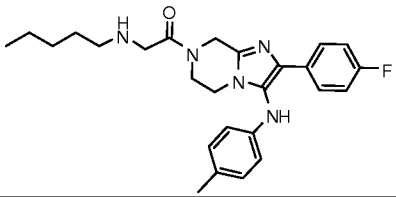
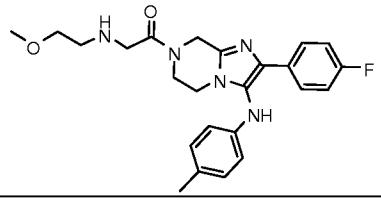
272		555.7 (M+1)	3.59	3.26
273		531.7(M+1)	3.33	3.471
274		517.7(M+1)	5.14	5.673
275		529.3 (M+1)	3.83	3.95
276		506.1 (M+1)		
277		465.1 (M+1)		
278		341.2 (M+1) ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.70-7.53 (m, 2H), 7.12-7.04 (m, 3H), 6.58 (d, *J* = 8.4Hz, 2H), 5.12 (s, 1H), 4.18 (s, 2H), 3.73 (m, 2H), 3.23 (m, 2H), 2.98 (s, 1H), 2.29 (s, 3H).	0.21	0.269

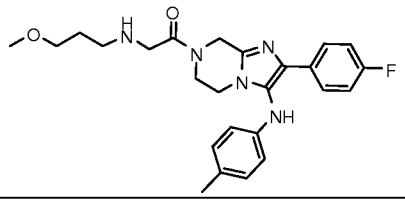
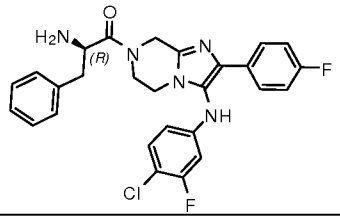
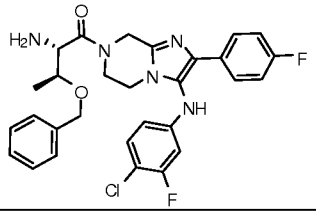
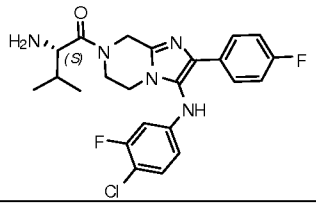
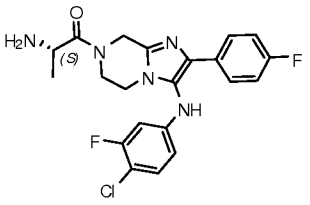
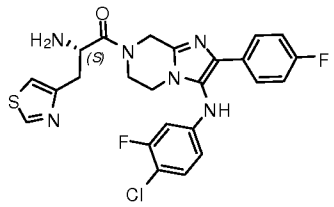
279		339.1 (M+1) ^{1}H NMR (300 MHz, $CDCl_3$) δ7.70-7.62 (m, 1H), 7.24-7.15 (m, 2H), 7.05 (d, *J* = 8.1Hz, 2H), 6.59 (d, *J* = 8.1Hz, 2H), 5.15 (s, 1H), 4.18 (s, 2H), 3.72 (m, 2H), 3.22 (m, 2H), 2.29(s, 3H)	3.52	3.828
280		341.2 (M+1) ^{1}H NMR (300 MHz, $CDCl_3$) δ7.70-7.62(m, 1H), 7.01 (d, *J* = 8.1Hz, 2H), 6.92-6.76 (m, 2H), 6.52 (d, *J* = 8.1Hz, 2H), 5.33 (s, 1H), 4.23(s, 2H), 3.77(m, 2H), 3.26 (m, 2H), 2.25(s, 3H).	4.71	4.652
281		566.3 (M+1)	0.82	0.596
282		566.3 (M+1)	0.12	0.117
283		527.3 (M+1)	5.52	3.494

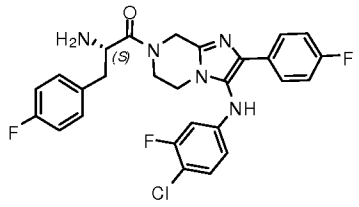
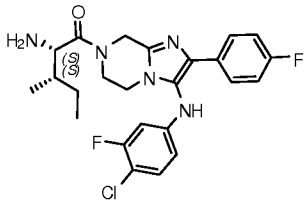
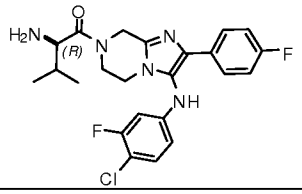
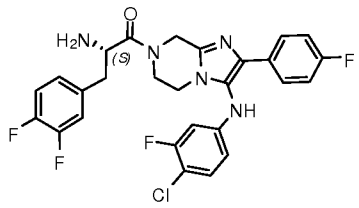
284		410.2 (M+1)	0.05	0.037
285		424.2 (M+1)	0.18	0.177
286		486.1 (M+1)	1.38	1.502
287		438.2(M+1)	4.36	7.262
288		472.2 (M+1)	0.89	1.388
289		436.1 (M+1)	3.88	0.747
290		512.2 (M+1)	0.44	0.397

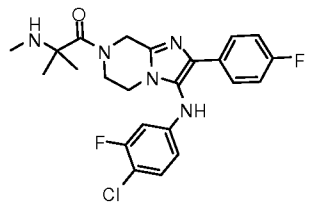
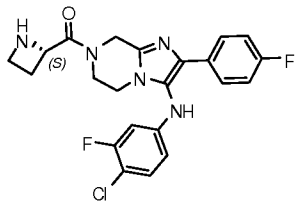
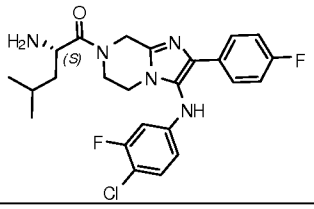
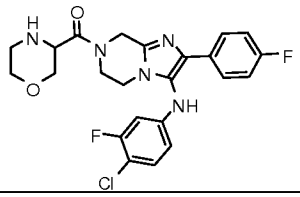
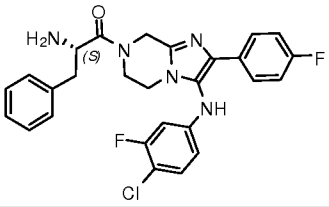
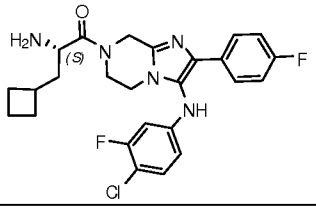
291		526.2 (M+1)	1.2	0.567
292		375.1 (M+1) ^{1}H NMR: (300MHz, $CDCl_3$): δ 7.66-7.60 (m, 2H), 7.29-7.21 (m, 1H), 7.01-6.99 (m, 2H), 6.55-6.50 (m, 1H), 6.43-6.40 (m, 1H), 4.28(s, 2H), 3.75-3.64 (m, 2H), 3.32-3.25 (m, 5H)	0.15	0.156
293		432.0 (M+1) ^{1}H-NMR: (MeOH-d_4, 400Hz) δ7.47 - 7.43 (m, 2H); 7.27-7.22 (m,1 H); 7.14-7.07 (m, 2H); 6.7 (m, 1H); 6.53 (m, 1H); 4.99-4.80 (m, 2H); 4.04 (m, 2H); 3.85 (m, 4 H).	0.02	
294		460.2(M+1)	0.11	0.113
295		512.4 (M+1)	0.21	0.283
296		526.7 (M+1)	0.28	0.424

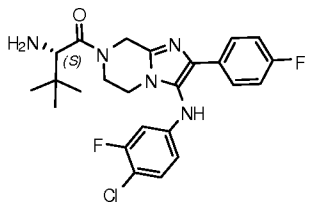
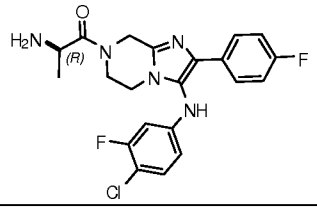
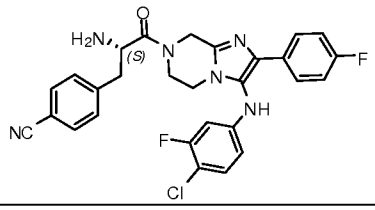
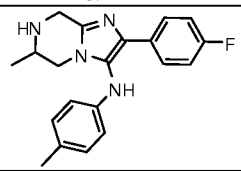
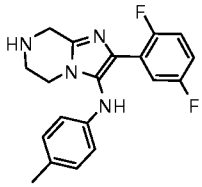
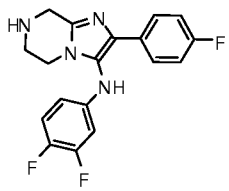
297		289.2(M+1) ^{1}H NMR: (300MHz, $CDCl_3$): 7.72-7.75 (m, 2H), 7.03-7.10 (m, 2H), 4.16 (s, 2H), 3.86 (t, *J* = 5.4Hz, 2H), 3.23 (t, *J* = 5.4Hz, 2H), 1.04 (s, 9H).	5.29	8.505
298		930.5 (M+1)	0.61	0.193
299		337.2(M+1)	>8.74	9.398
300		337.2 (M+1)	1.11	1.169
301		462.2 (M+1)	0.03	0.047

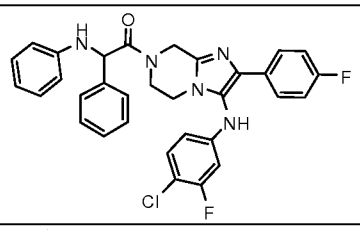
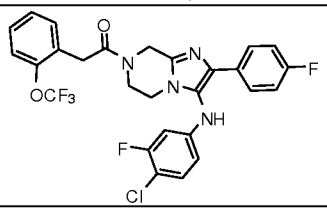
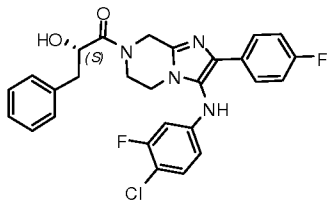
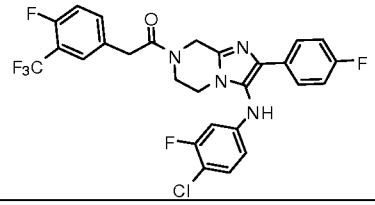
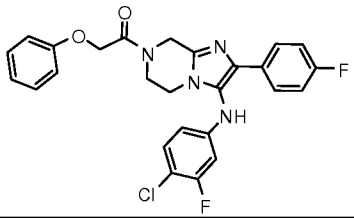
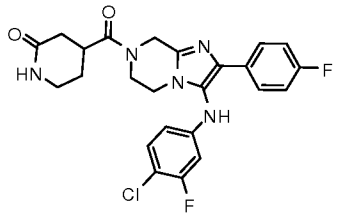
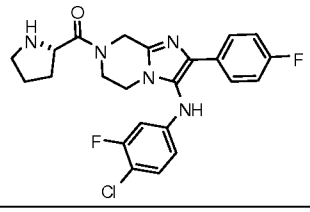
302		480.2 (M+1)	0.17	0.149
303		518.3 (M+1)	0.54	0.439
304		516.2(M+1)	3.21	2.946
305		494.2(M+1)	0.09	0.094
306		519.2(M+1)	0.42	0.334
307		422.2(M+1)	0.03	0.022
308		450.3 (M+1)	0.06	0.068
309		438.2(M+1)	0.08	0.068

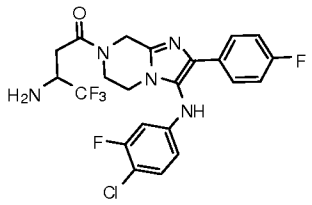
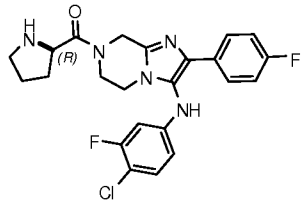
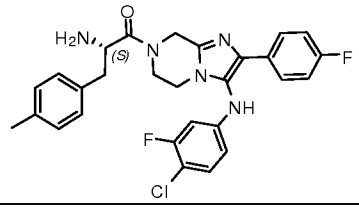
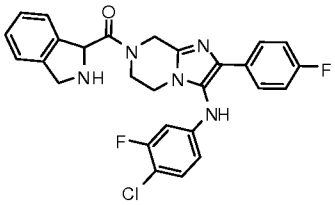
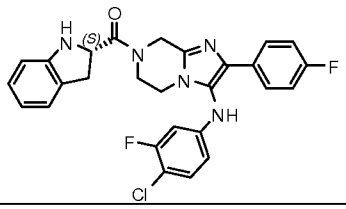
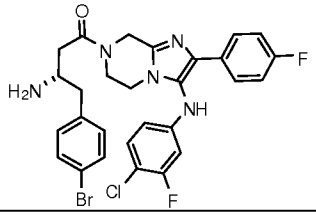
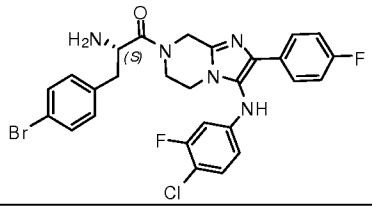
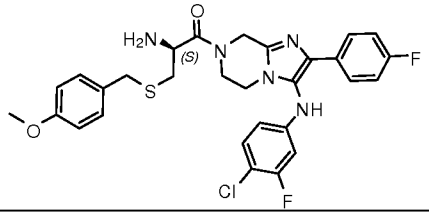
310		452.2(M+1)	0.52	0.397
311		509.0(M+1)	0.09	0.072
312		553.0(M+1)	1.64	0.897
313		460.2(M+1)	0.02	0.004
314		432.2(M+1) ^{1}H-NMR: (MeOH-d_4, 400Hz) δ7.59 - 7.55 (m, 2H); 7.22-7.12 (m,3 H); 6.60-6.51 (m, 2H); 5.13-4.89 (m, 2H); 4.49 (m, 2H); 4.02-3.90 (m, 3H); 1.43 (d, *J*= 6.8Hz, 3H).	0.03	0.02
315		515.2 (M+1) ^{1}H-NMR: (*MeOH-d*$_4$, 400Hz) δ 8.94 - 8.90 (m, 2H); 7.59-7.44 (m,2 H); 7.21-7.13 (m,3H); 6.59-6.51 (m, 2H); 5.24-5.09 (m, 2H); 4.04-3.85 (m,5H); 3.38-3.28 (m, 2H).	0.02	0.008

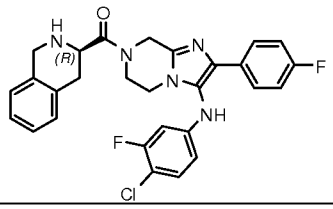
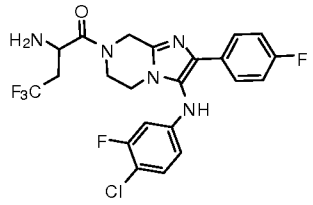
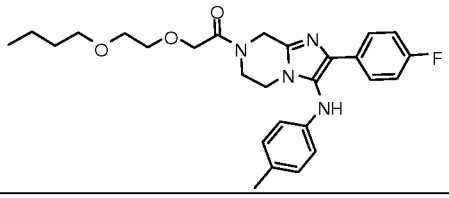
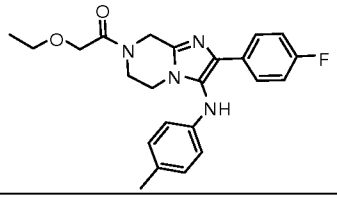
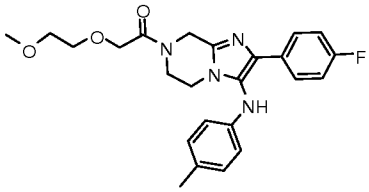
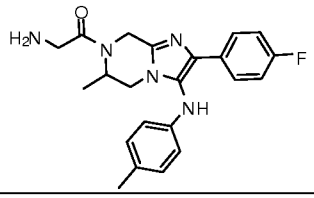
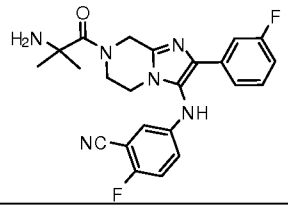
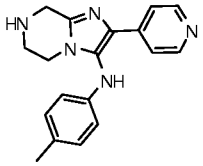
316		526.2 (M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.59 - 7.52 (m, 2H); 7.27-7.22 (m,2 H); 7.03-6.92 (m, 2H); 6.53-6.44 (m, 2H); 5.17 (m, 1H); 4.23 (m, 1H); 3.92-3.72 (m, 3H); 3.51-3.42 (m, 2H); 3.22 (m, 1H); 3.09-3.06 (m, 1H).	0.02	0.014
317		474.0 (M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.59 - 7.56 (m, 2H); 7.22-7.11 (m,3 H); 6.58-6.49 (m, 2H); 5.2-4.88 (m, 2H); 4.5-3.62 (m, 5H); 1.91-1.88 (m, 1H); 1.5-1.46 (m, 1H);1.27-0.87 (m, 7H).	0.02	
318		460.2(M+1)	0.15	0.098
319		544.2(M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.58 - 7.53 (m, 2H); 7.22-7.12 (m,6 H); 6.59-6.49 (m, 2H); 5.3-5.25 (m, 1H); 4.93-4.73 (m, 2H); 4.05-3.65 (m, 4H); 3.15--3.1 (m, 1H); 3.07- 2.97(m,	0.04	0.027

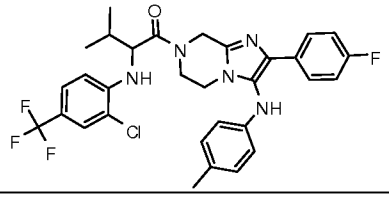
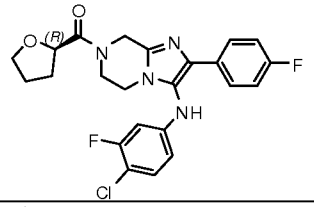
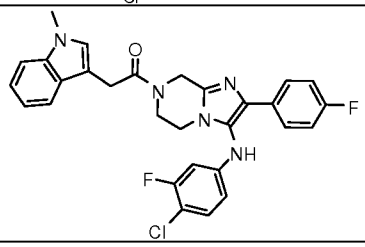
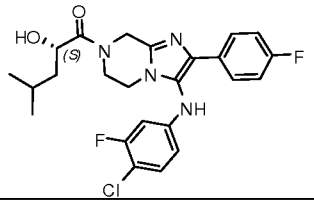
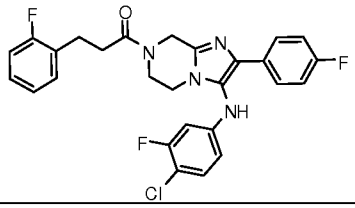
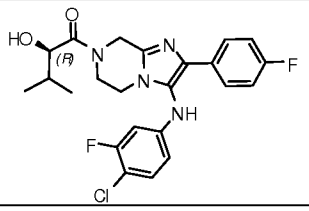
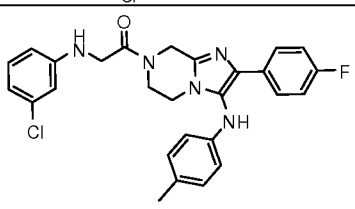
		1H).		
320		460.2 (M+1)	0.17	0.103
321		444.2 (M+1) ^{1}H-NMR: (MeOH-d_4, 400Hz) δ7.58 - 7.55 (m, 2H); 7.22-7.14 (m,3 H); 6.61-6.51 (m, 2H);5034-5.20 (m, 2H); 4.53-4.39 (m, 2H); 4.15-4.1 (m, 2H); 4.02-3.95 (m, 3H); 1.18 (m, 1H); 1.06 (d, *J*=7.2 Hz, 2H); 0.963 (d, *J*=7.2 Hz, 2H).	0.02	0.011
322		474.2 (M+1)	0.04	
323		474.2 (M+1)	1.73	1.329
324		508.2(M+1)	0.03	0.03
325		486.2 (M+1)	0.03	0.029

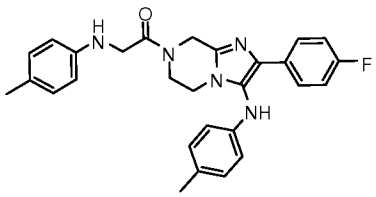
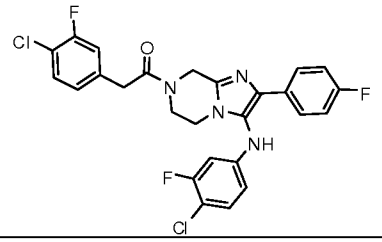
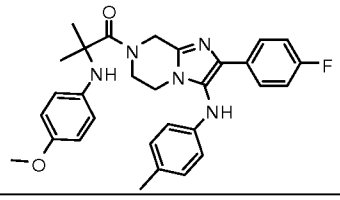
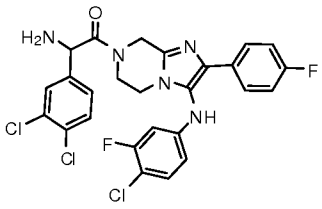
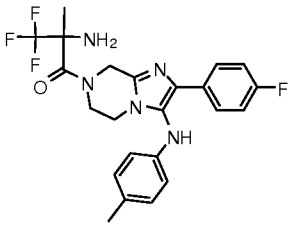
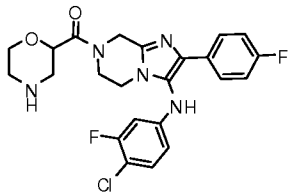
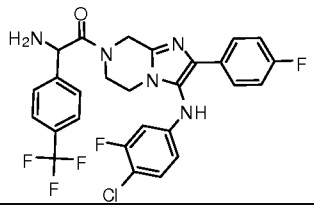
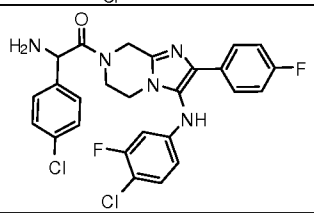
326		474.2(M+1)	0.03	0.022
327		432.2(M+1)	0.03	0.021
328		533.2(M+1)	0.34	0.229
329		337.2 (M+1)	0.15	0.116
330		341.2 (M+1) ^{1}H NMR: (300Hz, DMSO-d_6) δ7.47(s, 1H), 7.32(1H, d, *J*=4.5Hz), 7.17(1H, d, *J*=3.6Hz), 7.05(s, 1H), 3.91(2H, d, *J*=7.5Hz), 6.44(2H, d, *J*=7.8Hz), 3.87(s, 2H), 3.55(s, 2H), 3.02(s, 2H), 2.15(s, 3H)	4.47	
331		345.1 (M+1) ^{1}H NMR (300 MHz, $CDCl_3$) δ7.76-7.72 (m, 2H) 7.08-6.99 (m, 3H) 6.50-6.43 (m, H) 6.38-6.35 (m, 1H) 5.26 (s, H) 4.17 (s, 2H)	0.14	

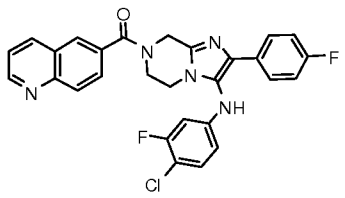
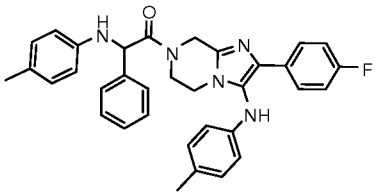
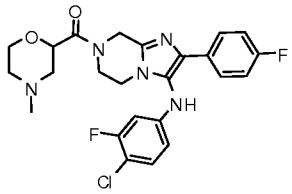
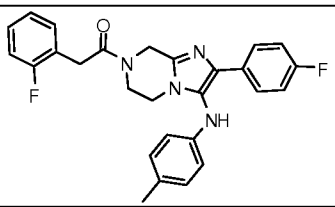
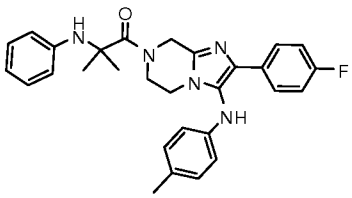
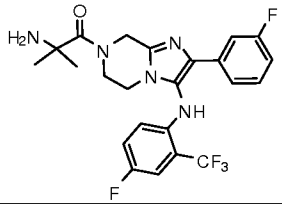
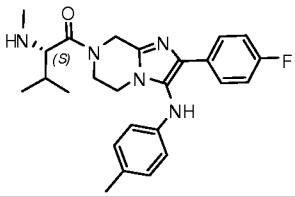
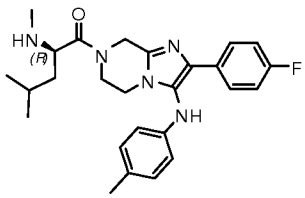
		3.73-3.69 (m, 2H) 3.27-3.23 (m, 2H) 2.05 (s, 2H) .		
332		570.3 (M+1)	1.04	
333		563.2(M+1)	1.11	
334		509.2(M+1)	0.05	
335		565.2(M+1)	2.3	
336		495.2(M+1)	0.04	
337		486.2(M+1)	>10	
338		458.2(M+1)	0.19	

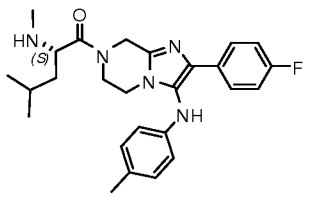
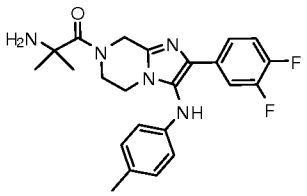
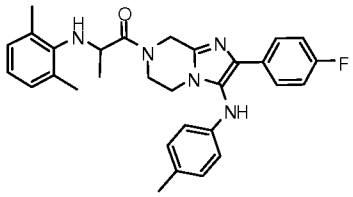
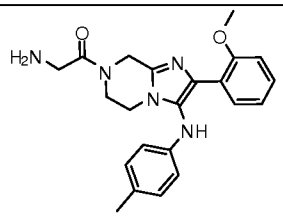
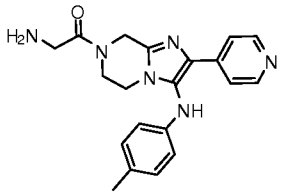
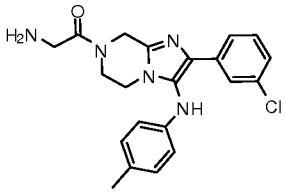
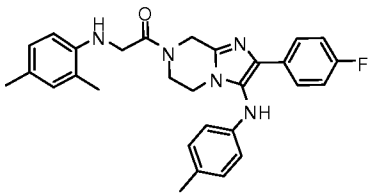
339		500.2 (M+1)	0.52	
340		458.2 (M+1)	0.2	
341		522.3 (M+1)	0.01	
342		506.2 (M+1)	5.24	
343		506.2 (M+1)	7.5	
344		601.2 (M+1)	0.21	
345		587.2 (M+1)		
346		585.1(M+1)	>8.8	

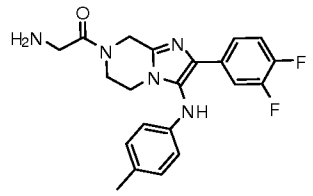
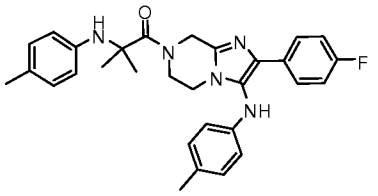
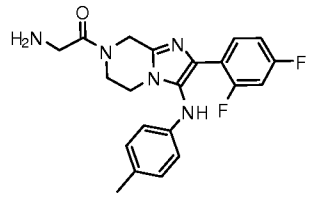
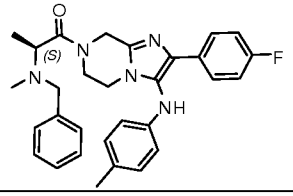
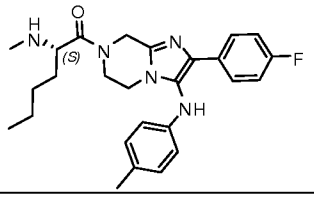
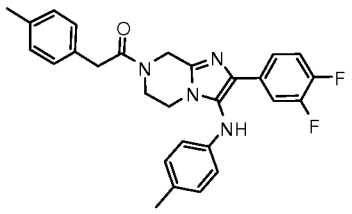
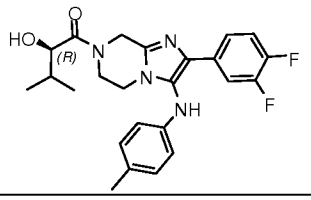
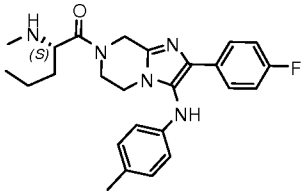
347		520.3 (M+1)	5.92	
348		499.9 (M+1)	0.05	
349		481.6 (M+1)	7.48	
350		409.2 (M+1)	0.66	
351		439.2 (M+1)	1.24	
352		394.2 (M+1)	0.01	
353		437.2(M+1)	0.21	
354		306.2(M+1) H-NMR (300MHz, $CDCl_3$): 2.29(s, 3H), 3.03(m, 2H), 3.43(s, 1H), 3.81(m, 2H), 3.90(s, 2H), 5.57(s, 1H),	6.32	0.564

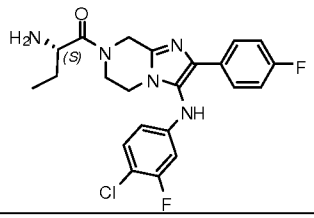
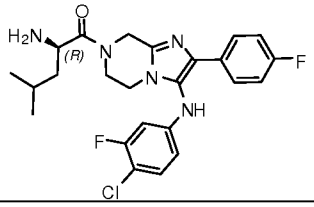
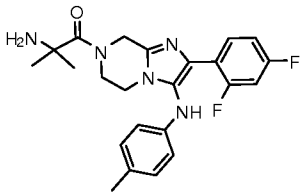
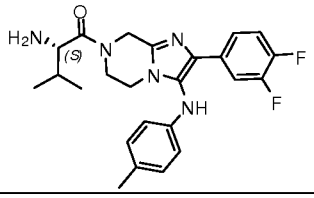
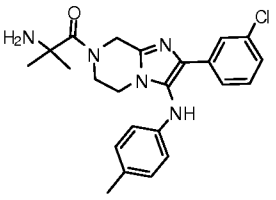
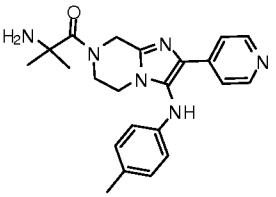
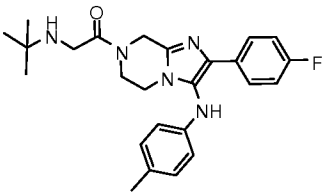
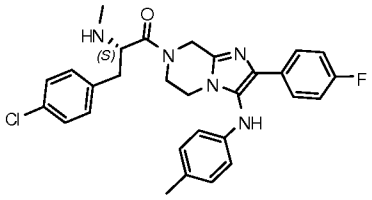
		6.60-6.63 (2H, d, J=8.4Hz), 7.06-7.09(2H, d, J=8.1Hz), 7.79(m, 2H), 8.44-8.46(m, 2H)		
355		600 (M+1)	2.81	2.266
356		459.2(M+1)	1.26	0.872
357		532.3 (M+1)	7.49	4.712
358		475.2(M+1)	0.13	0.049
359		511.2 (M+1)	0.14	0.108
360		461.2(M+1)	0.03	0.015
361		490.3 (M+1)	2.35	1.141

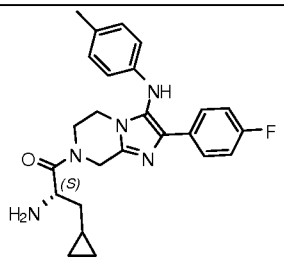
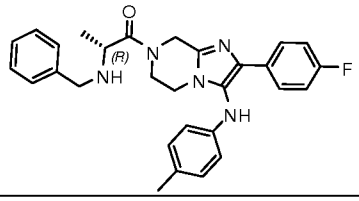
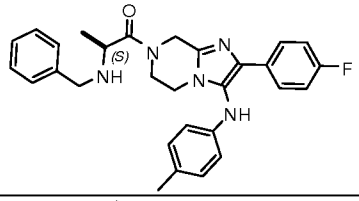
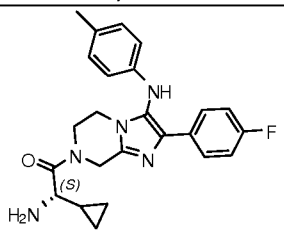
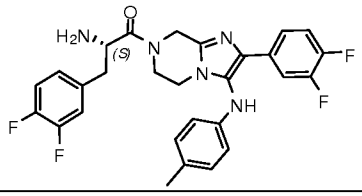
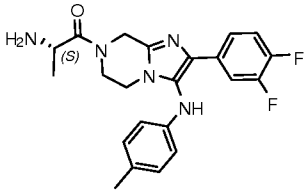
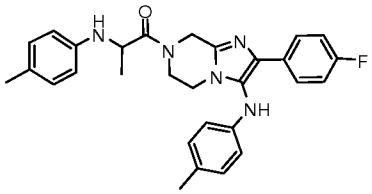
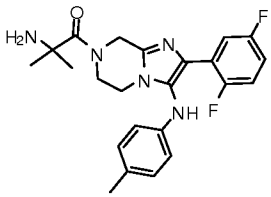
362		470.6 (M+1)	0.81	0.203
363		532.2 (M+1)	1.75	1.133
364		514.6 (M+1)	4.95	3.742
365		562.1(M+1)	0.61	0.26
366		462.2 (M+1)	3.47	1.824
367		474.2 (M+1)	0.19	0.148
368		562.2 (M+1)	0.52	0.286
369		529.2 (M+1)	0.11	0.084

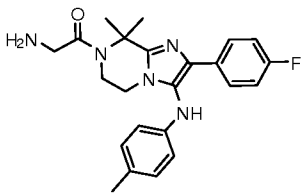
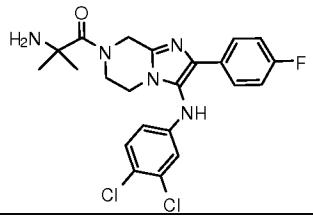
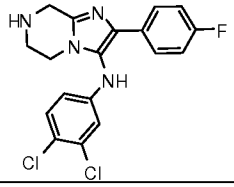
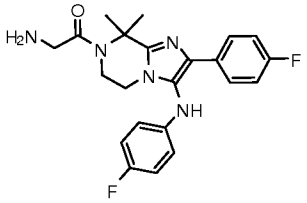
370		516.1 (M+1)	4.35	8.345
371		546.6 (M+1)	1.52	1.283
372		488.2 (M+1)	0.69	0.554
373		474.3 (M+1)	0.43	0.32
374		484.3 (M+1)	0.59	0.248
375		480.2 (M+1)	1.13	0.679
376		436.2 (M+1)	0.06	0.079
377		450.3 (M+1)		0.574

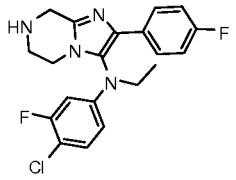
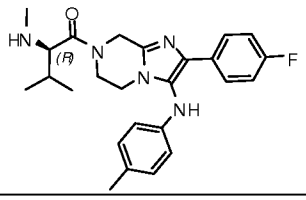
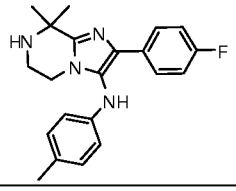
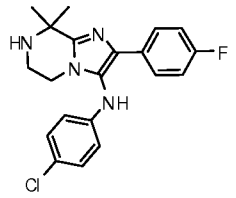
378		450.3 (M+1)	0.06	0.063
379		426.2(M+1)	0.06	0.05
380		498.3 (M+1)	1.13	1.789
381		392.2 (M+1)	1.97	1.798
382		363.2 (M+1)	1.05	1.039
383		396.2 (M+1) ^{1}H-NMR (400 MHz, MeOH-d_4) δ 7.62-7.59 (m, 2H); 7.14-7.04 (m, 2H); 6.85 (d, *J = 2.4 Hz*, 1H); 6.65-6.5 (dd, *J = 2.7 Hz*, *J = 8.4 Hz*, 1H); 4.0-3.98 (m,4H); 2.16 (s, 3H); 2.00 (s, 6H); 1.64 (s, 6H).	0.05	0.032
384		484.3 (M+1)	0.47	0.889

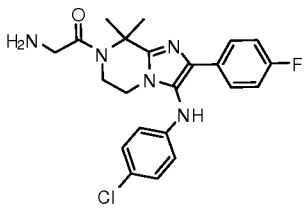
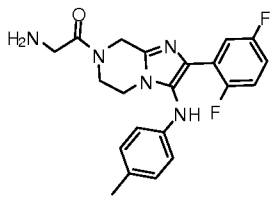
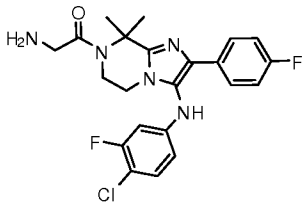
385		398.2 (M+1)	0.02	0.02
386		498.3 (M+1)	2.62	3.028
387		398.2 (M+1)	0.11	0.08
388		498.3 (M+1)	3.22	1.772
389		450.3 (M+1)	0.06	0.051
390		473.3 (M+1)	0.03	0.028
391		441.2 (M+1)	0.01	0.007
392		436.3 (M+1)	0.03	0.039

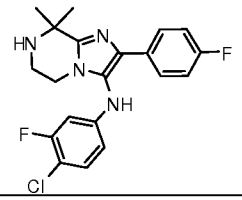
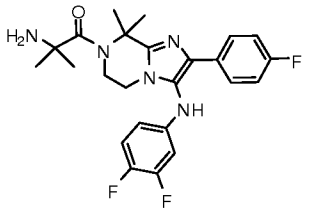
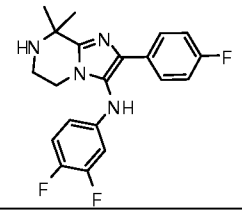
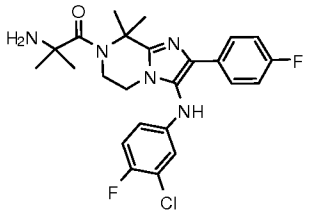
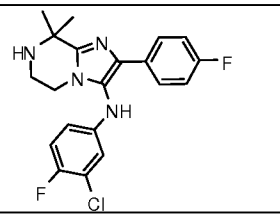
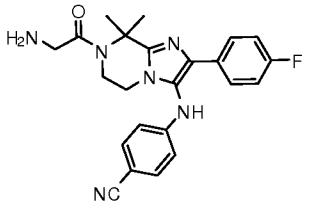
393		446.2 (M+1)	0.02	
394		474.0 (M+1)	0.05	0.043
395		426.2 (M+1)	0.44	0.246
396		440.2 (M+1)	0.03	0.022
397		424.2 (M+1)	2.45	1.673
398		391.2 (M+1)	2.73	2.685
399		436.2 (M+1)	0.22	0.196
400		518.2 (M+1)	0.18	0.105

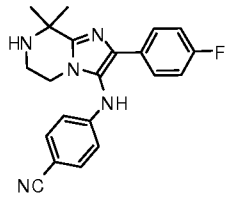
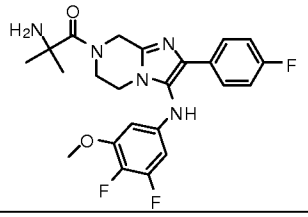
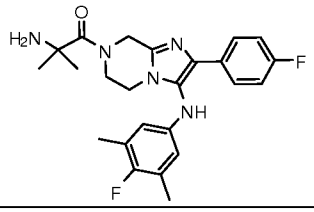
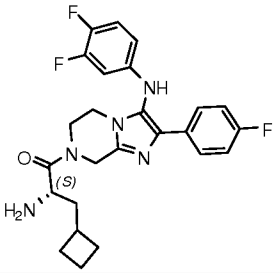
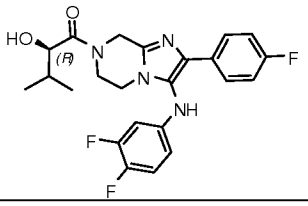
401		434.2 (M+1)	0.02	0.012
402		484.3 (M+1)	0.12	0.122
403		484.3 (M+1)	0.51	0.543
404		420.2(M+1)	0.02	0.012
405		524.2 (M+1)	0.02	0.012
406		412.2 (M+1)	0.06	0.04
407		484.3 (M+1)	0.71	0.523
408		426.2(M+1)	0.93	0.908

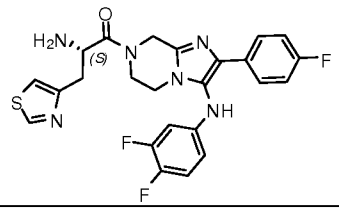
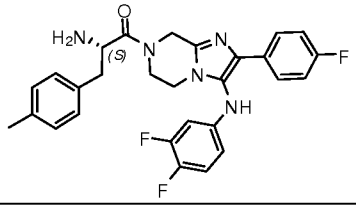
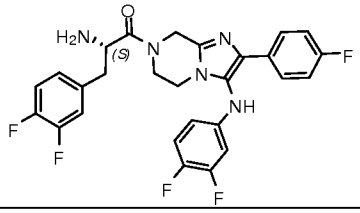
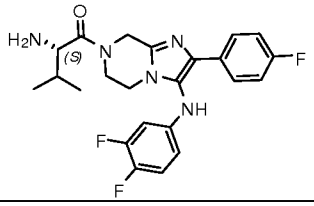
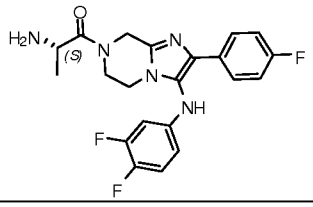
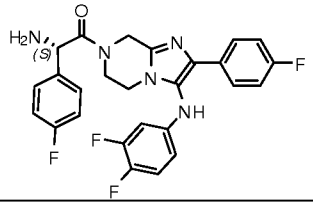
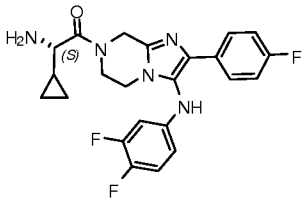
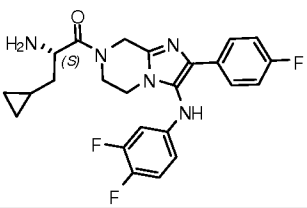
409		408.1 (M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.79-7.69 (m, 2H), 7.21 (t, *J = 8.4 Hz*,2H), 7.04 (d, *J = 8.0 Hz*, 2H), 6.76 (d, *J = 8.2 Hz*, 2H), 4.11 (s, 2H), 3.88 (m, 4H), 2.22 (s, 3H), 2.12 (s, 6H).	0.01	0.006
410		463.3 (M+1)	0.06	0.037
411		378.2 (M+1)	0.14	0.106
412		412.1 (M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.61-7.57 (m, 2H), 6.94 (2H, *J = 8.8 Hz*, t), 6.81 (2H, *J = 8.8 Hz*, t), 6.47 (m, 2H), 3.72 (m, 2H), 3.58 (m, 2H), 3.42 (m, 2H), 1.85 (s, 6H). Elemental Analysis: (compound + 0.65 H_2O): C, 62.44; N, 16.55; H, 5.79, (calculated). C =62.54/62.44; N=16.35/16.29; H=5.52/5.61	0.01	0.006

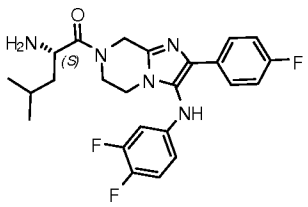
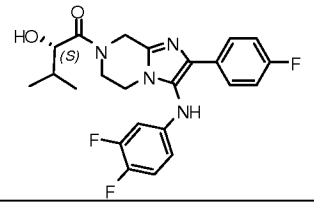
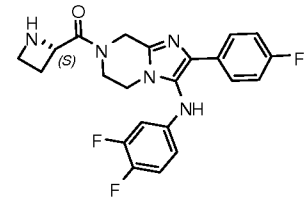
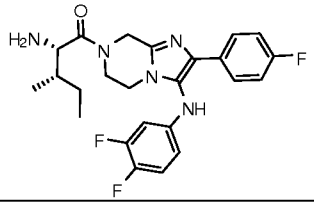
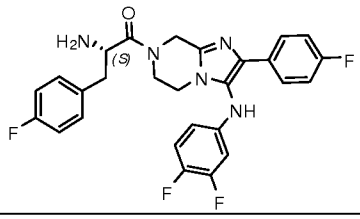
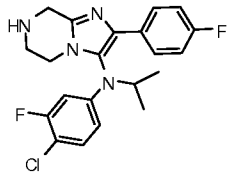
		(experimental)		
413		389.1 (M+1) ^{1}H NMR: (300Hz, DMSO-d_6) δ7.59(m, 2H), 7.35(t, *J*=6.6Hz, 1H), 7.12(t, *J*=6.6, 2H), 6.68(d, *J*=8.7Hz, 1H), 6.42(d, *J*=6.9Hz, 1H), 3.88(d, *J*=1.5Hz, 2H), 3.68-3.61(m, 2H), 3.57-3.50(m, 2H), 3.02(t, *J*=4.2Hz, 2H), 1.04(t, *J*=5.4Hz, 3H)	0.18	0.131
414		436.2 (M+1)	0.16	0.156
415		351.2 (M+1)	0.01	0.013
416		371.2 (M+1) ^{1}H-NMR: (*MeOH-d*$_4$, 400Hz) δ7.77-7.73 (m, 2H); 7.25-7.18 (m, 4H); 6.84-6.82 (m, 2H); 4.38 (m, 2H); 3.95 (m, 2H); 2.11 (s, 6H).	0.01	0.016

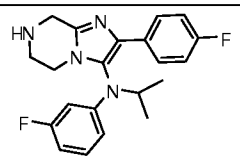
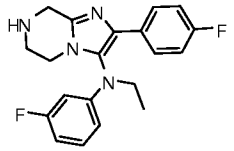
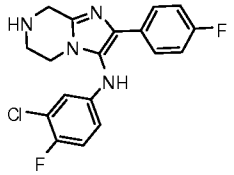
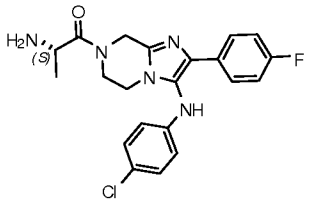
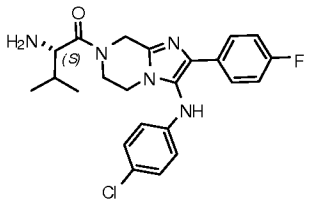
417		428.1 (M+1) ^{1}H-NMR: (MeOH-d_4, 400Hz) δ7.75-7.71 (m, 2H), 7.13-7.1 (m, 2H), 6.59 (t *J = 8.8 Hz*, 2H), 6.58 (d, *J = 8.8 Hz*, 2H), 3.80 (m, 2H), 3.65 (m, 2H), 3.31 (m, 2H), 1.95 (s, 6H). Elemental Analysis: (compound + 0.33 H_2O): Elemental Analysis: C, 60.11; N, 15.93; H, 5.57; (calculated). %C, 60.93/60.79; %N, 15.99/16.08; %H, 5.54/5.40 (experimental)	0.01	0.006
418		398.2 (M+1)	0.09	0.146
419		446.2 (M+1) ^{1}H-NMR: (MeOH-d_4, 400Hz) δ7.59-7.55 (m, 2H); 7.20-7.13 (m, 3H); 6.60 (dd, *J = 10.8 Hz, J = 11.2Hz,* 1H); 6.53 (dd, *J = 0.8Hz , J = 2.4 Hz,* 1H); 4.0 (m, 4H); 3.78 (m, 2H); 2.00 (s,6H).	0.03	0.024

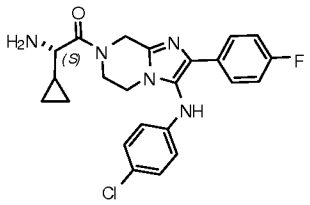
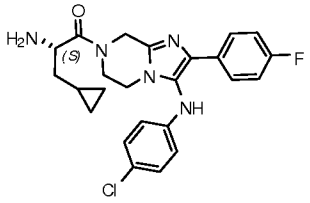
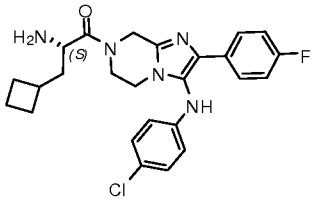
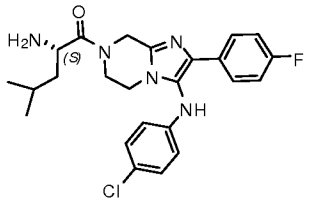
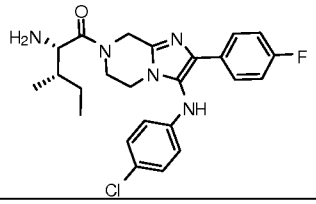
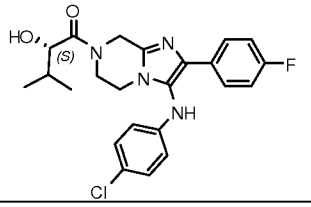
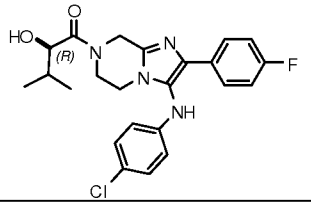
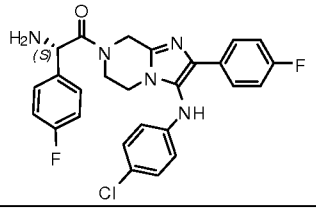
420		389.8 (M+1)	0.02	0.028
421		430.2 (M+1) ^{1}H-NMR: (*MeOH-d_4*, 400Hz) δ7.73-7.69 (m, 2H); 7.07-6.99 (m, 3H); 6.46-6.40 (m, 1H); 6.34-6.32 (m, 1H); 3.78 (m, 2H), 3.62 (m, 2H), 3.5 (m, 2H); 1.98 (s, 6H); 1.48 (s, 6H).	0.003	0.005
422		373.2 (M+1)	0.01	0.021
423		446.2 (M+1) ^{1}H-NMR: (MeOH-d_4, 400Hz) δ7.70-7.66 (m, 2H); 7.18-7.14 (m, 3H); 7.07 (t, *J = 9.2 Hz,* 1H); 6.8-6.78 (m, 1H) ; 6.64-6.60 (M, 1H); 2.04 (s,6H).	0.01	0.009
424		389.1 (M+1)	0.02	0.03
425		419.1 (M+1) ^{1}H-NMR: (MeOH-d_4, 400Hz) δ7.68-7.65(m, 2H); 7.54 (d, *J = 8.8 Hz,* 2H); 7.17	0.01	0.012

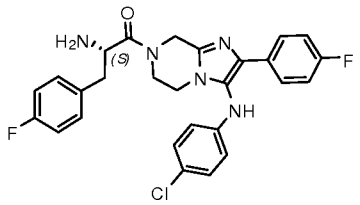
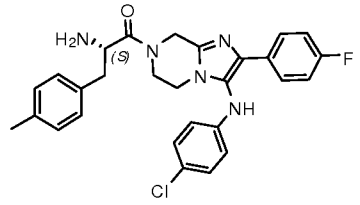
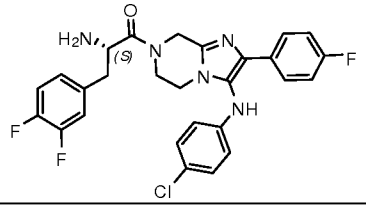
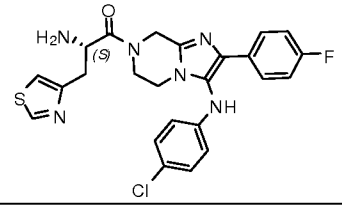
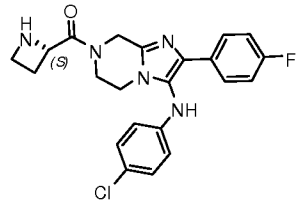
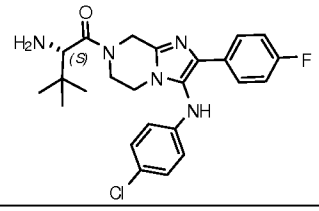
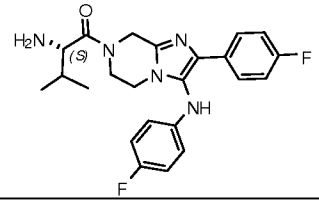
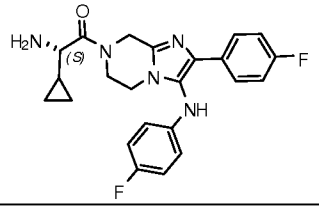
		(t, *J = 8.8 Hz,* 2H); 6.83 (d, *J = 8.4 Hz,* 2H); 4.07 (s,2H); 4.03 (s,2H); 3.82 (m,2H); 2.06 (s,6H).		
426		362.1 (M+1) ^{1}H-NMR: (*MeOH-d_4,* 400Hz) 7.69 (m, 2H); 7.51 (d, *J = 8.4 Hz,* 2H);.7.07 (t, *J = 8.8 Hz,* 2H); 6.73 (d, *J = 8.8 Hz,* 2H); 4.01 (m, 2H); 3.78 (m, 2H); 1.86 (s, 6H).	0.18	0.271
427		460.2 (M+1)	0.21	0.436
428		440.2 (M+1)	0.17	0.242
429		470.2(M+1)	0.02	0.036
430		445.2(M+1)	0.01	0.019

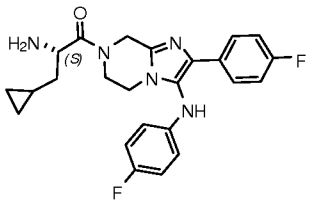
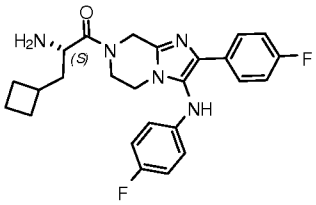
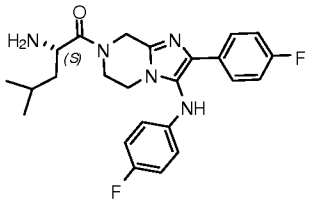
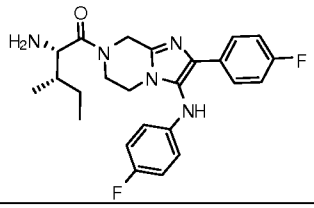
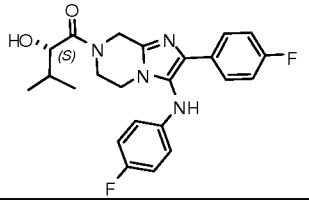
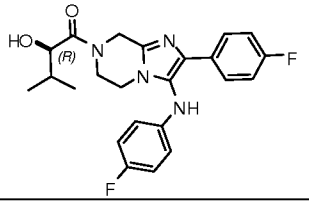
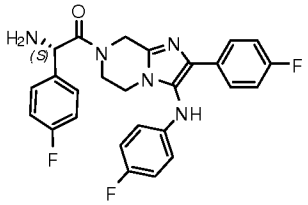
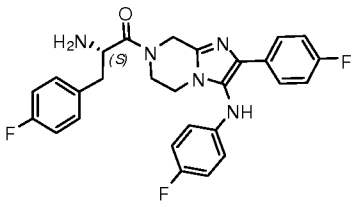
431		499.2(M+1)	0.07	0.08
432		506.2(M+1)	0.06	0.067
433		528.2(M+1)	0.04	0.049
434		444.2(M+1)	0.02	0.019
435		416.2(M+1)	0.05	0.098
436		496.3 (M+1)	0.03	0.052
437		442.2(M+1)	0.02	0.028
438		456.3 (M+1)	0.02	0.023

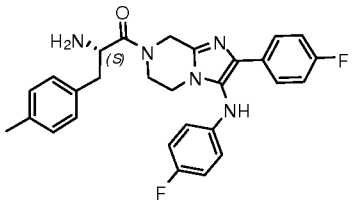
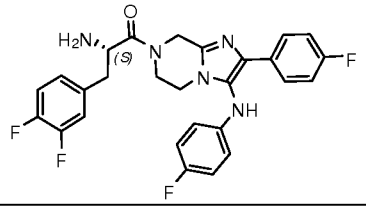
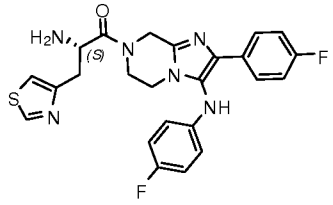
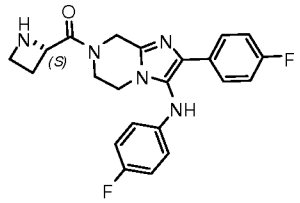
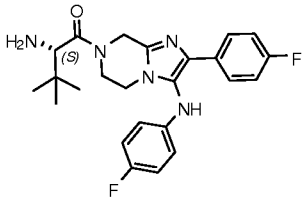
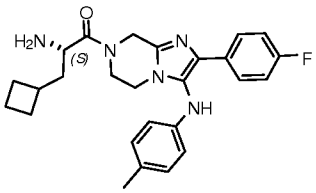
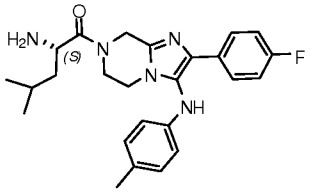
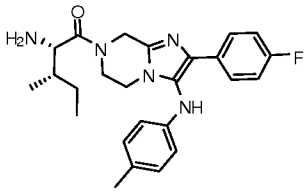
439		458.3 (M+1)	0.03	0.04
440		445.2(M+1)	0.02	0.028
441		428.2(M+1)	0.06	0.081
442		458.2(M+1)	0.02	0.033
443		510.2(M+1)	0.05	0.055
444		403.2 (M+1) ^{1}H NMR: (300MHz, $CDCl_3$) δ7.60-7.55(m, 2H), 7.28-7.21(m, 1H), 7.03-6.97(m, 2H), 6.58-6.53(m, 1H), 6.44-6.39(m, 1H), 4.29(s, 2H), 4.19-4.10(m, 1H), 3.79(br, 1H), 3.55(br, 1H), 3.30-3.26(br, 2H), 1.18-1.16(br, 3H), 1.01-0.99 (br, 3H).	7.22	5.965

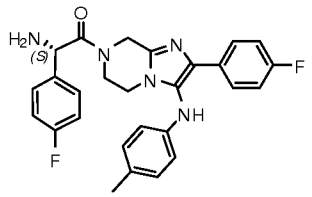
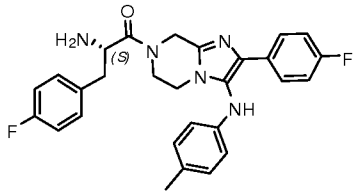
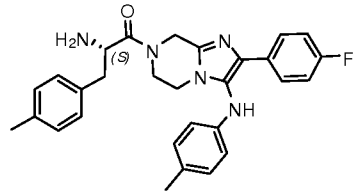
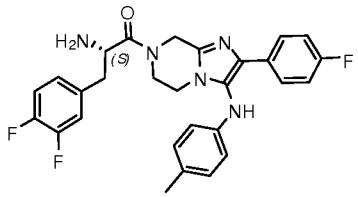
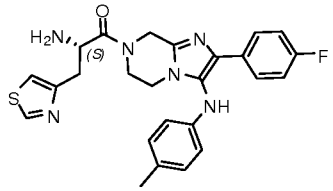
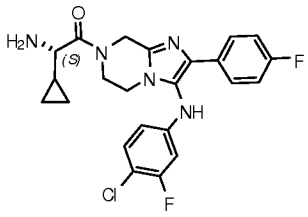
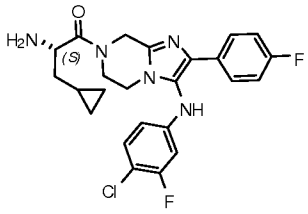
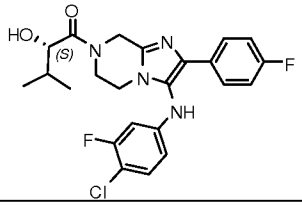
445		369.2 (M+1)	2.6	3.272
446		355.2 (M+1) H-NMR: (DMSO, 300Hz):δ 7.67-7.63(m, 2H), 7.23-7.16(m, 1H), 7.03-6.97(m, 2H), 6.57-6.41(m, 3H), 4.22(s, 1H), 3.69-3.55(m, 4H), 3.24(t, *J=4.8Hz*, 2H), 2.61(s, 2H), 1.17(t, *J=7.2Hz*, 3H)	0.31	0.243
447		361.0 (M+1) ^{1}H NMR: (300 MHz, $CDCl_3$) δ7.76-7.71 (m, 2H), 7.25-7.19 (m, 1H), 7.05-6.99 (m, 2H), 6.48-6.41 (m, 2H), 5.44 (s, H), 4.17 (s, 2H), 3.73-3.70 (m, 2H), 3.27-3.23 (m, 2H)	0.23	
448		414.2 (M+1)	0.02	0.022
449		442.2(M+1)	0.03	0.026

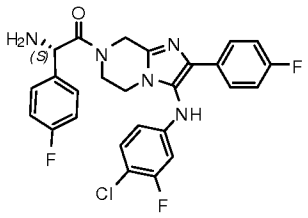
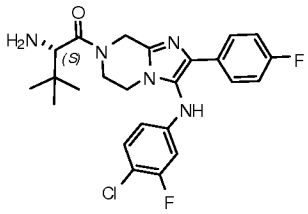
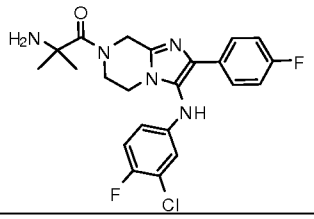
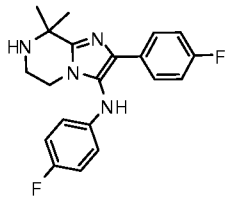
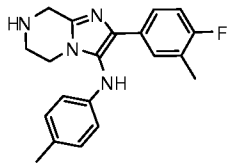
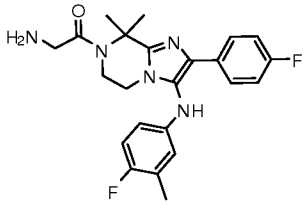
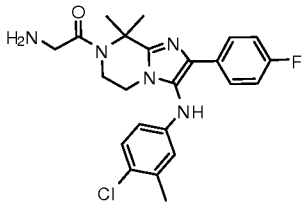
450		440.2(M+1)	0.02	0.015
451		454.2(M+1)	0.03	0.019
452		469.0(M+1)	0.02	0.019
453		456.2(M+1)	0.02	0.021
454		456.2 (M+1)	0.02	0.008
455		443.0 (M+1)	0.01	0.008
456		443.0 (M+1)	0.02	0.015
457		494.2 (M+1)	0.02	0.011

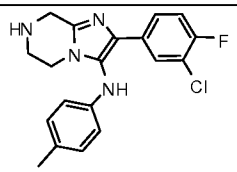
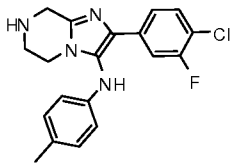
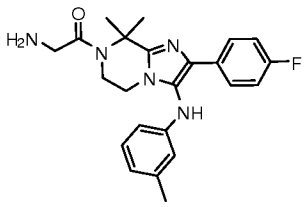
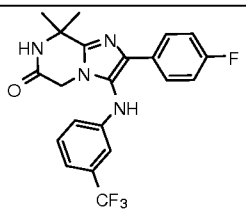
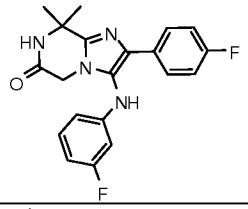
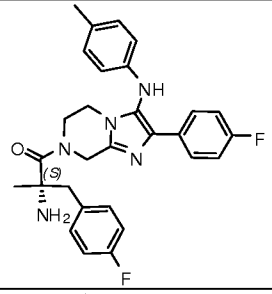
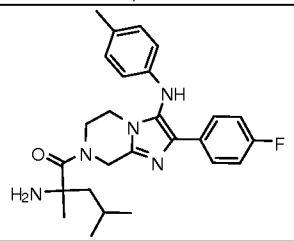
458		508.2 (M+1)	0.02	0.017
459		504.2(M+1)	0.04	0.024
460		526.2 (M+1)	0.04	0.033
461		497.2 (M+1)	0.03	0.022
462		426.2(M+1)	0.05	0.037
463		456.2 (M+1)	0.04	0.024
464		426.2(M+1)	0.03	0.024
465		424.2 (M+1)	0.0019	0.002

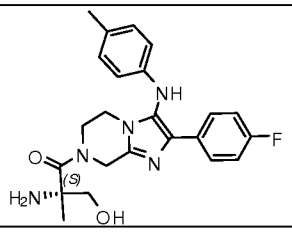
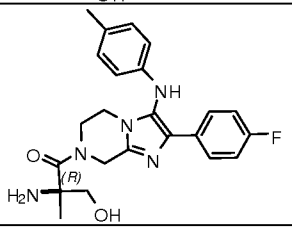
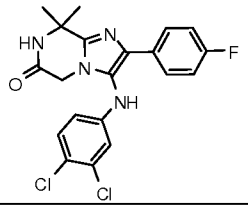
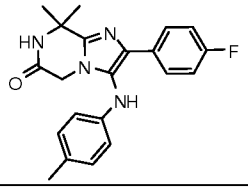
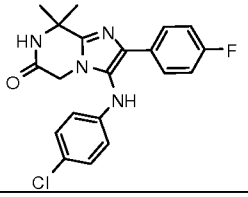
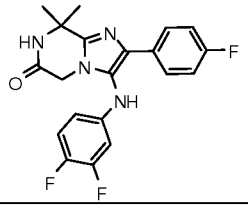
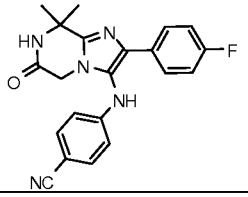
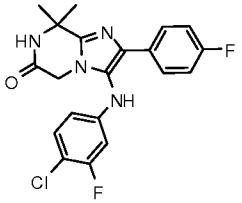
466		438.2 (M+1)	0.03	
467		452.2 (M+1)	0.02	0.016
468		440.2 (M+1)	0.03	0.02
469		440.2(M+1)	0.02	0.016
470		427.1 (M+1)	0.01	0.012
471		427.1 (M+1)	0.03	0.03
472		478.2(M+1)	0.05	0.037
473		492.2(M+1)	0.03	0.021

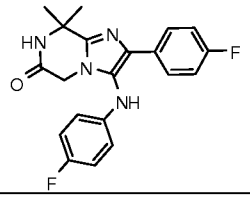
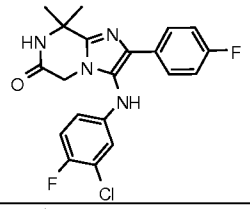
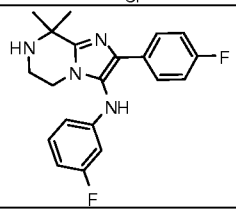
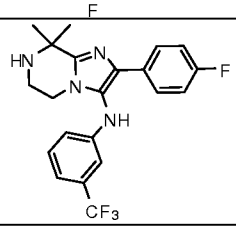
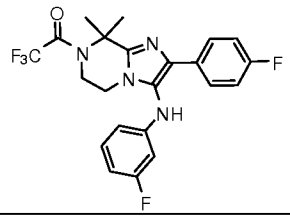
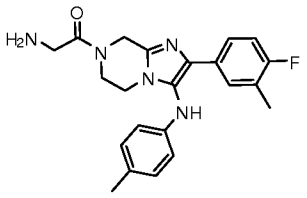
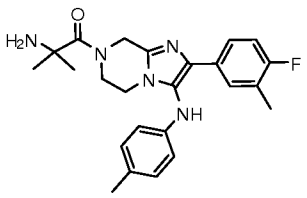
474		488.2(M+1)	0.13	0.088
475		510.0(M+1)	0.04	0.03
476		480.9 (M+1)	0.04	0.027
477		410.0 (M+1)	0.07	0.055
478		440.0 (M+1)	0.06	0.039
479		448.2(M+1)	0.02	0.012
480		436.2(M+1)	0.03	0.022
481		436.2(M+1)	0.02	0.014

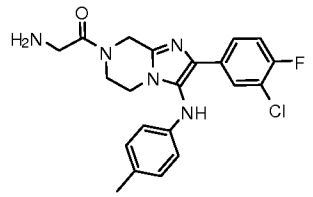
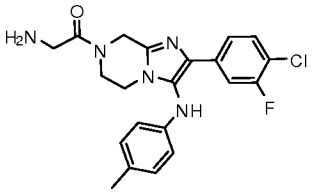
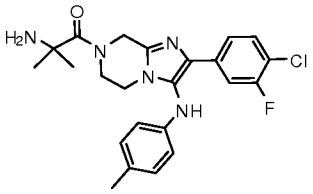
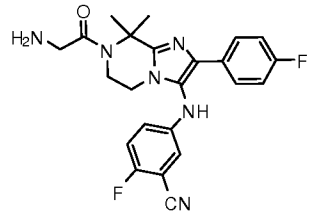
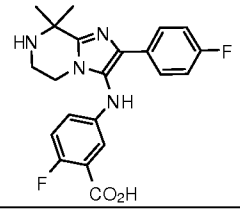
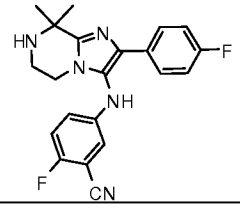
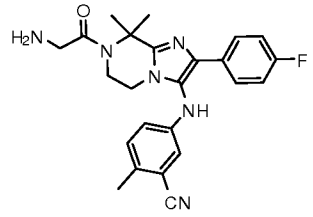
482		474.2(M+1)	0.02	0.009
483		488.2(M+1)	0.05	0.025
484		484.3 (M+1)	0.04	0.023
485		506.2(M+1)	0.03	0.023
486		477.0 (M+1)	0.03	0.016
487		458(M+1)	0.04	0.031
488		472.2(M+1)	0.02	0.013
489		461.2(M+1)	0.01	0.009

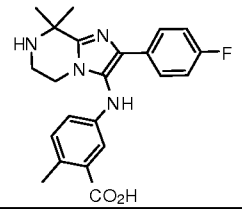
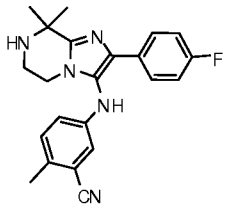
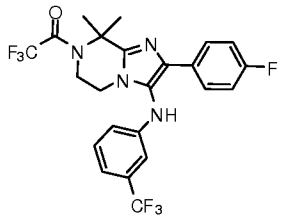
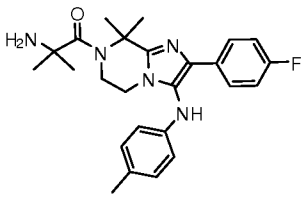
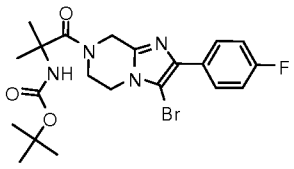
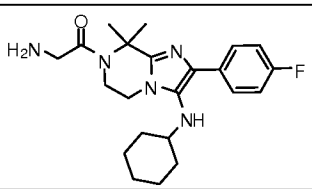
490		512.2(M+1)	0.05	0.033
491		458 (M+1)	0.08	0.055
492		446.2(M+1)	0.05	
493		355.1 (M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.62-7.58 (m, 2H); 7.12-7.08 (m, 2H); 6.68-6.63 (m, 2H); 6.67 (m, 2H); 4.16 (m, 2H); 3.78 (m, 2H); 1.92 (s, 6H).	0.004	0.005
494		337.2(M+1)	2.82	2.141
495		426.0(M+1)	0.09	0.039
496		442.2(M+1)	0.03	0.008

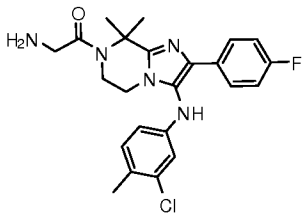
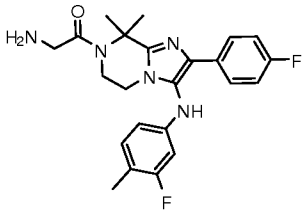
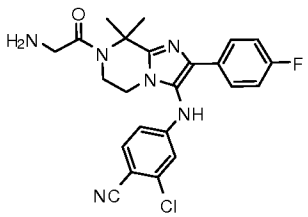
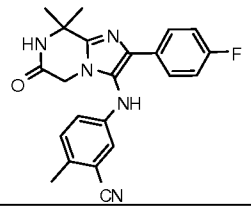
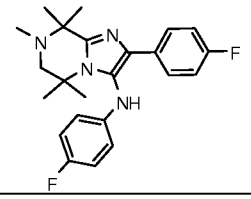
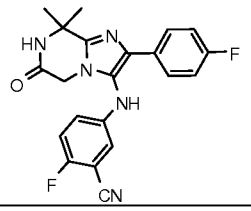
497		357.1(M+1)	8.0	5.825
498		357.1(M+1)	6.34	6.738
499		408.2(M+1)	0.01	0.006
500		419.0 (M+1)	1.56	1.1
501		369.2 (M+1)	0.4	0.305
502		502.3 (M+1)	1.39	1.373
503		450.3 (M+1)	0.12	0.095

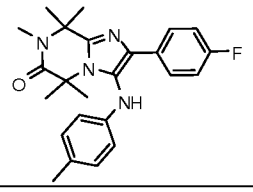
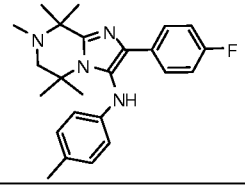
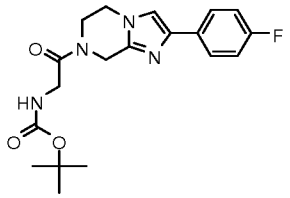
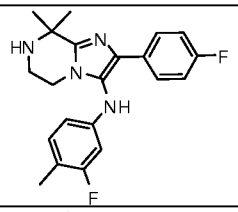
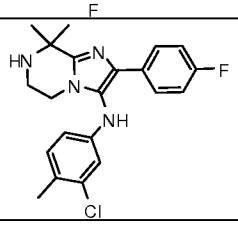
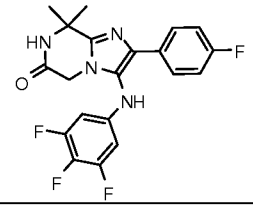
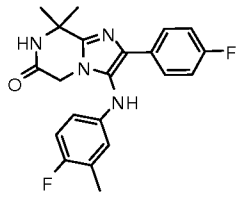
504		424.0(M+1)	0.09	0.093
505		424.2(M+1)	0.14	0.116
506		420.3(M+1)	0.19	0.198
507		365.2(M+1)	0.14	0.136
508		385.0 (M+1)	0.13	0.126
509		387.2(M+1)	0.13	0.134
510		387.2(M+1)	2.05	1.564
511		403.1(M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.74-7.70 (m, 2H); 7.21 (t, *J = 8.4 Hz*, 1H), 7.08 (m, 2H); 6.49-	0.04	0.065

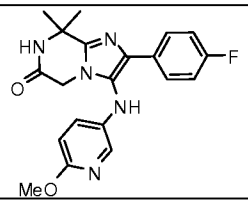
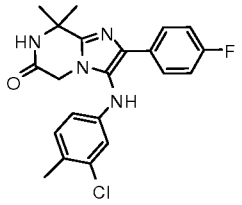
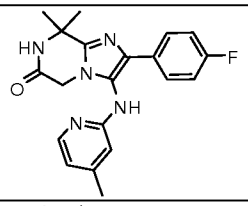
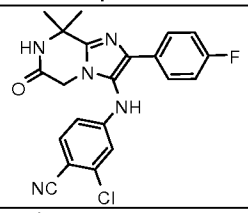
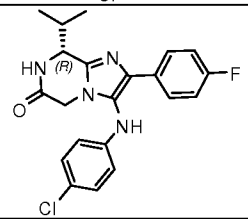
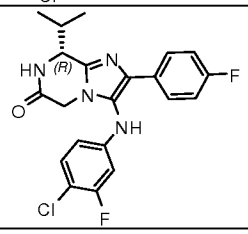
		6.40 (m, 2H); 4.43 (s, 2H);1.72 (s, 6H).		
512		369.2(M+1)	0.19	0.165
513		403.0 (M+1)	0.17	0.195
514		355.1(M+1)	0.03	0.024
515		405.1 (M+1)	0.04	0.034
516		451.2 (M+1)	0.03	0.026
517		394.1 (M+1)	0.05	0.051
518		422.2 (M+1)	4.98	2.888

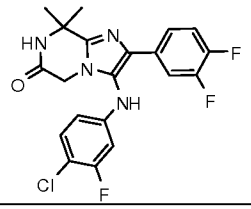
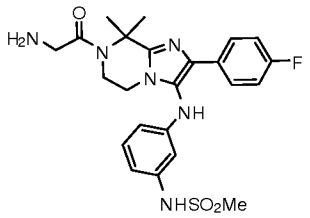
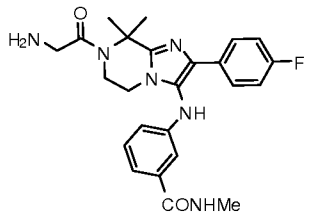
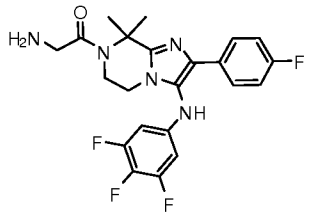
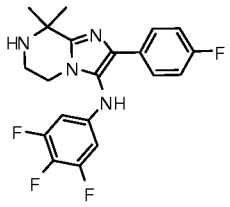
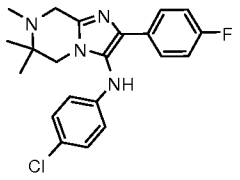
519		414.2 (M+1)	0.84	0.59
520		414.2(M+1)	0.16	0.158
521		442.2 (M+1)	5.0	3.026
522		437.0(M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.61-7.57 (m, 2H); 7.15-7.07 (m, 4H); 7.02-7.01(m,1H); 4.0(m,4H); 3.81 (m,2H); 2.01 (s, 6H).	0.0017	0.002
523		399.0 (M+1)	13.11	11.649
524		380.2 (M+1)	0.04	0.057
525		433.5 (M+1)	0.01	0.013

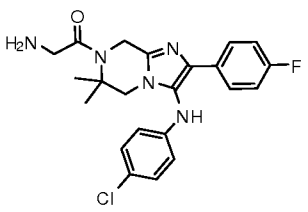
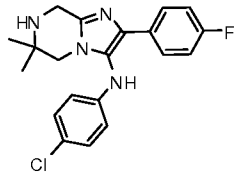
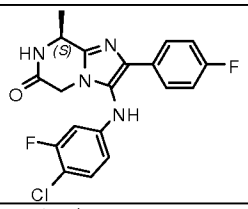
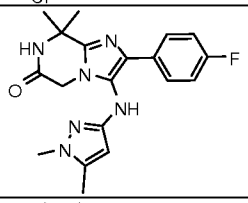
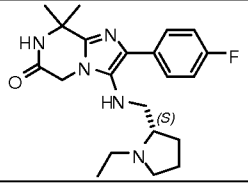
526		395.0 (M+1)	1.12	0.974
527		376.1 (M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.61-7.57 (m, 2H); 7.15-7.07 (m, 4H); 7.02-7.01(m,1H); 4.0(m,4H); 3.81 (m,2H); 2.01 (s, 6H).	0.004	0.006
528		501.2(M+1)	0.15	0.121
529		436.2(M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.78-7.75 (m, 2H); 7.06-6.97 (m, 4H); 6.56 (d, *J = 8.4 Hz*, 2H), 5.16 (s, NH); 4.33 (t, *J = 4.8 Hz*, 2H), 3.74 (t, *J = 4.8 Hz*, 2H),4.16 (m, 2H); 2.29 (s, 3H); 1.95 (s, 6H); 1.45 (s, 6H).	0.002	0.004
530		482.2(M+1)	1.23	6.422
531		400.1 (M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.67-7.63 (m, 2H);	0.04	0.057

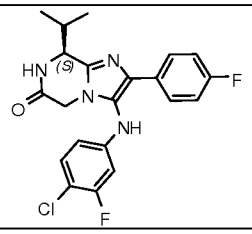
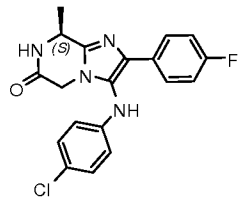
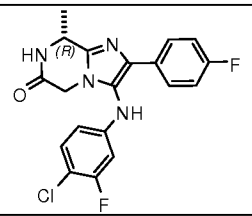
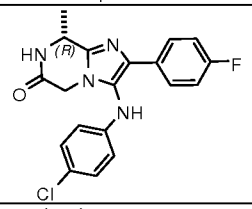
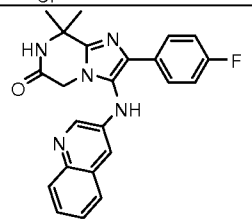
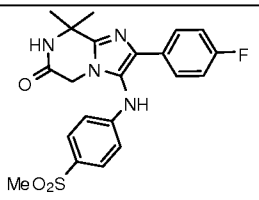
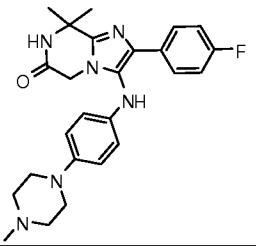
		7.21-7.17 (t, *J* = *8.8 Hz*, 2H), 4.15 (m, 2H); 3.79 (m,2H); 2.72 (m,1H); 1.95 (s, 6H); 1.72 (m, 2H); 1.58 (m,2H); 1.46 (m,1H); 1.1-1.05 (m,5H).		
532		442.2(M+1)	0.02	0.009
533		426.2(M+1)	0.03	0.022
534		453.2(M+1)	0.04	0.019
535		390.2(M+1)	2.72	2.351
536		397.2(M+1)	6.4	5.93
537		394.2(M+1)	11.91	8.342

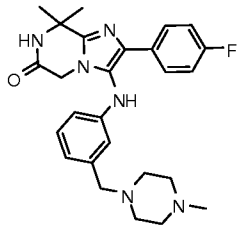
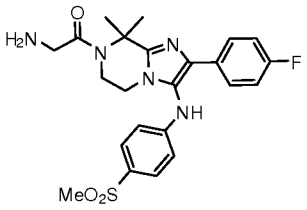
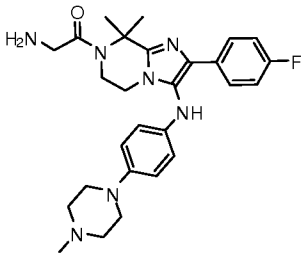
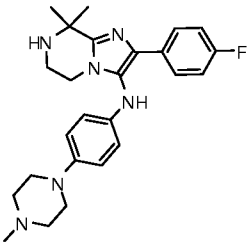
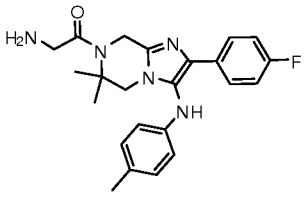
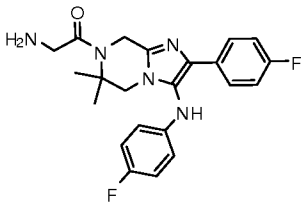
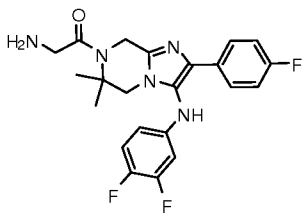
538		407.2(M+1)	7.67	8.065
539		393.2(M+1)	3.06	3.123
540		375.2(M+1) ^{1}H-NMR: (300Hz, CD_3OD) δ7.74-7.69(m, 2H), 7.42(s, 1H), 7.13-7.07(m, 2H), 4.84(s, 2H), 4.19-3.97(6H, m), 1.47(9H, s)	8.42	9.807
541		369.2(M+1)	0.01	0.01
542		369.2(M+1)	0.002	0.003
543		405.2(M+1)	0.17	0.305
544		383.2(M+1) ^{1}H-NMR: (*MeOH-d*$_4$, 400Hz) δ7.65-7.62 (m, 2H); 6.95-6.91 (m,1H); 6.72 (t, *J = 9.2 Hz*, 1H),6.28-6.25 (m, 1H); 4.30 (s, 2H) 2.04 (s,	0.02	0.037

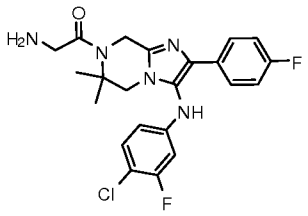
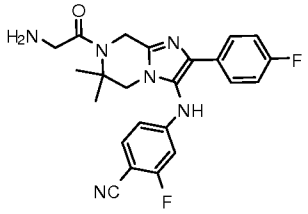
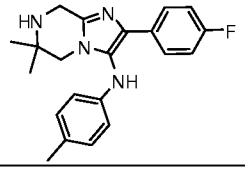
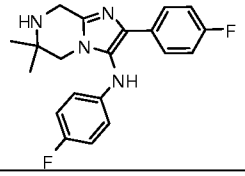
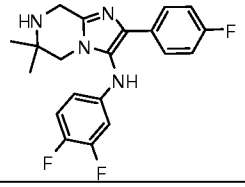
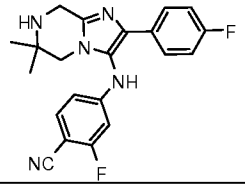
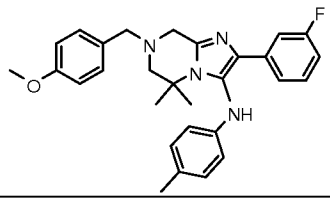
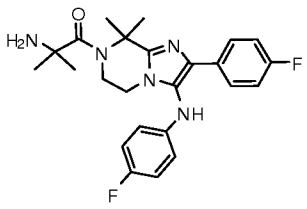
		3H);1.81 (s, 6H).		
545		382.2(M+1)	3.38	5.618
546		399.1 (M+1) ^{1}H-NMR: (*MeOH-d_4*, 400Hz) δ7.60-7.56 (m, 2H); 7.09-7.05 (m,2H); 6.99 (d, *J = 8.0 Hz*, 1H), 6.67(d, *J = 2.4 Hz*, 2H); 6.46(dd, *J = 2.4 Hz, J = 8.0 Hz*, 1H); 4.44 (s, 2H) 2.13 (s, 3H);1.71 (s, 6H).	0.03	0.052
547		366.2(M+1)	1.82	4.662
548		410.0 (M+1)	2.63	5.549
549		399.1 (M+1)	1.7	3.261
550		417.1 (M+1)	2.56	3.6

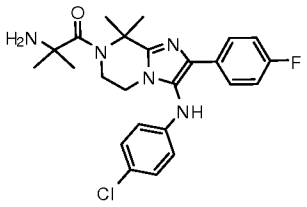
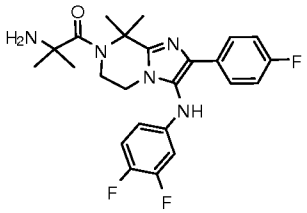
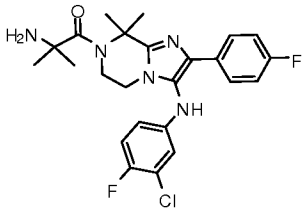
551		421.0 (M+1)	0.04	0.098
552		487.2(M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.72-7.67 (m, 4H); 7.2 (t, *J = 8.8 Hz*,2H); 6.8 (d, *J = 8.4 Hz*,2H), 4.01 (m,4H), 3.86 (t, *J = 4.4 Hz*,2H); 2.88 (s,3H); 2.1 (s,6H).	2.52	4.482
553		451.2(M+1)	2.37	4.658
554		448.0 (M+1)	0.0	0.007
555		391.2(M+1)	0.01	0.016
556		385.2 (M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.72-7.69 (m, 2H); 7.19-7.15 (4H,m); 6.67 (2H, *J = 9.2 Hz*, d); 4.64 (s, 2H); 4.64 (s, 2H); 3.99 (s, 2H), 2.91 (s,	0.06	0.075

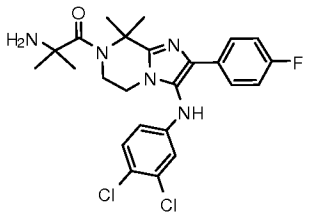
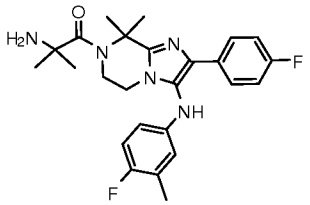
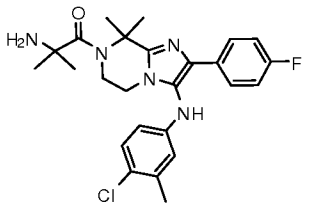
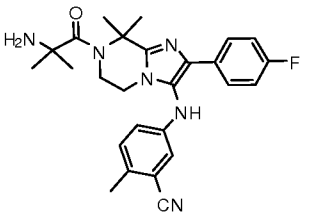
		2H), 1.43 (s, 6H).		
557		428.2 (M+1) ^{1}H-NMR: (*MeOH-d_4*, 400Hz) δ7.74 (m, 2H); 7.19-7.15 (m, 2H); 6.69 (d, *J =8.8 Hz*, 2H); 4.88 (s, 2H); 4.08 (s, 2H); 3.99 (s, 2H), 2.91 (s, 2H), 1.54 (s, 6H).	0.02	0.02
558		371.1 (M+1) ^{1}H-NMR: (*$CDCl_3$*, 400Hz) δ7.75-7.71 (m, 2H); 7.18 (d, *J =9.2 Hz*, 2H); 6.99 (t, *J =8.8 Hz*, 2H); 6.56 (d, *J =8.8 Hz*, 2H); 5.37 (s, NH); 4.15 (s, 2H); 3.49 (s, NH); 3.42 (s, 2H); 1.22 (s, 6H).	0.06	0.089
559		389.0 (M+1)	0.53	0.642
560		369.2(M+1)	3.61	5.219
561		386.2(M+1)	7.17	4.403

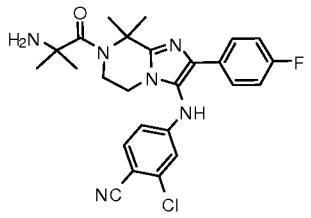
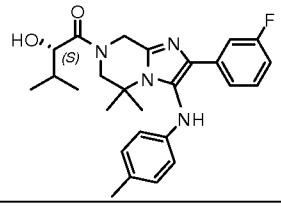
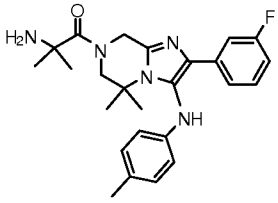
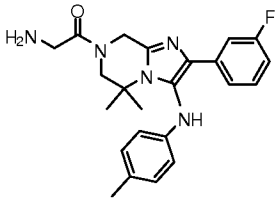
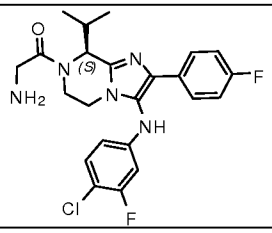
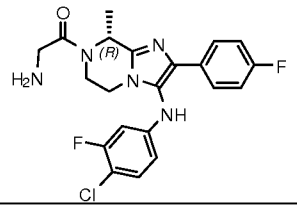
562		417.2(M+1)	4.82	6.293
563		371.0 (M+1)	0.31	0.445
564		389.0 (M+1)	0.25	0.359
565		371.0 (M+1)	0.07	0.105
566		402.2(M+1)	5.48	4.463
567		429.2(M+1)	6.46	8.458
568		449.0 (M+1)	>8.04	>11.3

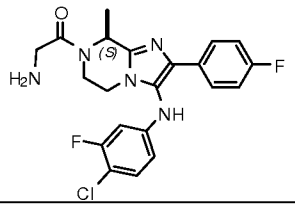
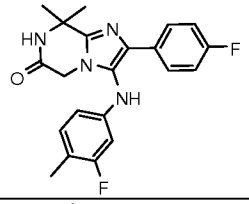
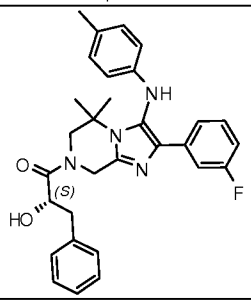
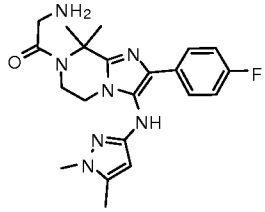
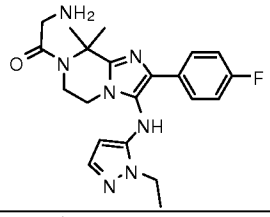
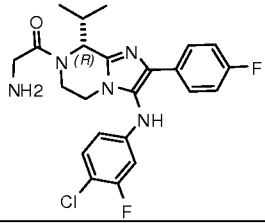
569		463.3 (M+1)	9.27	7.916
570		472.2(M+1)	5.68	5.562
571		492.1 (M+1)	6.2	7.48
572		435.1 (M+1)	11.18	8.73
573		408.2(M+1)	0.04	0.055
574		412.1(M+1)	0.08	0.111
575		430.2(M+1)	0.08	0.081

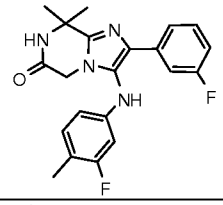
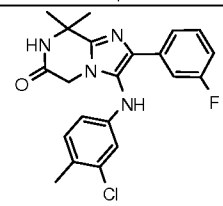
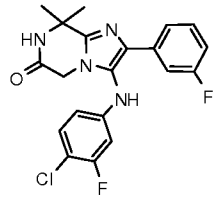
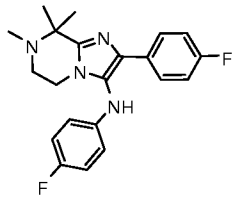
576		446.2(M+1)	0.2	0.234
577		437.1(M+1)	0.63	0.611
578		351.2(M+1)	0.25	0.339
579		355.2(M+1)	0.18	0.146
580		373.2(M+1)	0.15	0.169
581		380.2(M+1)	0.65	0.668
582		471.1 (M+1)	5.56	5.919
583		440.1 (M+1) ^{1}H-NMR (400 MHz, MeOH-d_4) δ 7.66 (dd, *J* =*5.2 Hz*, *J* = *9.2 Hz*, 2H); 7.11(t, *J* = *8.8 Hz*, 2H); 6.81(t, *J* = *8.8 Hz*, 2H); 6.72-6.68(m, 2H);	0.01	0.009

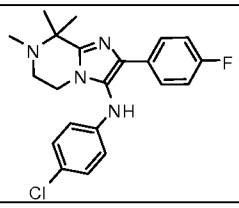
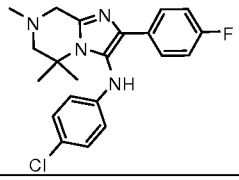
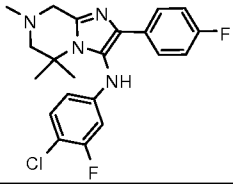
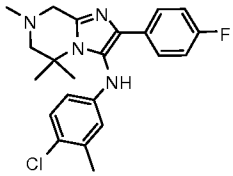
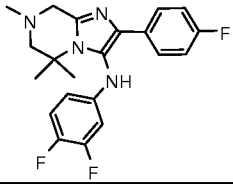
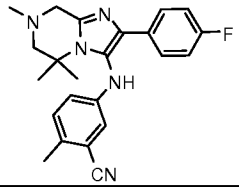
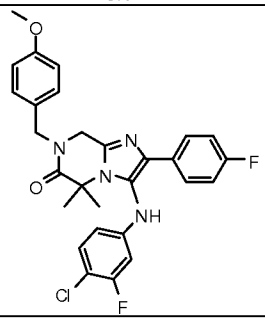
		4.04-3.99 (m, 4H); 2.01 (s, 6H); 1.66 (s, 6H).		
584		456.2 (M+1) ^{1}H-NMR (400 MHz, MeOH-d_4) δ 7.60-7.59 (m, 2H); 7.16-7.09 (m, 4H); 6.7(d, *J = 8.4 Hz*, 2H); 4.01(m, 4H); 2.01 (s, 6H); 1.65 (s, 6H).	0.02	0.021
585		458.1(M+1) ^{1}H-NMR (400 MHz, MeOH-d_4) δ 7.63-7.60 (m, 2H); 7.14(t, *J = 8.4 Hz*, 2H); 7.01 (dd, *J =8.8 Hz, J = 18.8 Hz*, 1H); 6.68-6.63 (m, 1H); 6.5 (m, 1H); 4.03 (m, 2H); 4.01 (m, 2H); 2.01 (s, 6H); 1.66 (s, 6H).	0.01	0.007
586		474.2 (M+1) ^{1}H-NMR (400 MHz, MeOH-d_4) δ 7.63-7.59 (m, 2H); 7.13 (t, *J =8.8 Hz*, 2H); 6.97 (t, *J =9.2 Hz*, 1H); 6.84 (t, *J =3.6 Hz*,1H); 4.03 (m,2H); 4.01 (m,2H); 2.01 (s, 6H); 1.66 (s, 6H).	0.01	0.007

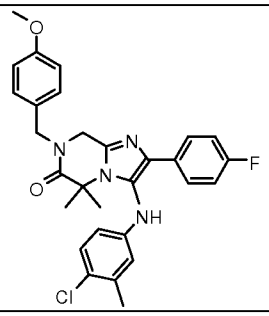
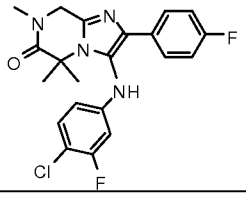
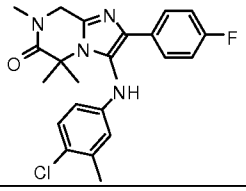
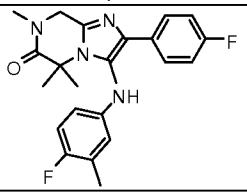
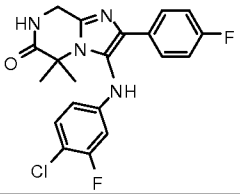
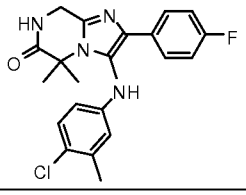
587		491.2(M+1)	0.01	0.012
588		454.2(M+1) ^{1}H-NMR (400 MHz, MeOH-d_4) δ 7.73-7.70 (m, 2H); 7.21 (t, *J =8.8 Hz*, 2H); 6.87 (t, *J =8.8 Hz*, 1H); 6.68 (m, 1H); 4.12 (m, 4H); 2.17 (s,3H); 2.15 (s, 6H); 1.76 (s, 6H).	0.01	0.004
589		470.2 (M+1) ^{1}H-NMR (400 MHz, MeOH-d_4) δ 7.62-7.59 (m, 2H); 7.16-7.06 (m, 3H); 6.66 (d, *J =2.4 Hz*, 1H); 6.50 (dd, *J =2.8 Hz*, *J =8.4 Hz*, 1H); 3.99 (m,4H); 2.17 (s,3H); 2.01 (s, 6H); 1.65 (s, 6H).	0.01	0.006
590		461.2(M+1) ^{1}H-NMR (400 MHz, MeOH-d_4) δ 7.32-7.59 (m, 2H); 7.14 (m, 3H); 6.97 (m,2H); 4.01 (m,4H); 2.29 (s,3H); 2.02 (s, 6H); 1.81 (s, 6H).	0.03	0.018

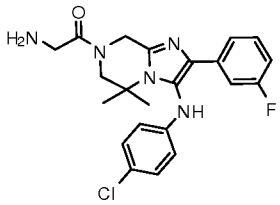
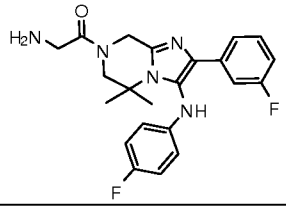
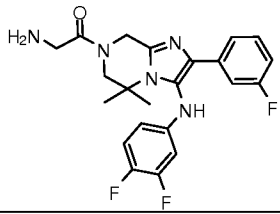
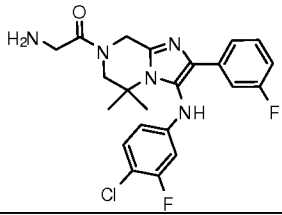
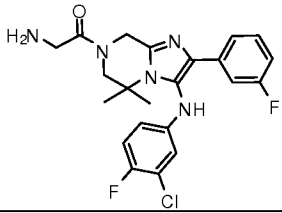
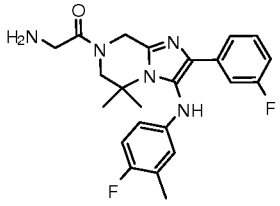
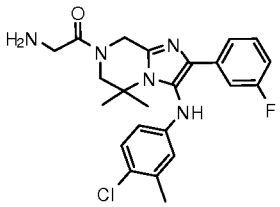
591		481.0(M+1)	0.06	0.046
592		451.2(M+1)	6.01	5.256
593		436.2(M+1)	5.06	3.937
594		408.2(M+1) ^{1}H-NMR: (*MeOH-d_4*, 400Hz) δ7.58-7.40 (m, 3H); 7.13 (t, *J = 8.4 Hz*, 1H); 6.99 (m,2H); 6.61 (d, *J = 8.0 Hz*, 2H); 5.17-5.14 (m, 2H); 4.28-3.92 (m, 4H); 2.20 (s, 3H), 1.70 (s, 3H), 1.65 (s, 3H).	0.02	0.032
595		460.2(M+1)	0.34	0.485
596		432.2(M+1)	0.03	0.029

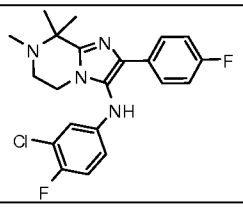
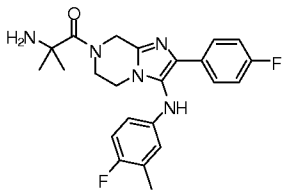
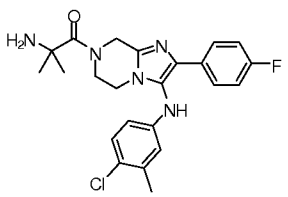
597		432.2(M+1)	0.03	0.024
598		383.2(M+1)	0.04	0.074
599		499.3(M+1)	0.12	0.134
600		412.2 (M+1) ^{1}H-NMR (400 MHz, MeOH-d_4) δ 7.76 (dd, *J = 5.2 Hz*, *J = 8.8 Hz*, 2H); 7.29 (t, *J = 8.4 Hz*, 2H); 4.26 (s, 2H); 4.16 (s, 2H); 4.00 (s, 2H); 3.76 (s, 3H); 1.92 (s, 6H); 2.14 (s, 6H).	0.07	0.05
601		412.2 (M+1)	3.96	4.117
602		460.2(M+1)	0.17	0.204

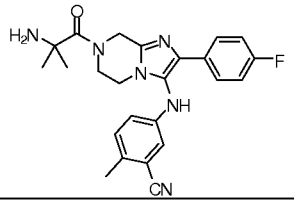
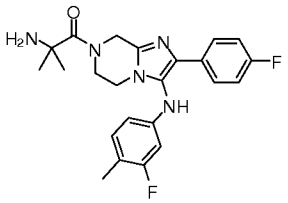
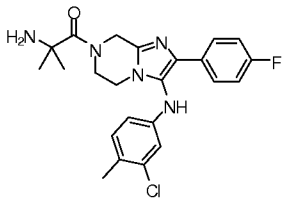
603		383.2(M+1)	0.05	0.073
604		399.2(M+1)	0.04	0.049
605		403.0 (M+1) ^{1}H-NMR: (*MeOH-d_4*, 400Hz) δ 7.43 (td, *J = 8.0 Hz*, *J = 1.0 Hz* 1H); 7.38-7.34 (m,1H); 7.24-7.18 (m, 1H); 7.11 (t, *J = 8.40 Hz*, 1H); 6.87-6.8 (m,1 H); 6.37 (dd, *J = 11.2 Hz*, *J = 2.40 Hz* 1H); 6.33-6.30 (m,1H); 4.33 (s, 2H), 1.62 ((s, 6H).	0.04	0.057
606		369.1 (M+1) ^{1}H-NMR: (*MeOH-d_4*, 400Hz) δ7.63-7.59 (m, 2H); 7.11 (t, *J = 8.40 Hz*, 2H); 6.85 (t, *J = 8.40 Hz*, 2H); 6.7-6.68 (m, 2H); 4.3 (m, 2H); 3.87 (m, 2H); 3.01(s,3H); 1.97 (s, 6H).	0.02	0.028

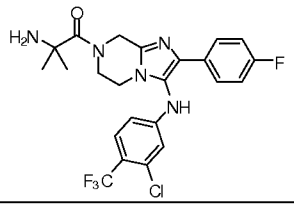
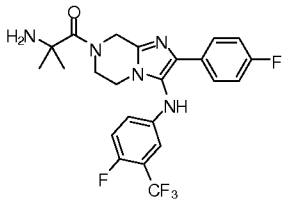
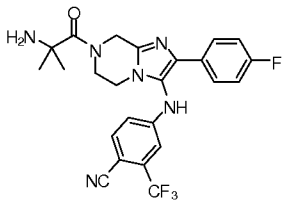
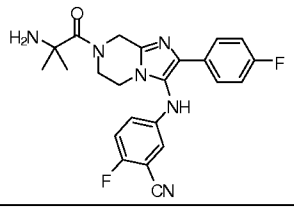
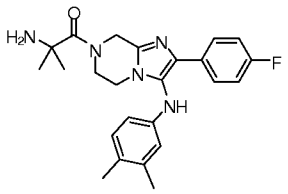
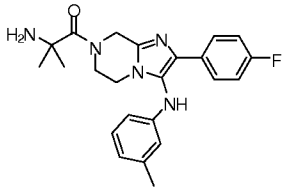
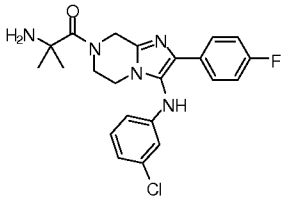
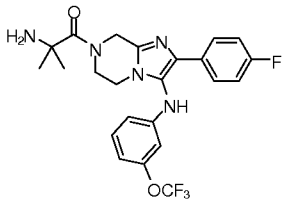
607		385.2(M+1)	0.03	0.048
608		385.1(M+1)	6.91	5.562
609		403.2(M+1)	7.02	4.929
610		399.1(M+1)	6.25	4.903
611		387.1(M+1)	7.67	5.762
612		390.2(M+1)	6.9	6.082
613		523.2(M+1)	6.27	5.711

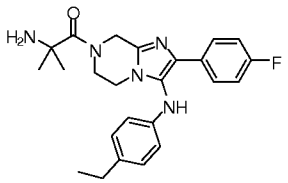
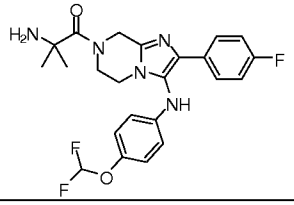
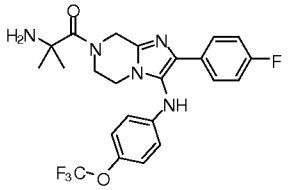
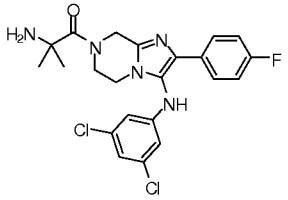
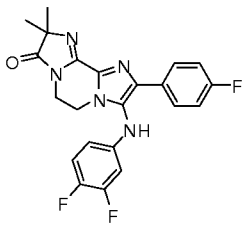
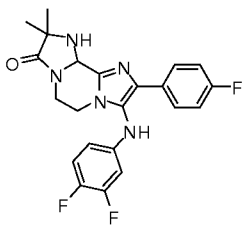
614		519.2(M+1)	5.02	4.524
615		417.0(M+1)	6.41	5.609
616		413.2(M+1)	5.72	4.562
617		397.2(M+1)	6.33	6.878
618		403.8(M+1)	2.13	2.887
619		399.2(M+1)	0.57	0.713

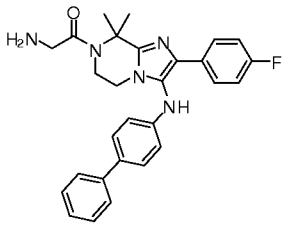
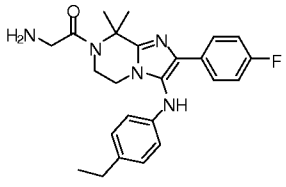
620		428.0 (M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.48-7.41 (m,3H); 7.16-7.14 (m,3H); 6.71 (d, *J = 8.4 Hz*, 2H); 5.17-5.14 (m, 2H); 4.28-3.92 (m,4H); 1.71 (s, 3H), 1.66 (s, 3H).	0.04	0.041
621		412.2(M+1)	0.04	0.045
622		430.2(M+1)	0.1	0.121
623		446.2(M+1)	0.03	0.032
624		446.2(M+1)	0.1	0.167
625		426.2(M+1)	0.17	0.194
626		442.0 (M+1) ^{1}H-NMR: (*MeOH-d$_4$*, 400Hz) δ7.47-7.39 (m, 2H); 7.19-7.11 (m, 2H); 6.67 (s,	0.02	0.017

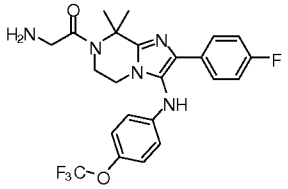
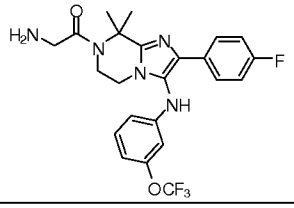
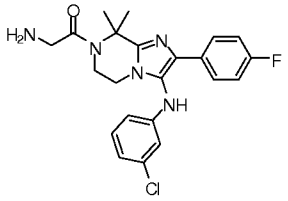
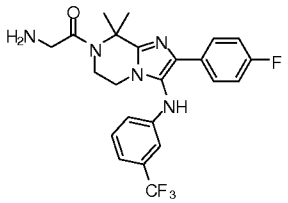
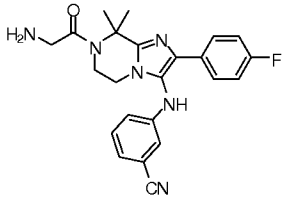
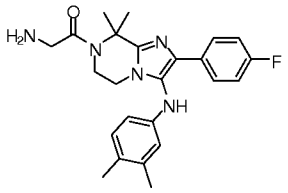
		1H); 6.52 (d, *J* = *8.0 Hz*, 1H); 5.15 (s, 2H); 4.27-3.91 (m, 2H); 2.24 (s, 3H), 1.71 (s, 3H), 1.65 (s, 3H).		
627		403.2(M+1)	0.17	0.194
628		426.2 (M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.69-7.73 (m, 2H), 7.18 (t, *J* = 8.8 Hz, 2H), 6.87 (t, *J* = 8.8 Hz, 2H), 6.62-6.63 (m, 1H), 6.51-6.55 (m, 1H), 5.12 (s, 2H), 4.21 (t, *J* = 4.8 Hz, 2H), 4.02 (t, *J* = 4.8 Hz, 2H), 2.17 (s, 3H), 1.75 (s, 6H)	0.033	0.04
629		442.1 (M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.70-7.73 (m, 2H), 7.22 (t, *J* = 8.0 Hz, 2H), 7.17 (d, *J* = 7.2 Hz, 1H), 6.77 (s, 1H), 6.62 (d, *J* = 6.0 Hz, 1H), 5.20 (s, 2H), 4.27 (s, 2H), 4.08 (s, 2H),	0.017	0.023

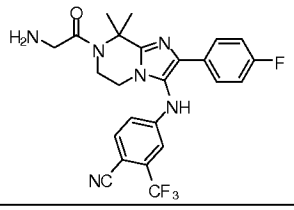
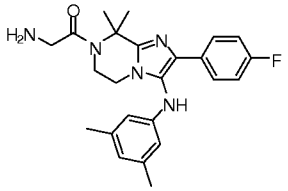
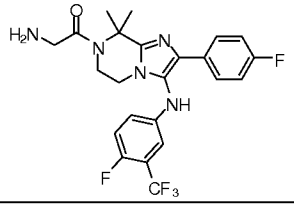
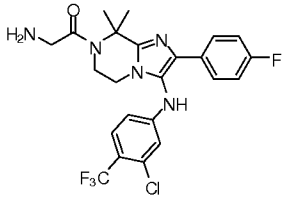
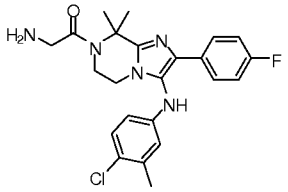
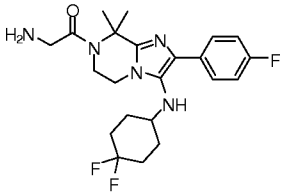
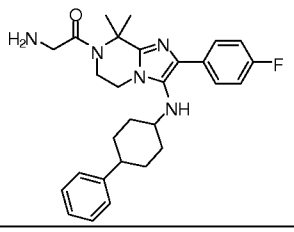
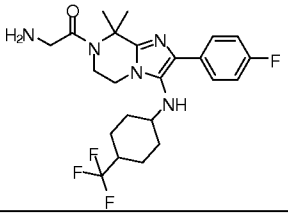
		2.27 (s, 3H), 1.78 (s, 6H)		
630		433.3 (M+1)	0.035	0.085
631		426.3 (M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.72-7.76 (m, 2H), 7.22 (t, *J* = 8.8 Hz, 2H), 7.06 (t, *J* = 8.8 Hz, 1H), 8.56 (s, 1H), 6.53-6.54 (m, 1H), 5.20 (s, 2H), 4.27 (t, *J* = 4.8 Hz, 2H), 4.09 (t, *J* = 4.8 Hz, 2H), 2.13 (s, 3H), 1.79 (s, 6H)	0.049	0.062
632		442.2(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.71-7.74 (m, 2H), 7.22 (t, *J* = 8.8 Hz, 2H), 7.11 (d, *J* = 8.4 Hz, 1H), 6.85 (d, *J* = 2.4 Hz, 1H), 6.67 (dd, *J* = 2.4, 8.4 Hz, 1H), 5.20 (s, 2H), 4.27 (t, *J* = 4.2 Hz, 2H), 4.09 (t, *J* = 4.2 Hz, 2H), 2.24 (s, 3H), 1.78 (s, 6H)	0.015	0.016

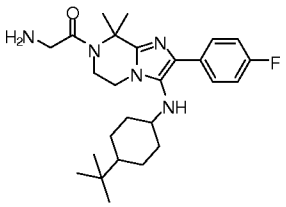
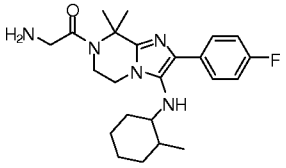
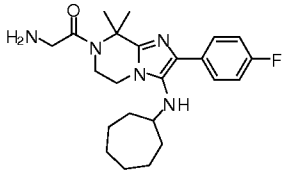
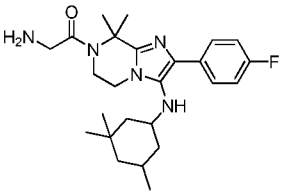
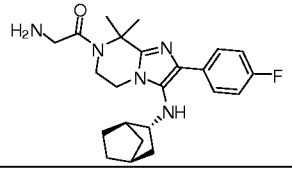
633		496.1(M+1)	0.528	0.331
634		480.1(M+1)	0.467	0.447
635		487.1(M+1)	0.94	1.758
636		437.2(M+1)	0.21	0.183
637		422.3 (M+1)	0.027	0.026
638		408.3(M+1)	0.065	0.068
639		428.2(M+1)	0.082	0.093
640		478.2(M+1)	3.95	4.51

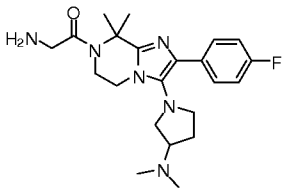
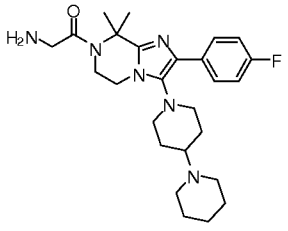
641		422.2(M+1)	0.799	1.285
642		460.2(M+1)	2.01	2.497
643		478.2(M+1)	2.798	2.171
644		462.1(M+1)	0.31	0.49
645		426.1(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.75-7.78 (m, 2H), 6.95-7.01 (m, 3H), 6.44-6.50 (m, 1H), 6.32-6.36 (m, 1H), 4.19 (dd, *J* = 1.6, 6.8 Hz, 2H), 4.00 (dd, *J* = 1.6, 6.8 Hz, 2H), 1.47 (s, 6H)	5.13	7.6
646		428.1 (M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.59-7.63 (m, 2H), 7.09 (t, *J* = 6.4 Hz, 2H), 6.95-7.02 (m,	5.68	6.13

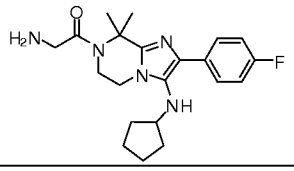
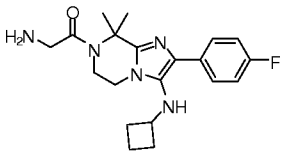
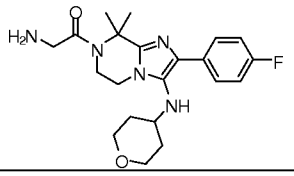
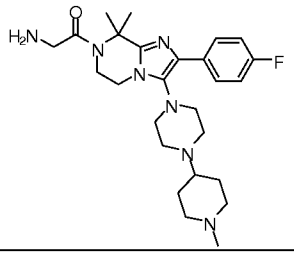
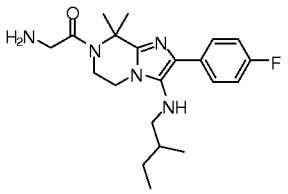
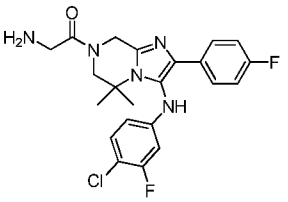
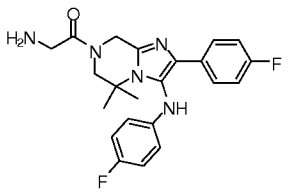
		1H), 6.46-6.52 (m, 1H), 6.34-6.38 (m, 1H), 5.92 (s, 1H), 4.33 (dd, *J* = 4.4, 14 Hz, 1H), 3.96 (dd, *J* = 4.8, 13.2 Hz, 1H), 3.70-3.78 (m, 1H), 3.46-3.54 (m, 1H), 1.73 (s, 3H), 1.36 (s, 3H)		
647		470.2(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.72-7.76 (m, 2H), 7.50-7.54 (m, 4H), 7.39 (t, *J* = 8.0 Hz, 2H), 7.27 (t, *J* = 7.2 Hz, 1H), 7.20 (t, *J* = 8.8 Hz, 2H), 6.82 (d, *J* = 8.4 Hz, 2H), 4.07-4.10 (m, 4H), 3.84 (t, *J* = 4.8 Hz, 2H), 2.09 (s, 6H)	0.279	0.25
648		422.2(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.76-7.71 (m, 2H), 7.21 (t, *J* = 8.8 Hz, 2H), 7.07 (d, *J* = 8.4 Hz, 2H), 6.67 (d, *J* = 8.4 Hz, 2H),	0.009	0.008

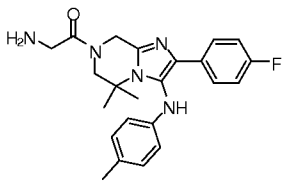
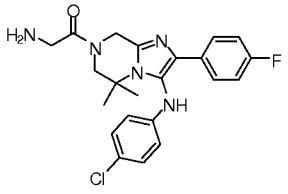
		4.05-4.08 (m, 4H), 3.83-3.85 (m, 2H), 2.55 (q, *J* = 7.6 Hz, 2H), 2.09 (s, 6H), 1.18 (t, *J* = 7.6 Hz, 3H)		
649		478.1(M+1)	0.024	0.018
650		478.1(M+1)	0.012	0.009
651		428.1(M+1)	0.008	0.005
652		462.1(M+1)	0.019	0.012
653		419.1(M+1)	0.006	0.009
654		422.2(M+1)	0.005	0.006

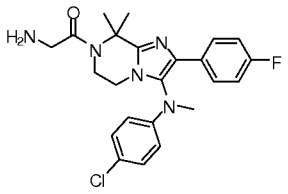
655		487.1(M+1)	0.017	0.02
656		422.1(M+1)	0.006	0.007
657		480.1(M+1)	0.618	1.086
658		496.0(M+1)	0.005	0.006
659		442.6(M+1)	4.39	5.28
660		436.1(M+1)	0.003	0.006
661		476.2(M+1)	0.339	0.52
662		468.1(M+1)	0.038	0.033

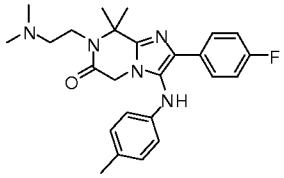
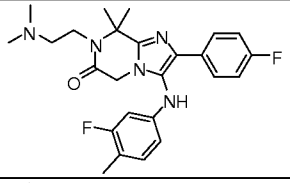
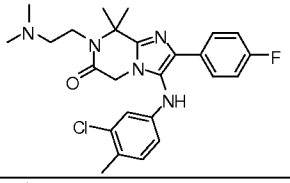
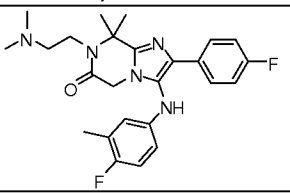
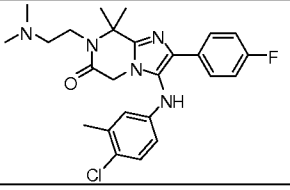
663		456.2(M+1)	1.062	1.658
664		414.2(M+1)	3.69	4.08
665		414.2(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.71-7.74 (m, 2H), 7.29 (t, *J* = 8.8 Hz, 2H), 4.20 (t, *J* = 4.8 Hz, 2H), 4.12 (s, 2H), 3.86 (t, *J* = 4.8 Hz, 2H), 3.02-3.09 (m, 1H), 2.02 (s, 6H), 1.79-1.86 (m, 2H), 1.57-1.63 (m, 2H), 1.48-1.52 (m, 4H), 1.39-1.46 (m, 2H), 1.21-1.30 (m, 2H)	0.102	0.069
666		442.2(M+1)	>10	4.97
667		412.2(M+1)	0.104	0.082

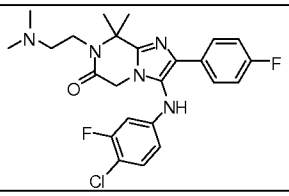
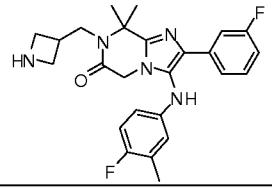
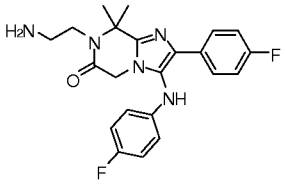
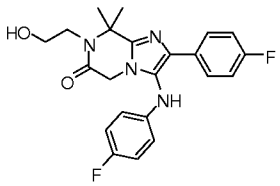
668		415.7(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.59-7.63 (m, 2H), 7.32 (t, *J* = 8.8 Hz, 2H), 4.25 (d, *J* = 4.8 Hz, 2H), 4.13 (s, 2H), 3.97-4.04 (m, 1H), 3.88 (d, *J* = 4.8 Hz, 2H), 3.49-3.54 (m, 1H), 3.41-3.47 (m, 2H), 3.25-3.30 (m, 1H), 2.92 (s, 6H), 2.45-2.53 (m, 1H), 2.23-2.28 (m, 1H), 2.01 (s, 6H)	3.43	>10
669		469.7(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.47-7.51 (m, 2H), 7.22 (t, *J* = 8.8 Hz, 2H), 4.13 (t, *J* = 4.4 Hz, 2H), 4.03 (s, 2H), 3.42 (d, *J* = 11.6 Hz, 2H), 3.15 (d, *J* = 12.4 Hz, 2H), 2.90 (dd, *J* = 10.8, 22.4 Hz, 4H), 2.00-2.03 (m, 2H),	3.98	>10

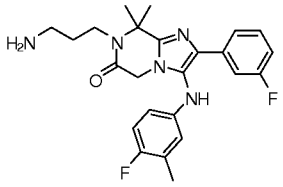
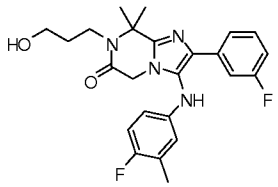
		1.90 (s, 6H), 1.68-1.87 (m, 6H), 1.37-1.47(m, 1H		
670		386.6(M+1)	0.402	0.711
671		372.3(M+1)	1.286	1.087
672		402.3(M+1)	9.84	7.14
673			8.87	>8.72
674			6.28	6.31
675		446.5(M+1)	0.014	0.021
676		415.7(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.59-7.63 (m, 2H), 7.32 (t, *J* = 8.8 Hz, 2H), 4.25 (d, *J* = 4.8 Hz, 2H),	0.032	0.031

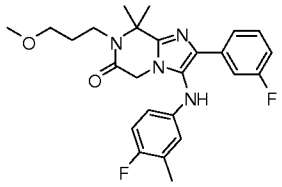
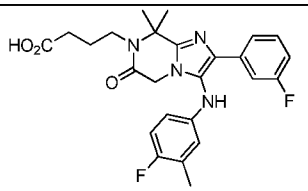
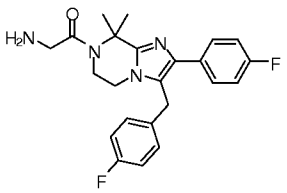
		4.13 (s, 2H), 3.97-4.04 (m, 1H), 3.88 (d, *J* = 4.8 Hz, 2H), 3.49-3.54 (m, 1H), 3.41-3.47 (m, 2H), 3.25-3.30 (m, 1H), 2.92 (s, 6H), 2.45-2.53 (m, 1H), 2.23-2.28 (m, 1H), 2.01 (s, 6H)		
677		469.7(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.47-7.51 (m, 2H), 7.22 (t, *J* = 8.8 Hz, 2H), 4.13 (t, *J* = 4.4 Hz, 2H), 4.03 (s, 2H), 3.42 (d, *J* = 11.6 Hz, 2H), 3.15 (d, *J* = 12.4 Hz, 2H), 2.90 (dd, *J* = 10.8, 22.4 Hz, 4H), 2.00-2.03 (m, 2H), 1.90 (s, 6H), 1.68-1.87 (m, 6H), 1.37-1.47(m, 1H	0.08	0.076
678		415.7(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.59-7.63 (m,	0.053	0.047

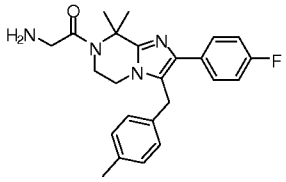
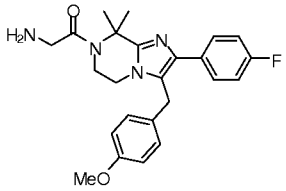
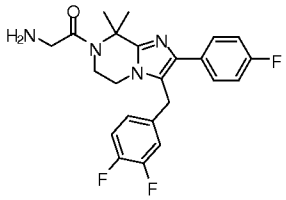
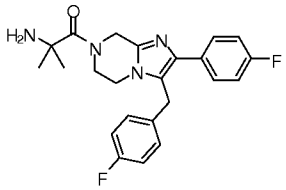
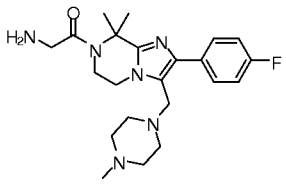
		2H), 7.32 (t, *J* = 8.8 Hz, 2H), 4.25 (d, *J* = 4.8 Hz, 2H), 4.13 (s, 2H), 3.97-4.04 (m, 1H), 3.88 (d, *J* = 4.8 Hz, 2H), 3.49-3.54 (m, 1H), 3.41-3.47 (m, 2H), 3.25-3.30 (m, 1H), 2.92 (s, 6H), 2.45-2.53 (m, 1H), 2.23-2.28 (m, 1H), 2.01 (s, 6H)		
679		469.7(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.47-7.51 (m, 2H), 7.22 (t, *J* = 8.8 Hz, 2H), 4.13 (t, *J* = 4.4 Hz, 2H), 4.03 (s, 2H), 3.42 (d, *J* = 11.6 Hz, 2H), 3.15 (d, *J* = 12.4 Hz, 2H), 2.90 (dd, *J* = 10.8, 22.4 Hz, 4H), 2.00-2.03 (m, 2H), 1.90 (s, 6H), 1.68-1.87 (m, 6H), 1.37-1.47(m, 1H	0.173	0.153

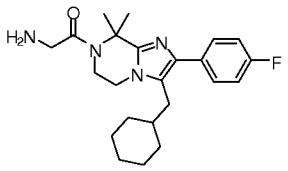
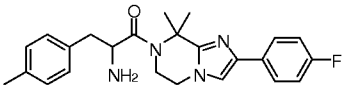
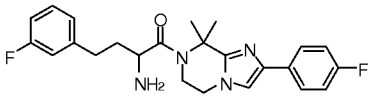
680		415.7(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.59-7.63 (m, 2H), 7.32 (t, *J* = 8.8 Hz, 2H), 4.25 (d, *J* = 4.8 Hz, 2H), 4.13 (s, 2H), 3.97-4.04 (m, 1H), 3.88 (d, *J* = 4.8 Hz, 2H), 3.49-3.54 (m, 1H), 3.41-3.47 (m, 2H), 3.25-3.30 (m, 1H), 2.92 (s, 6H), 2.45-2.53 (m, 1H), 2.23-2.28 (m, 1H), 2.01 (s, 6H)	0.085	0.173
681		454.1(M+1)	0.272	0.196
682		470.1(M+1)	0.124	0.111
683		454.1(M+1)	0.125	0.112
684		470.1(M+1)	0.03	0.017

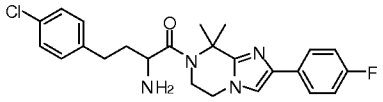
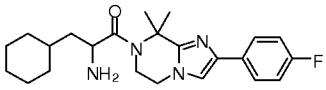
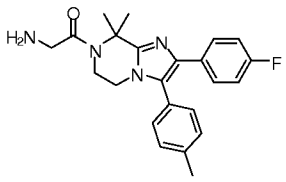
685		474.1(M+1)	0.173	0.131
686		452.2(M+1)	0.628	0.524
687		412.2(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.70-7.74 (m, 2H), 7.21 (t, *J* = 8.4 Hz, 2H), 6.96 (d, *J* = 7.6 Hz, 2H), 6.62 (s, 1H), 6.50 (d, *J* = 7.6 Hz, 1H), 5.19 (s, 2H), 4.25 (s, 2H), 4.07 (s, 2H), 1.77 (s, 6H)	3.42 (NF54)	3.35
688		413.2(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.67-7.71 (m, 2H), 7.15-7.21 (m, 2H), 6.92-6.97 (m, 2H), 6.71-6.76 (m, 2H), 4.57-4.63 (dm, 1H), 3.76-3.79 (m, 1H), 3.68-3.70 (m, 1H), 1.91 (s, 3H), 1.84 (s, 3H)	0.106 (NF54)	0.134

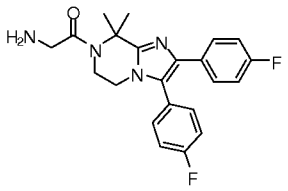
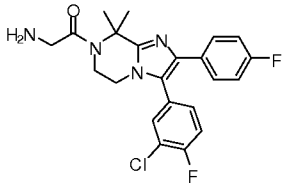
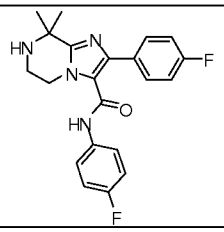
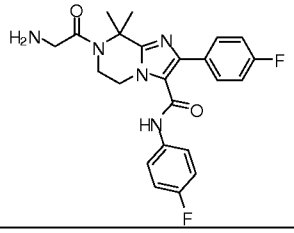
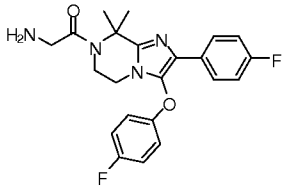
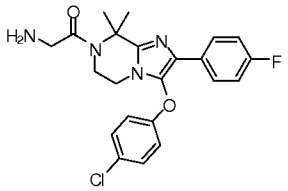
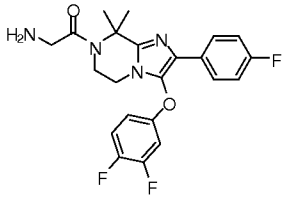
689		440.2(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.33-7.42 (m, 3H), 7.06-7.08 (m, 1H), 6.70 (t, *J* = 9.2 Hz, 2H), 6.69-6.71 (m, 1H), 6.58-6.62 (m, 1H), 4.38 (s, 2H), 3.66 (t, *J* = 8.0 Hz, 2H), 2.89 (t, *J* = 8.0 Hz, 2H), 2.25 (d, *J* = 1.6 Hz, 3H), 1.88-1.95 (m, 2H), 1.77 (s, 6H)	0.512	0.295
690		441.2(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.51-7.54 (m, 1H), 7.44-7.48 (m, 1H), 7.37-7.42 (m, 1H), 7.05-7.12 (m, 1H), 6.86 (dt, *J* = 1.6, 9.2 Hz, 1H), 6.57-6.61 (m, 1H), 6.47-6.53 (m, 1H), 4.58 (d, *J* = 2.0 Hz, 2H), 3.91 (t, *J* = 6.0 Hz, 1H), 3.64-3.72 (m, 3H), 3.36 (s, 3H), 2.17 (d, *J* = 1.2 Hz, 2H), 1.91 (s, 3H), 1.89 (s, 3H)	0.866	0.76

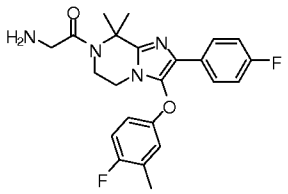
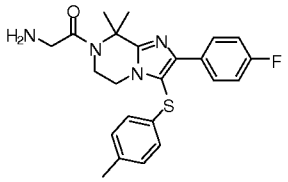
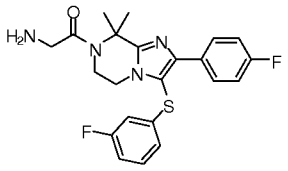
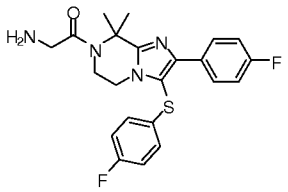
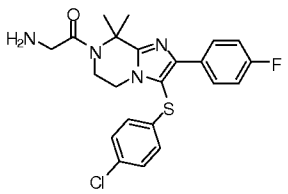
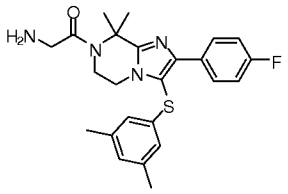
691		455.2(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.37-7.43 (m, 2H), 7.31-7.34 (m, 1H), 7.06-7.11 (m, 1H), 6.97 (t, *J* = 8.8 Hz, 1H), 6.71-6.73 (m, 1H), 6.58-6.62 (m, 1H), 4.39 (s, 2H), 3.62-3.65 (m, 2H), 3.36 (br, 5H), 3.34 (s, 1H), 3.26 (s, 3H), 2.24 (d, *J* = 2.0 Hz, 3H), 1.79 (s, 6H)	0.068	0.06
692		469.2(M+1)	6.45	5.34
693		411.2(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.58-7.62 (m, 2H), 7.30 (d, *J* = 8.8 Hz, 2H), 7.21 (dd, *J* = 5.6, 8.8 Hz, 2H), 7.08 (d, *J* = 8.8 Hz, 2H), 4.23 (s, 2H), 4.06-4.09 (m, 4H), 3.83 (d, *J* = 5.6 Hz, 2H), 2.05 (s, 6H)	0.008	0.008

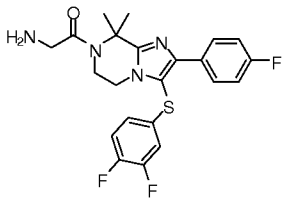
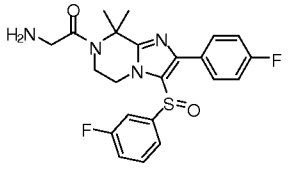
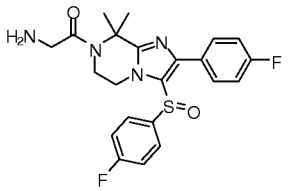
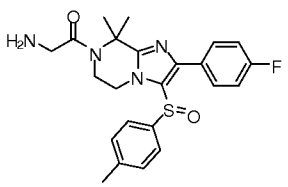
694		407.3(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.59-7.62 (m, 2H), 7.29 (t, *J* = 8.4 Hz, 2H), 7.16 (d, *J* = 8.0 Hz, 2H), 7.06 (d, *J* = 8.0 Hz, 2H), 4.19 (s, 2H), 4.04-4.08 (m, 4H), 3.80 (t, *J* = 4.8 Hz, 2H), 2.31 (s, 3H), 2.04 (s, 6H)	0.011	0.007
695		423.1(M+1)	0.017	0.019
696		429.2(M+1)	0.02	0.022
697		411.1(M+1)	0.362	0.256
698		415.3(M+1)	8.81	9.02

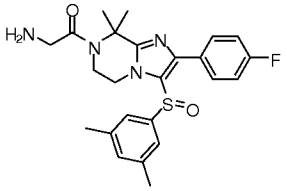
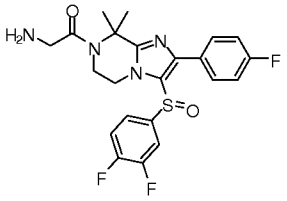
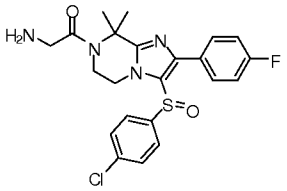
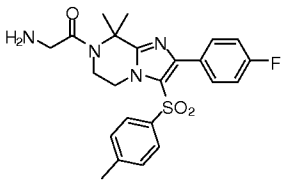
699		399.3(M+1)	0.678 (NF54)	ND
700		407.2(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.73-7.77 (m, 3H), 7.21-7.30 (m, 6H), 4.82-4.86 (m, 1H), 4.13-4.18 (m, 2H), 4.61 (s, 1H), 3.71-3.77 (m, 1H), 3.53-3.58 (m, 1H), 3.09-3.21 (m, 1H), 2.34 (s, 3H), 2.01 (s, 3H), 1.99 (s, 3H)	>9.51	7.0
701		425.2(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.76-7.79 (m, 3H), 7.32-7.38 (m, 1H), 7.28 (t, *J* = 8.8 Hz, 2H), 7.11 (d, *J* = 4.0 Hz, 1H), 7.06 (dt, *J* = 10, 2.4 Hz, 1H), 6.99 (dt, *J* = 2.8, 8.4 Hz, 1H), 4.62 (t, *J* = 6.4 Hz, 1H), 4.35 (t, *J* = 4.8 Hz, 2H), 3.84-3.98 (m, 2H), 2.79-2.87 (m, 2H),	8.27	7.35

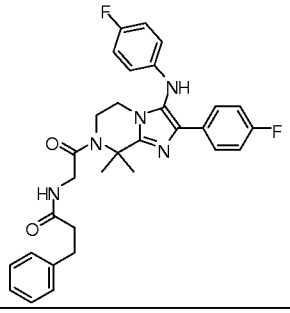
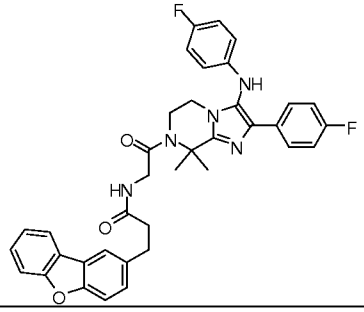
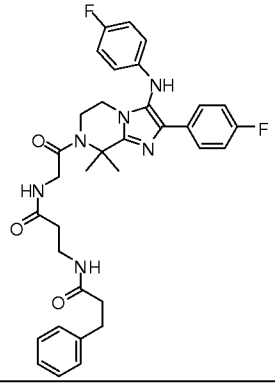
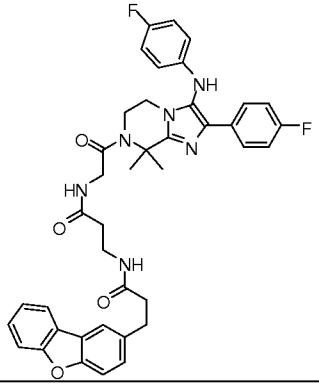
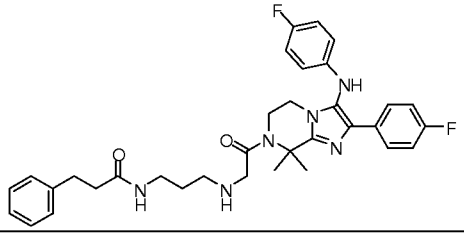
		2.14-2.20 (m, 2H), 2.04 (s, 3H), 2.03 (s, 3H)		
702		441.2(M+1)	6.03	5.85
703		399.3(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.81 (s, 1H), 7.76-7.80 (m, 2H), 7.29 (t, *J* = 8.8 Hz, 2H), 4.60-4.64 (m, 2H), 4.40-4.43 (m, 2H), 3.92-3.95 (m, 2H), 2.05 (s, 3H), 2.04 (s, 3H), 1.70-1.83 (m, 6H), 1.49-1.53 (m, 1H), 1.20-1.42 (m, 4H), 0.99-1.35 (m, 2H)	8.57	8.29
704		393.3(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.42-7.46 (m, 2H), 7.31-7.39 (m, 4H), 7.13 (t, *J* = 8.8 Hz, 2H), 4.09-4.12 (m, 4H), 3.82 (t, *J* = 4.8 Hz, 2H), 2.42 (s, 3H), 2.08 (s, 6H)	0.236	0.232

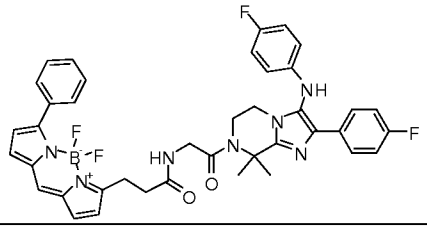
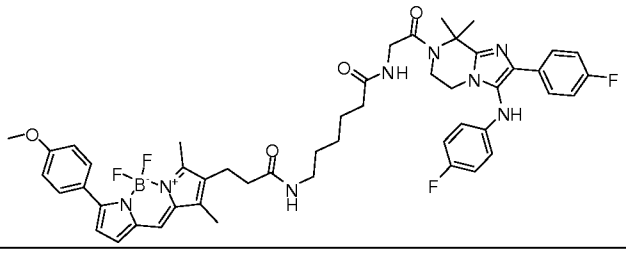
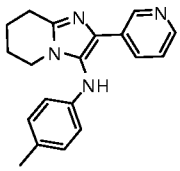
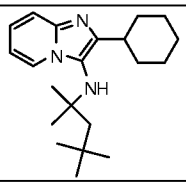
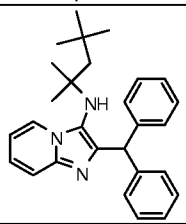
705		397.3(M+1)	1.241	0.76
706		431.2(M+1)	0.252	0.237
707		383.1(M+1)	6.54	>10
708		440.1(M+1)	0.809	1.134
709		413.1(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.67-7.71 (m, 2H), 7.09-7.17 (m, 6H), 4.06 (s, 2H), 4.02 (t, *J* = 4.8 Hz, 2H), 3.80 (t, *J* = 4.8 Hz, 2H), 2.04 (s, 6H)	0.003	0.008
710		429.1(M+1)	0.028 (NF54)	ND
711		431.1(M+1)	0.034 (NF54)	ND

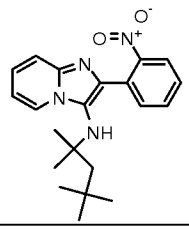
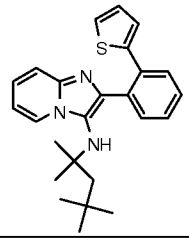
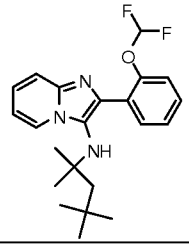
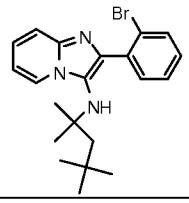
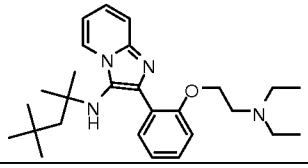
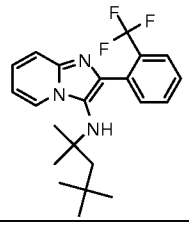
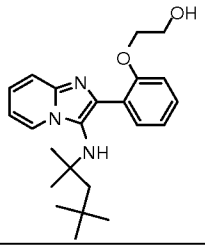
712		427.2(M+1)	0.019 (NF54)	ND
713		425.2(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.83-7.87 (m, 2H), 7.22 (t, *J* = 8.8 Hz, 2H), 7.16 (d, *J* = 8.4 Hz, 2H), 7.04 (d, *J* = 8.8 Hz, 2H), 4.11 (t, *J* = 4.4 Hz, 2H), 3.98 (s, 2H), 3.83 (t, *J* = 4.4 Hz, 2H), 2.29 (s, 3H), 1.98 (s, 6H)	0.008	ND
714		429.2(M+1)	0.007	0.004
715		429.1(M+1)	0.006	0.006
716		445.1(M+1)	0.002	0.001
717		439.2(M+1)	0.026	0.016

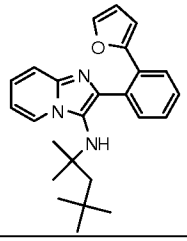
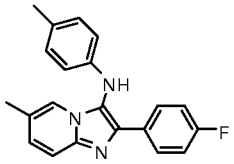
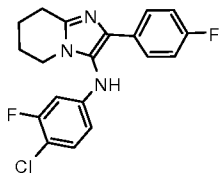
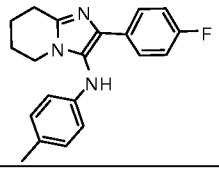
718		447.1(M+1)	0.008	0.006
719		445.1(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.58-7.62 (m, 2H), 7.23 (d, *J* = 8.4 Hz, 2H), 7.14 (t, *J* = 8.4 Hz, 2H), 6.89 (s, 1H), 6.67 (d, *J* = 7.6 Hz, 1H), 5.09 (s, 2H), 4.17 (s, 2H), 3.99 (s, 2H), 1.67 (s, 6H)	0.481	0.361
720		445.1(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.60-7.63 (m, 2H), 7.11 (t, *J* = 8.4 Hz, 2H), 6.75-6.80 (m, 1H), 6.59 (d, *J* = 4.8 Hz, 1H), 6.50 (br, 1H), 5.09 (s, 2H), 4.16 (s, 2H), 3.97 (s, 2H), 2.07 (s, 3H), 1.67 (s, 6H)	0.07	0.069
721		441.0(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.78-7.82 (m, 2H), 7.60 (d, *J* = 8.4 Hz,	0.042	ND

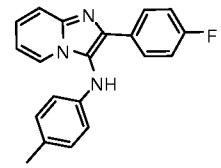
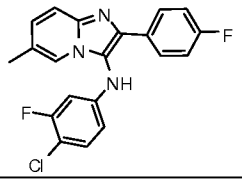
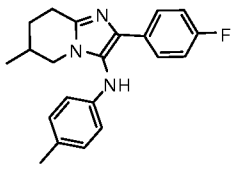
		2H), 7.44 (d, J = 8.0 Hz, 2H), 7.35 (t, J = 8.8 Hz, 2H), 4.61-4.65 (m, 1H), 4.08 (s, 2H), 3.77-3.92 (m, 3H), 2.43 (s, 3H), 2.07 (s, 3H), 2.05 (s, 3H)		
722		455.1(M+1)	0.381	0.281
723		463.1(M+1)	0.089	0.068
724		461.1(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.70-7.74 (m, 2H), 7.21 (t, J = 8.4 Hz, 2H), 6.96 (d, J = 7.6 Hz, 2H), 6.62 (s, 1H), 6.50 (d, J = 7.6 Hz, 1H), 5.19 (s, 2H), 4.25 (s, 2H), 4.07 (s, 2H), 1.77 (s, 6H)	0.509	0.287
725		457.1	5.21 (NF54)	ND

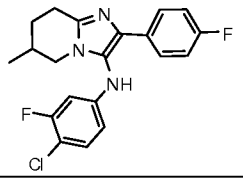
726		544.3(M+1)	1.925	1.48
727		634.3(M+1)	6.56	2.969
728		615.3(M+1)	5.4	1.485
729		705.3(M+1)	>10	6.29
730		601.2(M+1)	1.365	0.474

731		734.2(M+1)	2.27 (NF54)	5.61
732		905.4(M+1)	1.223 (NF54)	1.438
737		305.2(M+1) ^{1}H NMR (400 MHz, $CDCl_3$): δ 9.27 (s, 1H), 8.76 (d, *J* = 8.0 Hz, 1H), 8.55 (d, *J* = 3.2 Hz, 1H), 7.79 (t, *J* = 3.2 Hz, 1H), 7.33 (br, 1H), 6.99 (d, *J* = 8.4 Hz, 2H), 6.56 (d, *J* = 8.4 Hz, 2H), 3.87 (s, 2H), 3.14 (s, 2H), 2.22 (s, 3H), 2.02 (s, 4H)	7.85	4.09
738		328.5(M+1)	3.24	1.555
739		412.6(M+1)	0.768	0.881

740		367.2(M+1)	9.33	8.73
741		404.6(M+1)	5.25	4.83
742		388.2(M+1)	6.43	11.6
743		401.2(M+1)	2.675	3.003
744		437.6(M+1)	5.24	2.813
745		390.2(M+1)	3.57	4.23
746		382.2(M+1)	>10	6.94

747		388.2(M+1)	2.234	4.48
748		332.2(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 8.09 (s, 1H), 7.75-7.79 (m, 4H), 7.17 (t, *J* = 8.8 Hz, 2H), 6.93(d, *J* = 8.0 Hz, 1H), 6.49 (d, *J* = 8.4 Hz, 2H), 2.35 (s, 3H), 2.14 (s, 3H)	3.44	4.15
749		360.8(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.64-7.67 (m, 2H), 7.20-7.29 (m, 3H), 6.64 (dd, *J* = 2.8, 11.2 Hz, 1H), 6.55-6.58 (m, 1H), 3.90 (t, *J* = 5.6 Hz, 2H), 3.11 (t, *J* = 5.6 Hz, 2H), 2.05-2.12 (m, 4H)	1.053	0.814
750		322.2(M+1)	4.77	4.96

751		318.2(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 8.39 (d, *J* = 6.8 Hz, 1H), 7.89-8.02 (m, 4H), 7.47(dt, *J* = 1.2, 6.8 Hz, 1H), 7.29 (d, *J* = 8.8 Hz, 2H), 7.04 (d, *J* = 8.0 Hz, 2H), 6.61 (d, *J* = 8.4 Hz, 2H), 2.24(s, 3H)	1.792	4.55
752		370.8(M+1)	1.619	2.381
753		336.2(M+1) ^{1}H NMR (400 MHz, CD_3OD): δ 7.65-7.68 (m, 2H), 7.19 (t, *J* = 8.8 Hz, 2H), 7.03 (d, *J* = 8.4 Hz, 2H), 6.62(dd, *J* = 2.0, 6.4 Hz, 1H), 4.00-4.05 (m, 1H), 3.35-3.38 (m, 1H), 3.17-3.24 (m, 1H), 3.05-3.14 (m, 1H), 2.24(s, 3H), 2.12-2.21 (m, 2H), 1.67-1.77 (m, 1H), 1.12 (d, *J* = 6.4 Hz, 3H)	0.376	0.592

754		374.8(M+1)	0.104	0.19

Assays

[00292] Compounds of the invention can be assayed to measure their capacity to inhibit proliferation of parasitemia in infected red blood cells. The proliferation is quantified by the addition of SYBR Green I (INVITROGEN)® dye which has a high affinity for double stranded DNA.

[00293] The following assay illustrates the invention without in any way limiting the scope of the invention. This parasite proliferation assay measures the increase in parasite DNA content using a DNA intercalating dye, SYBR Green®.

[00294] 3D7 *P. falciparum* strain is grown in complete culturing media until parasitemia reaches 3% to 8% with O+ human erythrocytes. 20 µl of screening media is dispensed into 384 well assay plates. 50 nl of compounds of the invention (in DMSO), including antimalarial controls (mefloquine, pyrimethamine and artemisinin), are then transferred into the assay plates, as well as DMSO alone to serve as a negative control for inhibition. Then 30 µl of a suspension of a 3D7 *P. falciparum* infected erythrocytes in screening media is dispensed into the assay plates such that the final hematocrit is 2.5% with a final parasitemia of 0.3%. The plates are placed in a 37 ºC incubator for 72 hours in a low oxygen environment containing 93% N_2, 4% CO_2, and 3% O_2 gas mixture. 10 µl of lysis buffer (saponin, triton-X, EDTA) containing a 10X solution of SYBR Green I® in RPMI media is dispensed into the plates. The plates are lidded and kept at room temperature overnight for the lysis of the infected red blood cells. The fluorescence intensity is measured (excitation 425nm, emission 530nm) using the Envision™ system (Perkin Elmer). The percentage inhibition of 50%, EC_{50}, is calculated for each compound.

[00295] Compounds of the invention have an EC_{50} of 10µM or less, preferably less than 1µM, 750nM, 500nM 400nM, 300nM, 200nM, 100nM and 50nM. Compounds of the invention can significantly delay the increase in parasitemia.

[00296] Compounds of the invention can be assayed to measure their capacity to inhibit proliferation of kinetoplastid parasite *Trypanosoma brucei*. The proliferation is quantified by the addition of Cell Titer Glo (Promega®) a luminescent cell viability assay that measures the number of viable cells in culture based on the quantification of cellular ATP amount, which is an indicator of metabolically active cells.

[00297] The following assay illustrates the invention without in any way limiting the scope of the invention. This parasite proliferation assay measures the increase in parasite growth using an assay that measures ATP activity, Cell Titer Glo®.

[00298] *Trypanosoma brucei* Lister 427 strain is grown in HMI-9 Trypanosome media for *T. brucei* bloodstream form. 30 µl of HMI-9 media is dispensed into 384 well assay plates. 200 nl of compounds of the invention (in DMSO), including anti-trypanosome controls (Pentamidine and suramin), are then transferred into the assay plates, as well as DMSO alone to serve as a negative control for inhibition. Then 25 µl of a suspension of *T. brucei* culture in HMI-9 media is dispensed into the assay plates. The final concentration of parasites in culture corresponds to 1.7% of 0.5uM ATP activity with Cell Titer Glo® in HMI-9 media. The plates are placed in a 37 ºC incubator for 48 hours in an atmospheric environment containing 5% CO_2. 40 µl of Cell Titer Glo® is dispensed into the plates. The plates are then read for luminescence. The percentage inhibition of 50%, EC_{50}, is calculated for each compound.

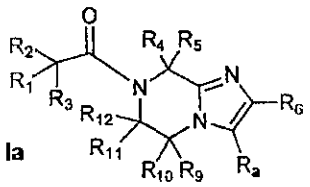
[00299] Compounds of the invention have an EC_{50} of 10µM or less, preferably less than 1µM, 750nM, 500nM 400nM, 300nM, 200nM, 100nM and 50nM. Compounds of the invention can significantly delay the proliferation of *T. brucei*. For example, 2-amino-1-(2-(4-fluorophenyl)-3-(4-fluorophenylamino)-8,8-dimethyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)ethanone (example 412) and 2-amino-1-(3-(3,4-difluorophenylamino)-2-(4-fluorophenyl)-5,6-dihydroimidazo [1,2-a]pyrazin-7(8H)-yl)-2-methylpropan-1-one (Example 29) have an EC_{50} of 10µM and 7µM, respectively.

[00300] It is understood that the examples and embodiments described herein are for illustrative purposes only and that various modifications or changes in light thereof will be suggested to persons skilled in the art and are to be included within the spirit and purview

of this application and scope of the appended claims. All publications, patents, and patent applications cited herein are hereby incorporated by reference for all purposes.

We Claim:

1. A compound or a pharmaceutically acceptable salt thereof, wherein the compound is of Formula Ia:



Ia

in which:

R_a is $-X_3NR_7R_8$, $-X_3OR_8$, $-X_3S(O)_{0-2}R_8$, $-X_3C(O)NR_7R_8$, or benzyl optionally substituted with 1 to 3 radicals that are independently halo, C_{1-4}alkyl, halo-substituted-C_{1-4}alkyl, C_{1-4}alkoxy or halo-substituted-C_{1-4}alkoxy; wherein X_3 is a bond or C_{1-4}alkylene;

R_1 is $-OR_{13}$, $-C(O)OR_{13}$, $-NR_{13}R_{14}$, phenyl, pyridinyl, indolyl, azetidinyl, 1H-indazolyl, piperidinyl or pyrimidinyl; wherein said phenyl, pyridinyl, indolyl, azetidinyl, 1H-indazolyl, piperidinyl or pyrimidinyl of R_1 is optionally substituted with 1 to 3 radicals that are independently halo, methyl, ethyl, trifluoromethoxy or trifluoromethyl;

R_{13} is hydrogen, methyl, ethyl, propyl, butyl, pentyl, cyclopropyl, phenyl, benzyl, amino-butyl, hydroxy-ethyl, methoxy-ethyl, butoxy-ethyl, methoxy-propyl, $-C(O)R_{15}$, $-C(O)OR_{15}$, $-X_1OR_{15}$, $-X_1C(NH)NHR_{15}$, $-X_1NHC(O)R_{15}$ or $X_1C(O)NHR_{15}$; wherein X_1 is a bond or C_{1-4}alkylene; and R_{15} is hydrogen, methyl, ethyl, propyl, butyl, t-butyl, trifluoromethyl or trifluoromethyl-carbonyl;

R_{14} is hydrogen, methyl, ethyl, propyl, butyl, pentyl, hydroxy-ethyl, difluoroethyl or isobutyl; optionally substituted with 1 to3 radicals that are independently halo, methyl, ethyl, trifluoromethoxy or trifluoromethyl;

or R_{13} and R_{14} together with the nitrogen to which R_{13} and R_{14} are attached form a heterocyclic that is pyrrolidinyl, morpholino, thiomorpholino or piperidinyl; wherein said heterocyclic formed by the combination of R_{13} and R_{14} is optionally substituted with 1 to 3 radicals that are independently halo, trifluoromethyl, hydroxy or amino-ethyl;

R_2 is hydrogen, C_{1-6}alkyl, amino, C_{3-8}cycloalkyl-C_{0-4}alkyl, C_{6-10}aryl-C_{0-4}alkyl, halo-substituted-C_{1-6}alky, hydroxy-substituted-C_{1-6}alkyl or heterocyclyl-C_{0-4}alkyl; wherein said heterocyclyl is a saturated, unsaturated or partially unsaturated 5-9 member heterocyclic ring

containing up to three heteroatoms that are independently N, NR_{30}, $S(O)_{0-2}$ or O; wherein R_{30} is hydrogen or C_{1-6}alkyl; wherein said C_{6-10}aryl or heterocyclic of R_2 is optionally substituted with 1 to 3 radicals that are independently halo, hydroxy, cyano, nitro, $-NHR_{17}$, $-(CH_2)_{0-2}NHC(O)R_{17}$, C_{1-6}alkyl, halo-substituted-C_{1-6}alkyl, amino-substituted-C_{1-6}alkyl or C_{1-6}alkoxy; wherein R_{17} is hydrogen or C_{1-6}alkyl;

R_3 is hydrogen, C_{1-6}alkyl, C_{6-10}aryl-C_{0-4}alkyl, $-X_2C(O)OR_{16}$, $-X_2S(O)_{0-2}R_{16}$, $-X_2OR_{16}$, $-X_2C(O)NHR_{16}$ or $-X_2NHC(O)R_{16}$; wherein X_2 is a bond or C_{1-4}alkylene; and R_{16} is hydrogen, C_{1-6}alkyl or C_{6-10}aryl-C_{0-4}alkyl; wherein said aryl of R_{16} is optionally substituted with 1 to 3 radicals that are independently halo, C_{1-6}alkyl, halo-substituted-C_{1-6}alkyl, C_{1-6}alkoxy or halo-substituted-C_{1-6}alkoxy;

or R_2 and R_3 together with the carbon atom to which R_2 and R_3 are attached form C_{3-8}cycloalkyl;

or R_2 and R_{13} together with the atoms to which R_2 and R_{13} are attached form a ring that is a saturated, unsaturated or partially unsaturated 5-9 member mono or fused heterocyclic ring containing up to three heteroatoms or groups that are independently N, C(O), NR_{30}, $S(O)_{0-2}$ or O; wherein R_{30} is hydrogen or C_{1-6}alkyl; wherein said heterocyclic formed by combination of R_2 and R_{13} is optionally substituted with 1 to 3 radicals that are independently halo, hydroxy, C_{1-6}alkyl or halo-substituted-C_{1-6}alkyl;

R_4 is hydrogen or C_{1-6}alkyl;

R_5 is hydrogen or C_{1-6}alkyl; or R_4 and R_5 together with the carbon atom to which R_4 and R_5 are attached form C_{3-8}cycloalkyl;

R_6 is C_{6-10}aryl, C_{3-8}cycloalkyl or a saturated, unsaturated or partially unsaturated 5-9 member mono or fused heterocyclic ring containing up to three heteroatoms or groups that are independently N, C(O), NR_{30}, $S(O)_{0-2}$ or O; wherein R_{30} is hydrogen or C_{1-6}alkyl; wherein said aryl or heterocyclic of R_6 is optionally substituted by 1 to 3 radicals that are independently halo, hydroxy, C_{1-6}alkyl or C_{1-6}alkoxy;

R_7 is hydrogen, methyl, ethyl or isopropyl; and

R_8 is phenyl, benzyl, benzo[d][1,3]dioxol-5-yl, cyclobutyl, cyclopentyl, cycloheptyl, cyclohexyl, bicyclo[2.2.1]heptyl, tetrahydro-2H-pyranyl, pyridinyl, piperidinyl, piperazinyl, quinolinyl, pyrrolidinyl or pyrazolyl; wherein said phenyl, benzyl, benzo[d][1,3]dioxol-5-yl, cyclobutyl, cyclopentyl, cycloheptyl, cyclohexyl, bicyclo[2.2.1]heptyl, tetrahydro-2H-pyranyl, pyridinyl, piperidinyl, piperazinyl, quinolinyl, pyrrolidinyl or pyrazolyl of R_8 is optionally

substituted by 1 to 3 radicals that are independently halo, cyano, methyl, ethyl, t-butyl, trifluoromethyl, trifluoromethoxy, dimethyl-amino, difluoromethoxy, carboxy, methoxy-carbonyl, methyl-sulfonyl-amino, methyl-sulfonyl, methyl-amino-carbonyl, phenyl, piperidinyl, piperidinyl-methyl, piperazinyl or piperazinyl-methyl;

R_9 is hydrogen or C_{1-6}alkyl;

R_{10} is hydrogen or C_{1-6}alkyl;

R_{11} is hydrogen or C_{1-6}alkyl; and

R_{12} is hydrogen or C_{1-6}alkyl, or R_{11} and R_{12} combine to form C(O).

2. The compound or salt thereof of claim 1 in which:

R_2 is hydrogen, methyl, ethyl, isopropyl, propyl, isobutyl, butyl, t-butyl, trifluoromethyl, trifluoro-ethyl, phenyl, benzyl, phenethyl, cyclobutyl-methyl, cyclopentyl, cyclohexyl, cyclohexyl-methyl, hydroxy-methyl or 1-hydroxy-ethyl; wherein said phenyl, benzyl or phenethyl of R_2 is optionally substituted with 1 to 3 radicals that are independently halo, methoxy, trifluoromethyl, hydroxy, nitro, cyano, amino-methyl, methyl-carbonyl-amino, $-NHR_{17}$, $-CH_2NHC(O)R_{17}$ or $-NHC(O)R_{17}$; wherein R_{17} is hydrogen, ethyl, propyl, butyl or pentyl; and

R_3 is hydrogen, methyl, methyl-carbonyl-amino-butyl, propyl-amino-carbonyl-methyl, carboxy-methyl, propyl-amino-carbonyl-methyl, butyl-amino-carbonyl-methyl, pentyl-amino-carbonyl-methyl, propyl-amino-carbonyl-ethyl, phenyl, benzyl-sulfanyl-methyl, benzoxy-carbonyl-methyl, methyl-sulfonyl-methyl or 1-(benzyloxy)ethyl, benzoxy-carbonyl-ethyl;

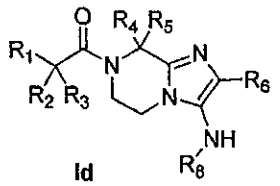
or R_2 and R_3 together with the carbon atom to which R_2 and R_3 are attached form cyclopropyl, cyclobutyl, cyclopentyl or cyclohexyl;

or R_2 and R_{13} together with the atoms to which R_2 and R_{13} are attached form piperidinyl, cyclobutyl, pyrrolidinyl, morpholino, piperidinyl, tetrahydrofuranyl, tetrahydro-2H-pyran-4-yl, indolyl, 2,6-dioxo-1,2,3,6-tetrahydropyrimidin-4-yl, oxopiperidin-3-yl or 4,5,6,7-tetrahydro-3H-imidazo[4,5-c]pyridin-6-yl.

3. The compound or salt of claim 1 or 2, in which R_4, R_5, R_9 and R_{10} are independently hydrogen or methyl; and R_{11} and R_{12} are both hydrogen or R_{11} and R_{12} combine to form C(O).

4. The compound or salt of claim 1, 2 or 3, in which: R_6 is phenyl, cyclohexyl or pyridinyl; wherein said phenyl or pyridinyl of R_6 is optionally substituted by 1 to 3 radicals that are independently halo, pentyl, hydroxy, methyl or methoxy.

5. A compound or a pharmaceutically acceptable salt thereof, wherein the compound is of Formula Id:



Id

in which:

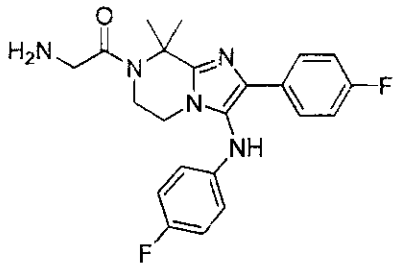
R_1 is $-NH_2$;

R_2, R_3, R_4 and R_5 are independently hydrogen or methyl;

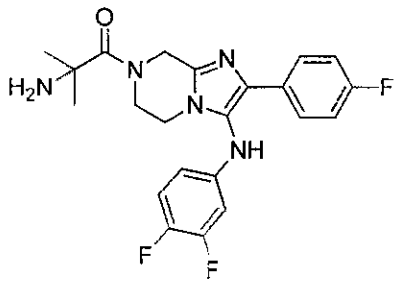
R_6 is phenyl substituted with a fluoro; and

R_8 is a phenyl substituted with 1 to 2 radicals that are independently chloro or fluoro.

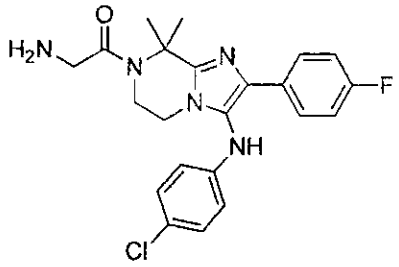
6. A compound or a pharmaceutically acceptable salt thereof, wherein the compound is 2-amino-1-(2-(4-fluorophenyl)-3-(4-fluorophenylamino)-8,8-dimethyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)ethanone, of the formula:



7. A compound or a pharmaceutically acceptable salt thereof, wherein the compound is 2-amino-1-(3-(3,4-difluorophenylamino)-2-(4-fluorophenyl)-5,6-dihydroimidazo [1,2-a]pyrazin-7(8H)-yl)-2-methylpropan-1-one, of the formula:



8. A compound or a pharmaceutically acceptable salt thereof, wherein the compound is 2-amino-1-(3-(4-chlorophenylamino)-2-(4-fluorophenyl)-8,8-dimethyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)ethanone, of the formula:



9. A compound or a pharmaceutically acceptable salt thereof, wherein the compound is:

2-amino-1-(3-(benzo[d][1,3]dioxol-5-ylamino)-2-phenyl-5,6-dihydroimidazo[1,2-a]pyrazin-7(8H)-yl)ethanone;

2-amino-1-{3-[(3,5-dimethylphenyl)amino]-2-phenyl-5H,6H,7H,8H-imidazo[1,2-

a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[3-(2H-1,3-benzodioxol-5-ylamino)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-[3-(cyclopentylamino)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[3-(cyclopentylamino)-2-phenyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-2-methyl-1-[2-phenyl-3-(phenylamino)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

methyl 4-{[7-(2-amino-2-methylpropanoyl)-2-phenyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzoate;

2-amino-1-[2-(2-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-{3-[(4-fluorophenyl)amino]-2-phenyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-{3-[(4-fluorophenyl)amino]-2-(2,4,6-trifluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-[2-(3,5-difluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-{3-[(4-fluorophenyl)amino]-2-(4-pentylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-{2-cyclohexyl-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-(pyridin-3-ylamino)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-phenylpropan-1-one;

(2R)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-phenylpropan-1-one;

2-amino-1-{3-[(4-bromophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-(dimethylamino)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[3-(benzylamino)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

N-{2-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxoethyl}acetamide;

2-amino-1-[3-(cyclohexylamino)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[2,3-bis(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(methylamino)ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(pyrrolidin-1-yl)ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-[(3-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-[(3-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(morpholin-4-yl)ethan-1-one;

2-(3,3-difluoropiperidin-1-yl)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxyethan-1-one;

7-[(1-aminocyclopropyl)carbonyl]-N,2-bis(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine;

N-{1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methyl-1-oxopropan-2-yl}acetamide;

2-amino-1-[2-(4-chlorophenyl)-3-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-3,3,3-trifluoro-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

2-amino-1-[2-(4-fluoro-2-hydroxyphenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(4-fluorophenyl)amino]-2-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(4-fluorophenyl)amino]-2-(4-methoxyphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[2-(4-bromophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(4-chlorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-(3,3-difluoropyrrolidin-1-yl)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(3R)-3-fluoropyrrolidin-1-yl]ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(3S)-3-fluoropyrrolidin-1-yl]ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(4-fluoropiperidin-1-yl)ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[4-(trifluoromethyl)piperidin-1-yl]ethan-1-one;

2-(4,4-difluoropiperidin-1-yl)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[3-(trifluoromethyl)piperidin-1-yl]ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(3-hydroxypiperidin-1-yl)ethan-1-one;

2-[(2,2-difluoroethyl)amino]-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(3,5-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-{3-[(3,5-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-(cyclopropylamino)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-

5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(2-methylpropyl)amino]ethan-1-one;

2-amino-1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-{[4-(trifluoromethyl)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-{[4-(trifluoromethyl)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-(3,3-difluoropiperidin-1-yl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(methylamino)ethan-1-one;

1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(3,3-difluoropiperidin-1-yl)ethan-1-one;

1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(methylamino)ethan-1-one;

2-amino-1-{3-[(3-chloro-4-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(2,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-{3-[(2,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxypropan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-phenylethan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2R)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]butan-1-one;

2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[(2R)-pyrrolidin-2-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine;

2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[(2S)-pyrrolidin-2-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine;

2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

(2R)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenylethan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenylethan-1-one;

1-{[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]carbonyl}cyclopropan-1-ol;

N-[(5S)-5-amino-6-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-6-oxohexyl]acetamide;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-methylbutan-1-one;

(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-phenylpropan-1-one;

2-(4-fluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxyethan-1-one;

(2R)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-phenylpropan-1-one;

(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3,3-dimethylbutan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-phenylpropan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2,2-diphenylethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-(trifluoromethyl)butan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-methylpropan-1-one;

1-{[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]carbonyl}cyclopentan-1-ol;

1-{[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]carbonyl}cyclohexan-1-ol;

(2R)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-4-phenylbutan-1-one;

(2S)-2-cyclohexyl-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxyethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-(4-methoxyphenyl)ethan-1-one;

2-(3,5-difluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxyethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-[3-(trifluoromethyl)phenyl]ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methoxy-2-phenylethan-1-one;

2-(4-bromophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxyethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-[4-(trifluoromethyl)phenyl]ethan-1-one;

3,3,3-trifluoro-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methoxy-2-phenylpropan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-(3-hydroxyphenyl)ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-(4-hydroxyphenyl)ethan-1-one;

2-(2-chlorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxyethan-1-one;

2-(4-bromo-2-fluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxyethan-1-one;

2-(4-chlorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxyethan-1-one;

(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-4-methylpentan-1-one;

(2R)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-phenylethan-1-one;

(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-2-phenylethan-1-one;

7-[(1-aminocyclobutyl)carbonyl]-2-(4-fluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine;

7-[(1-aminocyclopentyl)carbonyl]-2-(4-fluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine;

7-[(1-aminocyclohexyl)carbonyl]-2-(4-fluorophenyl)-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine;

2-amino-4,4,4-trifluoro-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]butan-1-one;

2-amino-3,3,3-trifluoro-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2S)-3-cyclohexyl-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxypropan-1-one;

2-(benzylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-(dipropylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

(2S)-2-(dipropylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(methylamino)-3-phenylpropan-1-one;

benzyl (4S)-4-{[(tert-butoxy)carbonyl]amino}-5-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-5-oxopentanoate;

benzyl (3S)-3-{[(tert-butoxy)carbonyl]amino}-4-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-oxobutanoate;

2-(cyclopropylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

N-[4-({2-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxoethyl}amino)butyl]acetamide;

(2S)-2-amino-3-(4-aminophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

N-[(5S)-5-amino-6-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-6-oxohexyl]butanamide;

N-{4-[(2S)-2-amino-3-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-oxopropyl]phenyl}acetamide;

2-[bis(2-hydroxyethyl)amino]-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxypropan-1-one;

2,2,2-trifluoro-N-[(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxy-1-oxopropan-2-yl]acetamide;

1-{2-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxoethyl}guanidine;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(phenylamino)ethan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methylbutan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3,3-dimethylbutan-1-one;

2-(4-chlorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

2-(4-chlorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenylpropan-1-one;

2-(4-fluorophenyl)-7-{[(6S)-1H,4H,5H,6H,7H-imidazo[4,5-c]pyridin-6-yl]carbonyl}-N-(4-methylphenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine;

(2S)-2-(dimethylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-phenylpropan-1-one;

2-[4-(2-aminoethyl)piperidin-1-yl]-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

tert-butyl N-[(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-1-oxo-3-(4-propanamidophenyl)propan-2-yl]carbamate;

tert-butyl N-[(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-1-oxo-3-(propylcarbamoyl)propan-2-yl]carbamate;

N-{4-[(2S)-2-amino-3-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-oxopropyl]phenyl}propanamide;

(4S)-4-amino-5-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-5-oxo-N-propylpentanamide;

(3S)-3-amino-4-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-oxo-N-propylbutanamide;

2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3,3,3-trifluoropropan-1-one;

(2R)-2-amino-3,3,3-trifluoro-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2S)-2-amino-3,3,3-trifluoro-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

N-{4-[(2S)-2-amino-3-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-oxopropyl]phenyl}butanamide;

(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methoxypropan-1-one;

2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[(2R)-oxolan-2-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine;

2-(4-fluorophenyl)-N-(4-methylphenyl)-7-{[(2S)-oxolan-2-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenoxybutan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenoxypropan-1-one;

2-(3-chlorophenoxy)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-methylbutan-1-one;

(2R)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-methylbutan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(pyrimidin-4-yl)ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methyl-2-(2-methylphenoxy)butan-1-one;

(2S)-2-ethoxy-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-(4-hydroxyphenyl)propan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(oxolan-2-yl)ethan-1-one;

(2S)-2-amino-3-[4-(aminomethyl)phenyl]-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

2-(1-ethylpiperidin-4-yl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

N-({4-[(2S)-2-amino-3-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-

5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-oxopropyl]phenyl}methyl)butanamide;

N-({4-[(2S)-2-amino-3-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-oxopropyl]phenyl}methyl)propanamide;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(piperidin-4-yl)ethan-1-one;

2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3,3,3-trifluoropropan-1-one;

(2R)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-phenylpropan-1-one;

(2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-phenylpropan-1-one;

(2R)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenylbutan-1-one;

(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenylbutan-1-one;

2-cyclopentyl-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenylethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(pyridin-4-yl)ethan-1-one;

2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-(3,5-dichlorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methyl-2-phenylbutan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(4-methylphenyl)ethan-1-one;

2-(4-fluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxy-3-methylbutan-1-one;

benzyl (3S)-3-{[(tert-butoxy)carbonyl]amino}-4-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-4-oxobutanoate;

benzyl (3S)-3-{[(tert-butoxy)carbonyl]amino}-4-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-oxobutanoate;

tert-butyl N-[(2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(4-nitrophenyl)-1-oxopropan-2-yl]carbamate;

tert-butyl N-[(2S)-1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-(4-nitrophenyl)-1-oxopropan-2-yl]carbamate;

(3S)-3-{[(tert-butoxy)carbonyl]amino}-4-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-4-oxobutanoic acid;

(3S)-3-{[(tert-butoxy)carbonyl]amino}-4-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-oxobutanoic acid;

tert-butyl N-[(2S)-3-(4-aminophenyl)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-1-oxopropan-2-yl]carbamate;

tert-butyl N-[(2S)-3-(4-aminophenyl)-1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-1-oxopropan-2-yl]carbamate;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxy-2,2-dimethylpropan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxy-2-(hydroxymethyl)-2-methylpropan-1-one;

tert-butyl N-[(2S)-3-(3-aminophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-1-oxopropan-2-

yl]carbamate;

tert-butyl N-[(2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-1-oxo-3-(propylcarbamoyl)propan-2-yl]carbamate;

tert-butyl N-[(2S)-1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-1-oxo-3-(propylcarbamoyl)propan-2-yl]carbamate;

tert-butyl N-[(2S)-1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-1-oxo-3-(pentylcarbamoyl)propan-2-yl]carbamate;

tert-butyl N-[(2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-1-oxo-3-(4-pentanamidophenyl)propan-2-yl]carbamate;

tert-butyl N-[(2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-1-oxo-3-(4-propanamidophenyl)propan-2-yl]carbamate;

tert-butyl N-[(2S)-1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-1-oxo-3-(4-pentanamidophenyl)propan-2-yl]carbamate;

(3S)-3-amino-4-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-4-oxo-N-propylbutanamide;

(3S)-3-amino-4-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-oxo-N-propylbutanamide;

(3S)-3-amino-4-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-oxo-N-pentylbutanamide;

N-{4-[(2S)-2-amino-3-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-oxopropyl]phenyl}pentanamide;

N-{4-[(2S)-2-amino-3-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-oxopropyl]phenyl}propanamide;

N-{4-[(2S)-2-amino-3-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-oxopropyl]phenyl}pentanamide;

N-{4-[(2S)-2-amino-3-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-oxopropyl]phenyl}propanamide;

4-{[7-(2-amino-2-methylpropanoyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzonitrile;

4-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzonitrile;

tert-butyl N-[(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-1-oxo-3-[4-(pentylamino)phenyl]propan-2-yl]carbamate;

2-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxo-1-phenylethyl propanoate;

2-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxo-1-phenylethyl butanoate;

2-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxo-1-phenylethyl pentanoate;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-[4-(pentylamino)phenyl]propan-1-one;

(2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-[(2-methoxyethyl)amino]-3-phenylpropan-1-one;

(2R)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxypropan-1-one;

(2R,3S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxybutan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-methanesulfonylbutan-1-one;

(3R)-3-amino-4-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-oxobutanoic acid;

(2R)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methanesulfonylpropan-1-one;

N-[(1S)-2-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxo-1-phenylethyl]propanamide;

N-[(1S)-2-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-oxo-1-phenylethyl]butanamide;

2-amino-1-{3-[(4-chloro-3-fluorophenyl)(methyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(4-chloro-3-fluorophenyl)(methyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

(2S)-2-(butylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-phenylethan-1-one;

(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(pentylamino)-2-phenylethan-1-one;

(2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-methoxypropan-1-one;

1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(pyridin-4-yl)ethan-1-one;

1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(1H-indol-1-yl)ethan-1-one;

1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(1-ethylpiperidin-4-yl)ethan-1-one;

1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(phenylamino)ethan-1-one;

1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(1H-indazol-3-yl)ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-

a]pyrazin-7-yl]-2-(propylamino)ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(pentylamino)ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(2-methoxyethyl)amino]ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(3-methoxypropyl)amino]ethan-1-one;

(2R)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-phenylpropan-1-one;

(2S,3S)-2-amino-3-(benzyloxy)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}butan-1-one;

(2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-methylbutan-1-one;

(2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one;

(2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(1,3-thiazol-4-yl)propan-1-one;

(2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(4-fluorophenyl)propan-1-one;

(2S,3S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-methylpentan-1-one;

(2R)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-methylbutan-1-one;

(2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(3,4-difluorophenyl)propan-1-one;

1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methyl-2-(methylamino)propan-1-one;

(2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-4-methylpentan-1-one;

N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-7-[(morpholin-3-yl)carbonyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine;

(2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-phenylpropan-1-one;

(2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-cyclobutylpropan-1-one;

(2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3,3-dimethylbutan-1-one;

(2R)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one;

4-[(2S)-2-amino-3-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-oxopropyl]benzonitrile;

1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-phenyl-2-(phenylamino)ethan-1-one;

1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-[2-(trifluoromethoxy)phenyl]ethan-1-one;

(2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-hydroxy-3-phenylpropan-1-one;

1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-[4-fluoro-3-(trifluoromethyl)phenyl]ethan-1-one;

1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-phenoxyethan-1-one;

N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-7-{[(2S)-pyrrolidin-2-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine;

N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-7-{[(3S)-pyrrolidin-3-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine;

(2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(4-methylphenyl)propan-1-one;

N-(4-chloro-3-fluorophenyl)-7-[(2,3-dihydro-1H-isoindol-1-yl)carbonyl]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine;

N-(4-chloro-3-fluorophenyl)-7-{[(2S)-2,3-dihydro-1H-indol-2-yl]carbonyl}-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine;

(2R)-2-amino-3-(4-bromophenyl)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-

fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one;

(2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-{[(4-methoxyphenyl)methyl]sulfanyl}propan-1-one;

2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-4,4,4-trifluorobutan-1-one;

2-(2-butoxyethoxy)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-ethoxy-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(2-methoxyethoxy)ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-6-methyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

5-{[7-(2-amino-2-methylpropanoyl)-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-fluorobenzonitrile;

2-{[2-chloro-4-(trifluoromethyl)phenyl]amino}-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methylbutan-1-one;

N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-7-{[(2R)-oxolan-2-yl]carbonyl}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine;

1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(1-methyl-1H-indol-3-yl)ethan-1-one;

(2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-hydroxy-4-methylpentan-1-one;

(2R)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-hydroxy-3-methylbutan-1-one;

2-[(3-chlorophenyl)amino]-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-

5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(4-methylphenyl)amino]ethan-1-one;

2-(4-chloro-3-fluorophenyl)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(4-methoxyphenyl)amino]-2-methylpropan-1-one;

2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(3,4-dichlorophenyl)ethan-1-one;

2-amino-3,3,3-trifluoro-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-7-[(morpholin-2-yl)carbonyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine;

2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-[4-(trifluoromethyl)phenyl]ethan-1-one;

2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(4-chlorophenyl)ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(4-methylphenyl)amino]-2-phenylethan-1-one;

N-(4-chloro-3-fluorophenyl)-2-(4-fluorophenyl)-7-[(4-methylmorpholin-2-yl)carbonyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-amine;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(2-fluorophenyl)amino]ethan-1-one;

1-[2-(4-fluorophenyl)-3-{(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methyl-2-(phenylamino)propan-1-one;

2-amino-1-(3-{[4-fluoro-2-(trifluoromethyl)phenyl]amino}-2-(3-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl)-2-methylpropan-1-one;

(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methyl-2-(methylamino)butan-1-one;

(2R)-1-[2-(4-fluorophenyl)-3-{(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-methyl-2-(methylamino)pentan-1-one;

(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-methyl-2-(methylamino)pentan-1-one;

2-amino-1-[2-(3,4-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-[(2,6-dimethylphenyl)amino]-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

2-amino-1-[2-(2-methoxyphenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(4-methylphenyl)amino]-2-(pyridin-4-yl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[2-(3-chlorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-[(2,4-dimethylphenyl)amino]-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(3,4-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methyl-2-[(4-methylphenyl)amino]propan-1-one;

2-amino-1-[2-(2,4-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

(2S)-2-[benzyl(methyl)amino]-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(methylamino)hexan-1-one;

1-[2-(3,4-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(4-methylphenyl)ethan-1-one;

(2R)-1-[2-(3,4-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-methylbutan-1-one;

(2S)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(methylamino)pentan-1-one;

(2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-

5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}butan-1-one;

(2R)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-4-methylpentan-1-one;

2-amino-1-[2-(2,4-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

(2S)-2-amino-1-[2-(3,4-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methylbutan-1-one;

2-amino-1-[2-(3-chlorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-2-methyl-1-{3-[(4-methylphenyl)amino]-2-(pyridin-4-yl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one;

2-(tert-butylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

(2S)-3-(4-chlorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-(methylamino)propan-1-one;

(2S)-2-amino-3-cyclopropyl-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2R)-2-(benzylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2S)-2-(benzylamino)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2S)-2-amino-2-cyclopropyl-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

(2S)-2-amino-3-(3,4-difluorophenyl)-1-[2-(3,4-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2S)-2-amino-1-[2-(3,4-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-[(4-methylphenyl)amino]propan-1-one;

2-amino-1-[2-(2,5-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(3,4-dichlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

(2R)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methyl-2-(methylamino)butan-1-one;

2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[2-(2,5-difluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

4-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzonitrile;

2-amino-1-{3-[(3,4-difluoro-5-methoxyphenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-{3-[(4-fluoro-3,5-dimethylphenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

(2S)-2-amino-3-cyclobutyl-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one;

(2R)-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-hydroxy-3-methylbutan-1-one;

(2S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(1,3-thiazol-4-yl)propan-1-one;

(2S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-

5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(4-methylphenyl)propan-1-one;

(2S)-2-amino-3-(3,4-difluorophenyl)-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one;

(2S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-methylbutan-1-one;

(2S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one;

(2S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(4-fluorophenyl)ethan-1-one;

(2S)-2-amino-2-cyclopropyl-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

(2S)-2-amino-3-cyclopropyl-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one;

(2S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-4-methylpentan-1-one;

(2S)-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-hydroxy-3-methylbutan-1-one;

(2S,3S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-methylpentan-1-one;

(2S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(4-fluorophenyl)propan-1-one;

(2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}propan-1-one;

(2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-methylbutan-1-one;

(2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-cyclopropylethan-1-one;

(2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-cyclopropylpropan-1-one;

(2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-cyclobutylpropan-1-one;

(2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-4-methylpentan-1-one;

(2S,3S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-methylpentan-1-one;

(2S)-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-hydroxy-3-methylbutan-1-one;

(2R)-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-hydroxy-3-methylbutan-1-one;

(2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(4-fluorophenyl)ethan-1-one;

(2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(4-fluorophenyl)propan-1-one;

(2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(4-methylphenyl)propan-1-one;

(2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(3,4-difluorophenyl)propan-1-one;

(2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-(1,3-thiazol-4-yl)propan-1-one;

(2S)-2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3,3-dimethylbutan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methylbutan-1-one;

(2S)-2-amino-2-cyclopropyl-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

(2S)-2-amino-3-cyclopropyl-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2S)-2-amino-3-cyclobutyl-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-methylpentan-1-one;

(2S,3S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-

imidazo[1,2-a]pyrazin-7-yl]-3-methylpentan-1-one;

(2S)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-methylbutan-1-one;

(2R)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-methylbutan-1-one;

(2S)-2-amino-2-(4-fluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

(2S)-2-amino-3-(4-fluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-(4-methylphenyl)propan-1-one;

(2S)-2-amino-3-(3,4-difluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-(1,3-thiazol-4-yl)propan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3,3-dimethylbutan-1-one;

(2S)-2-amino-3-cyclobutyl-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-4-methylpentan-1-one;

(2S,3S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-methylpentan-1-one;

(2S)-2-amino-2-(4-fluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-(4-methylphenyl)propan-1-one;

(2S)-2-amino-3-(4-fluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2S)-2-amino-3-(3,4-difluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]propan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-(1,3-thiazol-4-yl)propan-1-one;

(2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-cyclopropylethan-1-one;

(2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3-cyclopropylpropan-1-one;

(2S)-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-hydroxy-3-methylbutan-1-one;

(2S)-2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-(4-fluorophenyl)ethan-1-one;

(2S)-2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-3,3-dimethylbutan-1-one;

2-amino-1-{3-[(3-chloro-4-fluorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-{3-[(4-fluoro-3-methylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(4-chloro-3-methylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(3-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

(2S)-2-amino-3-(4-fluorophenyl)-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2,4-dimethylpentan-1-one;

(2S)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxy-2-methylpropan-1-one;

(2R)-2-amino-1-[2-(4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-3-hydroxy-2-methylpropan-1-one;

2-amino-1-[2-(4-fluoro-3-methylphenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(4-fluoro-3-methylphenyl)-3-[(4-methylphenyl)amino]-

5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-[2-(3-chloro-4-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(4-chloro-3-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(4-chloro-3-fluorophenyl)-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

5-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-fluorobenzonitrile;

5-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-methylbenzonitrile;

2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-[3-(cyclohexylamino)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(3-chloro-4-methylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(3-fluoro-4-methylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

4-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-chlorobenzonitrile;

N-(3-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}phenyl)methanesulfonamide;

3-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-N-methylbenzamide;

2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(3,4,5-trifluorophenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-6,6-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-[(4-methanesulfonylphenyl)amino]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-{[4-(4-methylpiperazin-1-yl)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-6,6-dimethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-6,6-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-6,6-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(3-chloro-4-fluorophenyl)amino]-2-(4-fluorophenyl)-6,6-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

5-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-6,6-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-fluorobenzonitrile;

2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-{3-[(3-chloro-4-fluorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-{3-[(3,4-dichlorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-{3-[(4-fluoro-3-methylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-{3-[(4-chloro-3-methylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

5-{[7-(2-amino-2-methylpropanoyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-methylbenzonitrile;

4-{[7-(2-amino-2-methylpropanoyl)-2-(4-fluorophenyl)-8,8-dimethyl-

5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-chlorobenzonitrile;

(2S)-1-[2-(3-fluorophenyl)-5,5-dimethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-methylbutan-1-one;

2-amino-1-[2-(3-fluorophenyl)-5,5-dimethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-[2-(3-fluorophenyl)-5,5-dimethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[(8S)-3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-8-(propan-2-yl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[(8R)-3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-8-methyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[(8S)-3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-8-methyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

(2S)-1-[2-(3-fluorophenyl)-5,5-dimethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-hydroxy-3-phenylpropan-1-one;

2-amino-1-{3-[(1,5-dimethyl-1H-pyrazol-3-yl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(1-ethyl-1H-pyrazol-5-yl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[(8R)-3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-8-(propan-2-yl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(4-chlorophenyl)amino]-2-(3-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[2-(3-fluorophenyl)-3-[(4-fluorophenyl)amino]-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(3,4-difluorophenyl)amino]-2-(3-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(3-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(3-chloro-4-fluorophenyl)amino]-2-(3-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(4-fluoro-3-methylphenyl)amino]-2-(3-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(4-chloro-3-methylphenyl)amino]-2-(3-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(4-fluoro-3-methylphenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-{3-[(4-chloro-3-methylphenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

5-{[7-(2-amino-2-methylpropanoyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-methylbenzonitrile;

2-amino-1-{3-[(3-fluoro-4-methylphenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-{3-[(3-chloro-4-methylphenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-(3-{[3-chloro-4-(trifluoromethyl)phenyl]amino}-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl)-2-methylpropan-1-one;

2-amino-1-(3-{[4-fluoro-3-(trifluoromethyl)phenyl]amino}-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl)-2-methylpropan-1-one;

4-{[7-(2-amino-2-methylpropanoyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-(trifluoromethyl)benzonitrile;

5-{[7-(2-amino-2-methylpropanoyl)-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-fluorobenzonitrile;

2-amino-1-{3-[(3,4-dimethylphenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-[(3-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-{3-[(3-chlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-{[3-(trifluoromethoxy)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-{3-[(4-ethylphenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-

imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-(3-{[4-(difluoromethoxy)phenyl]amino}-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl)-2-methylpropan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-{[4-(trifluoromethoxy)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

2-amino-1-{3-[(3,5-dichlorophenyl)amino]-2-(4-fluorophenyl)-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}-2-methylpropan-1-one;

2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-phenylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(4-ethylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-{[4-(trifluoromethoxy)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-{[3-(trifluoromethoxy)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(3-chlorophenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-{[3-(trifluoromethyl)phenyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

3-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}benzonitrile;

2-amino-1-{3-[(3,4-dimethylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

4-{[7-(2-aminoacetyl)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-3-yl]amino}-2-(trifluoromethyl)benzonitrile;

2-amino-1-{3-[(3,5-dimethylphenyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-(3-{[4-fluoro-3-(trifluoromethyl)phenyl]amino}-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl)ethan-1-one;

2-amino-1-(3-{[3-chloro-4-(trifluoromethyl)phenyl]amino}-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl)ethan-1-one;

2-amino-1-{3-[(4-chloro-3-methylphenyl)amino]-2-(4-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(4,4-difluorocyclohexyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-phenylcyclohexyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-{[4-(trifluoromethyl)cyclohexyl]amino}-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(4-tert-butylcyclohexyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(2-methylcyclohexyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[3-(cycloheptylamino)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(3,3,5-trimethylcyclohexyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(1R,2R,4S)-bicyclo[2.2.1]heptan-2-ylamino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[3-(cyclopentylamino)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[3-(cyclobutylamino)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(4-chloro-3-fluorophenyl)amino]-2-(4-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)amino]-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-5,5-dimethyl-3-[(4-methylphenyl)amino]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(4-chlorophenyl)amino]-2-(4-fluorophenyl)-5,5-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(4-chlorophenyl)(methyl)amino]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)methyl]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-methylphenyl)methyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-[(4-methoxyphenyl)methyl]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(3,4-difluorophenyl)methyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)methyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]-2-methylpropan-1-one;

7-(2-aminoacetyl)-N,2-bis(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazine-3-carboxamide;

2-amino-1-[3-(4-fluorophenoxy)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[3-(4-chlorophenoxy)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[3-(3,4-difluorophenoxy)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[3-(4-fluoro-3-methylphenoxy)-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-methylphenyl)sulfanyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-[(3-fluorophenyl)sulfanyl]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-3-[(4-fluorophenyl)sulfanyl]-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(4-chlorophenyl)sulfanyl]-2-(4-fluorophenyl)-8,8-dimethyl-

5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(3,5-dimethylphenyl)sulfanyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(3,4-difluorophenyl)sulfanyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(3-fluorobenzene)sulfinyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(4-fluorobenzene)sulfinyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-methylbenzene)sulfinyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one;

2-amino-1-{3-[(3,5-dimethylbenzene)sulfinyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(3,4-difluorobenzene)sulfinyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one;

2-amino-1-{3-[(4-chlorobenzene)sulfinyl]-2-(4-fluorophenyl)-8,8-dimethyl-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl}ethan-1-one; or

2-amino-1-[2-(4-fluorophenyl)-8,8-dimethyl-3-[(4-methylbenzene)sulfonyl]-5H,6H,7H,8H-imidazo[1,2-a]pyrazin-7-yl]ethan-1-one.

10. A composition comprising the compound or salt thereof of any one of claims 1 to 9 and a pharmaceutically acceptable carrier.

11. Use of the compound or salt thereof of any one of claims 1 to 9, for treating a Plasmodium related disease in a subject to prevent, inhibit or ameliorate pathology and/or symptomology of the disease, optionally in combination with a second agent.

12. Use of the compound or salt thereof of any one of claims 1 to 9, for preparation of a medicament for treating a Plasmodium related disease in a subject to prevent, inhibit or ameliorate pathology and/or symptomology of the disease, optionally in combination with a second agent.

13. The use of claim 11 or 12, wherein the Plasmodium related disease is malaria.

14. The use of claim 11, 12 or 13, wherein the second agent is a kinase inhibitor, an anti-malarial drug or an anti-inflammatory agent.

15. The use of claim 14, wherein the anti-malarial drug is proguanil, chlorproguanil, trimethoprim, chloroquine, mefloquine, lumefantrine, atovaquone, pyrimethamine-sulfadoxine, pyrimethamine-dapsone, halofantrine, quinine, quinidine, amodiaquine, amopyroquine, sulphonamides, artemisinin, arteflene, artemether, artesunate, primaquine, or pyronaridine.

16. The use of any one of claims 11 to 15, wherein the compound or salt thereof of any one of claims 1 to 9, is for administration prior to, simultaneously with, or after the second agent.