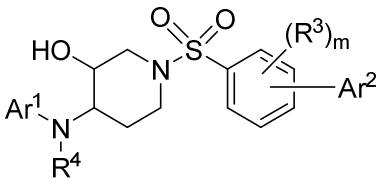


(I)

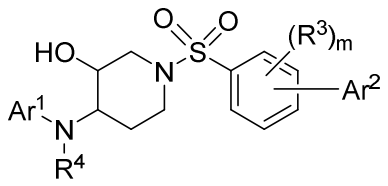
wherein Ar^1, Ar^2, R^3, R^4, and m have the meanings provided in the Detailed Description, below. The compounds have utility in the treatment of diseases or conditions modulated at least in part by CCR6. In one aspect, the present disclosure refers to a compound having formula (I):



(I),

or a pharmaceutically acceptable salt, hydrate, solvate, N-oxide, optically enriched form, or rotamer thereof, wherein Ar^1 is a monocyclic 5- or 6-membered aromatic or heteroaromatic ring having 0 to 3 heteroatoms as ring vertices selected from N, O, and S that is substituted with from 0 to 5 R^1 substituents independently selected from the group consisting of halogen, CN, C_{1-8} alkyl, C_{3-8} cycloalkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, C_{1-8} haloalkyl, C_{1-8} hydroxyalkyl, $-OR^a$, and $-NR^aR^b$; each R^a and R^b is independently selected from the group consisting of hydrogen, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} hydroxyalkyl, and C_{3-6} cycloalkyl; Ar^2 is selected from the group consisting of: i) monocyclic 5- or 6-membered aromatic or heteroaromatic ring having 0 to 3 heteroatoms as ring vertices selected from N, O and S, and which is substituted with 0 to 5 R^2; and ii) bicyclic 9- or 10-membered fused aromatic or heteroaromatic ring having 0 to 4 heteroatoms as ring vertices selected from N, O and S, and which is substituted with 0 to 5 R^2; each R^2 is independently selected from the group consisting of halogen, CN, C_{1-8} alkyl, C_{3-8} cycloalkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, C_{1-8} haloalkyl, C_{1-8} hydroxyalkyl, $-OR^c$, $-SR^c$, $-COR^c$, $-CO_2R^c$, $-NR^cR^d$, $-CONR^cR^d$, $-CO(NR^c)_2COR^d$, $-SO_2R^c$, $-SO_2NR^cR^d$, $-X^2$-$CONR^cR^d$, $-X^2$-$NR^cSO_2R^d$, $-X^2$-$NR^cCO_2R^d$, $-X^2$-$P(=O)(OR^d)_2$, $-X^2$-O-$P(=O)(OR^d)_2$, $-N(R^c)$-R^d-X^2-NR^cR^d, oxo, 4- to 6-membered heterocyclyl, 7- to 10-membered spiroheterocyclyl and 5- or 6-membered heteroaryl; and wherein the heterocyclyl, spiroheterocyclyl and heteroaryl rings of R^2 have from 1 to 3 heteroatoms selected from N, O, and S, and are each unsubstituted or substituted with one or two members independently selected

from the group consisting of halogen, hydroxyl, oxo, C_{1-4} alkyl, amino, C_{1-4} alkylamino, di-C_{1-4} alkylamino, C_{1-4} alkoxy, C_{1-4} hydroxalkyl, and C_{1-4} haloalkyl; and wherein two R^2 groups attached to the same carbon atom are optionally combined to form a 3- to 6-membered spirocyclic ring or a 3- to 6- membered spiroheterocyclic ring having from 1 to 3 heteroatoms selected from N, O, and S; R^c is independently selected from the group consisting of hydrogen, hydroxyl, C_{1-4} alkyl, C_{1-4} haloalkyl, and C_{1-4} hydroxyalkyl; R^d is independently selected from the group consisting of hydrogen, hydroxyl, halogen, cyano, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} hydroxyalkyl, C_{3-6} cycloalkyl, 4- to 6-membered heterocyclyl, and 5- or 6-membered heteroaryl; and wherein the C_{3-6} cycloalkyl, 4- to 6-membered heterocyclyl, and 5- or 6-membered heteroaryl rings of R^d have from 1 to 3 heteroatoms selected from N, O, and S, and are each unsubstituted or substituted with one or two members independently selected from the group consisting of halogen, hydroxyl, oxo, C_{1-4} alkyl, amino, C_{1-4} alkylamino, di-C_{1-4} alkylamino, C_{1-4} alkoxy, C_{1-4} hydroxalkyl, and C_{1-4} haloalkyl; or R^c and R^d, when attached to the same nitrogen atom are joined to form a 4- to 7-membered heterocyclic ring having from 0 to 2 additional heteroatoms as ring vertices selected from O, S, S(O), $S(O)_2$, NH and N(C_{1-4} alkyl); X^2 is C_{1-4} alkylene; m is 0, 1 or 2; each R^3 is selected from the group consisting of halogen, CN, C_{1-4} alkyl, C_{1-4} alkoxy, C_{3-8} cycloalkyl, C_{1-4} haloalkyl, C_{1-4} haloalkoxy, and C_{2-4} hydroxyalkyl; and R^4 is selected from the group consisting of H, C_{1-4} alkyl, C_{3-8} cycloalkyl, and C_{1-4} haloalkyl. In another aspect, the present disclosure refers to a compound having formula (I):

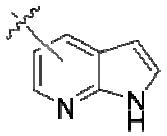
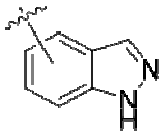
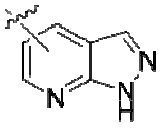
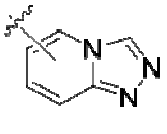


(I),

or a pharmaceutically acceptable salt, hydrate, solvate, N-oxide, optically enriched form, or rotamer thereof, wherein Ar^1 is a 5- or 6-membered aromatic or heteroaromatic ring that is substituted with from 0 to 5 R^1 substituents independently selected from the group consisting of halogen, CN, C_{1-8} alkyl, C_{3-8} cycloalkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, C_{1-8} haloalkyl, C_{1-8} hydroxyalkyl, -OR^a, and -NR^aR^b; each R^a and R^b is independently selected from the group consisting of hydrogen, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} hydroxyalkyl, and C_{3-6} cycloalkyl; Ar^2 is selected from the group consisting of: i) monocyclic 5- or 6-membered aromatic or

heteroaromatic ring having 0 to 3 heteroatoms as ring vertices selected from N, O and S, and which is substituted with 0 to 5 R^2; and ii) bicyclic 9- or 10-membered fused aromatic or heteroaromatic ring having 0 to 4 heteroatoms as ring vertices selected from N, O and S, and which is substituted with 0 to 5 R^2; each R^2 is independently selected from the group consisting of halogen, CN, C_{1-8} alkyl, C_{3-8} cycloalkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, C_{1-8} haloalkyl, C_{1-8} hydroxyalkyl, $-OR^c$, $-SR^c$, $-COR^c$, $-CO_2R^c$, $-NR^cR^d$, $-CONR^cR^d$, $-CO(NR^c)_2COR^d$, $-SO_2R^c$, $-SO_2NR^cR^d$, $-X^2$-$CONR^cR^d$, $-X^2$-$NR^cSO_2R^d$, $-X^2$-$NR^cCO_2R^d$, $-X^2$-$P(=O)(OR^d)_2$, $-X^2$-O-$P(=O)(OR^d)_2$, $-NR^cR^d$-X^2-NR^cR^d, oxo, 4- to 6-membered heterocyclyl, 7- to 10-membered spiroheterocyclyl and 5- or 6-membered heteroaryl; and wherein the heterocyclyl, spiroheterocyclyl and heteroaryl rings of R^2 are each unsubstituted or substituted with one or two members independently selected from the group consisting of halogen, hydroxyl, oxo, C_{1-4} alkyl, amino, C_{1-4} alkylamino, di-C_{1-4} alkylamino, C_{1-4} alkoxy, C_{1-4} hydroxalkyl, and C_{1-4} haloalkyl; and wherein two R^2 groups attached to the same carbon atom are optionally combined to form a 3- to 6-membered spirocyclic ring; R^c is independently selected from the group consisting of hydrogen, hydroxyl, halogen, cyano, C_{1-4} alkyl, C_{1-4} haloalkyl, and C_{1-4} hydroxyalkyl; R^d is independently selected from the group consisting of hydrogen, hydroxyl, halogen, cyano, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} hydroxyalkyl, C_{3-6} cycloalkyl, 4- to 6-membered heterocyclyl, and 5- or 6-membered heteroaryl; and wherein the C_{3-6} cycloalkyl, 4- to 6-membered heterocyclyl, and 5- or 6-membered heteroaryl rings of R^d are each unsubstituted or substituted with one or two members independently selected from the group consisting of halogen, hydroxyl, oxo, C_{1-4} alkyl, amino, C_{1-4} alkylamino, di-C_{1-4} alkylamino, C_{1-4} alkoxy, C_{1-4} hydroxalkyl, and C_{1-4} haloalkyl; or R^c and R^d, when attached to the same nitrogen atom are joined to form a 4- to 7-membered heterocyclic ring having from 0 to 2 additional heteroatoms as ring vertices selected from O, S, S(O), $S(O)_2$, NH and $N(C_{1-4}$ alkyl); X^2 is C_{1-4} alkylene; m is 0, 1 or 2; each R^3 is selected from the group consisting of halogen, CN, C_{1-4} alkyl, C_{1-4} alkoxy, C_{3-8} cycloalkyl, C_{1-4} haloalkyl, C_{1-4} haloalkoxy, and C_{2-4} hydroxyalkyl; and R^4 is selected from the group consisting of H, C_{1-4} alkyl, C_{3-8} cycloalkyl, and C_{1-4} haloalkyl. In another aspect, the present disclosure refers to a compound as described herein, or a pharmaceutically acceptable salt, hydrate, solvate, N-oxide or rotamer thereof, wherein Ar^2 is a bicyclic 9- or 10-membered fused aromatic or heteroaromatic ring that is substituted with 0 to 5 R^2. In another aspect, the present disclosure refers to a compound as described herein, or a pharmaceutically acceptable salt, hydrate, solvate, N-oxide or rotamer

thereof, wherein Ar^2 is a monocyclic 5- or 6-membered aromatic or heteroaromatic ring that is substituted with 0 to 5 R^2. In another aspect, the present disclosure refers to a compound as described herein, wherein Ar^1 is phenyl, substituted with from 1 to 3 R^1 substituents. In yet another aspect, the present disclosure refers to a compound as described herein, wherein Ar^1 is pyridyl, substituted with from 1 to 3 R^1 substituents. In another aspect, the present disclosure refers to a compound as described herein, wherein Ar^2 is selected from the group consisting of


,

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, and

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each of which is substituted with from 0-3 R^2. In another aspect, the present disclosure refers to a pharmaceutical composition comprising a compound as described herein, or a pharmaceutically acceptable salt, hydrate, solvate, N-oxide or rotamer thereof, with a pharmaceutically acceptable excipient. In yet another aspect, the present disclosure refers to the use of a compound as described herein, or a pharmaceutically acceptable salt, hydrate, solvate, N-oxide or rotamer thereof in the manufacture of a medicament for treating a disease or condition modulated at least in part by CCR6.

[0013] Pharmaceutical compositions of the compounds of formula (I) are also provided.

[0014] Further provided in the present disclosure preparative methods for the synthesis of compounds of formula (I), as well as selected intermediates useful in the preparation.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] NOT APPLICABLE.

DETAILED DESCRIPTION OF THE INVENTION

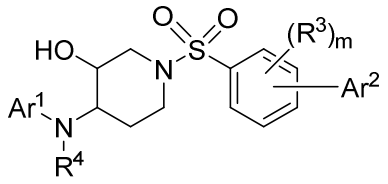
I. ABBREVIATION AND DEFINITIONS

[0016] The term "alkyl", by itself or as part of another substituent, means, unless otherwise stated, a straight or branched chain hydrocarbon radical, having the number of carbon atoms designated (*i.e.* C_{1-8} means one to eight carbons). Examples of alkyl groups include methyl, ethyl, n-propyl, isopropyl, n-butyl, t-butyl, isobutyl, sec-butyl, n-pentyl, n-hexyl, n-heptyl, n-

octyl, and the like. The term "alkenyl" refers to an unsaturated alkyl group having one or more double bonds. Similarly, the term "alkynyl" refers to an unsaturated alkyl group having one or more triple bonds. Examples of such unsaturated alkyl groups include vinyl, 2-propenyl, crotyl, 2-isopentenyl, 2-(butadienyl), 2,4-pentadienyl, 3-(1,4-pentadienyl), ethynyl, 1- and 3-propynyl, 3-butynyl, and the higher homologs and isomers. The term "cycloalkyl" refers to hydrocarbon rings having the indicated number of ring atoms (*e.g.*, C_{3-6}cycloalkyl) and being fully saturated or having no more than one double bond between ring vertices. "Cycloalkyl" is also meant to refer to bicyclic and polycyclic hydrocarbon rings such as, for example, bicyclo[2.2.1]heptane, bicyclo[2.2.2]octane, etc. The term "heterocycloalkane" or "heterocycloalkyl" refers to a

WHAT IS CLAIMED IS:

1. A compound having formula (I):



(I),

or a pharmaceutically acceptable salt, hydrate, solvate, N-oxide, optically enriched form, or rotamer thereof,

wherein

Ar^1 is a monocyclic 5- or 6-membered aromatic or heteroaromatic ring having 0 to 3 heteroatoms as ring vertices selected from N, O, and S that is substituted with from 0 to 5 R^1 substituents independently selected from the group consisting of halogen, CN, C_{1-8} alkyl, C_{3-8} cycloalkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, C_{1-8} haloalkyl, C_{1-8} hydroxyalkyl, $-OR^a$, and $-NR^aR^b$;

each R^a and R^b is independently selected from the group consisting of hydrogen, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} hydroxyalkyl, and C_{3-6} cycloalkyl;

Ar^2 is selected from the group consisting of:

i) monocyclic 5- or 6-membered aromatic or heteroaromatic ring having 0 to 3 heteroatoms as ring vertices selected from N, O and S, and which is substituted with 0 to 5 R^2; and

ii) bicyclic 9- or 10-membered fused aromatic or heteroaromatic ring having 0 to 4 heteroatoms as ring vertices selected from N, O and S, and which is substituted with 0 to 5 R^2;

each R^2 is independently selected from the group consisting of halogen, CN, C_{1-8} alkyl, C_{3-8} cycloalkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, C_{1-8} haloalkyl, C_{1-8} hydroxyalkyl, $-OR^c$, $-SR^c$, $-COR^c$, $-CO_2R^c$, $-NR^cR^d$, $-CONR^cR^d$, $-CO(NR^c)_2COR^d$, $-SO_2R^c$, $-SO_2NR^cR^d$, $-X^2$-$CONR^cR^d$, $-X^2$-$NR^cSO_2R^d$, $-X^2$-$NR^cCO_2R^d$, $-X^2$-$P(=O)(OR^d)_2$, $-X^2$-O-$P(=O)(OR^d)_2$, $-N(R^c)$-R^d-X^2-NR^cR^d, oxo, 4- to 6-membered heterocyclyl, 7- to 10-membered spiroheterocyclyl and 5- or 6-membered heteroaryl; and wherein the heterocyclyl, spiroheterocyclyl and heteroaryl rings of R^2 have from 1 to 3

heteroatoms selected from N, O, and S, and are each unsubstituted or substituted with one or two members independently selected from the group consisting of halogen, hydroxyl, oxo, C_{1-4} alkyl, amino, C_{1-4} alkylamino, di-C_{1-4} alkylamino, C_{1-4} alkoxy, C_{1-4} hydroxalkyl, and C_{1-4} haloalkyl; and wherein two R^2 groups attached to the same carbon atom are optionally combined to form a 3- to 6-membered spirocyclic ring or a 3- to 6- membered spiroheterocyclic ring having from 1 to 3 heteroatoms selected from N, O, and S;

R^c is independently selected from the group consisting of hydrogen, hydroxyl, C_{1-4} alkyl, C_{1-4} haloalkyl, and C_{1-4} hydroxyalkyl;

R^d is independently selected from the group consisting of hydrogen, hydroxyl, halogen, cyano, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} hydroxyalkyl, C_{3-6} cycloalkyl, 4- to 6-membered heterocyclyl, and 5- or 6-membered heteroaryl; and wherein the C_{3-6} cycloalkyl, 4- to 6-membered heterocyclyl, and 5- or 6-membered heteroaryl rings of R^d have from 1 to 3 heteroatoms selected from N, O, and S, and are each unsubstituted or substituted with one or two members independently selected from the group consisting of halogen, hydroxyl, oxo, C_{1-4} alkyl, amino, C_{1-4} alkylamino, di-C_{1-4} alkylamino, C_{1-4} alkoxy, C_{1-4} hydroxalkyl, and C_{1-4} haloalkyl;

or R^c and R^d, when attached to the same nitrogen atom are joined to form a 4- to 7-membered heterocyclic ring having from 0 to 2 additional heteroatoms as ring vertices selected from O, S, S(O), $S(O)_2$, NH and N(C_{1-4} alkyl);

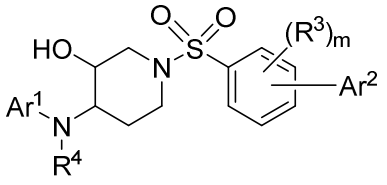
X^2 is C_{1-4} alkylene;

m is 0, 1 or 2;

each R^3 is selected from the group consisting of halogen, CN, C_{1-4} alkyl, C_{1-4} alkoxy, C_{3-8} cycloalkyl, C_{1-4} haloalkyl, C_{1-4} haloalkoxy, and C_{2-4} hydroxyalkyl; and

R^4 is selected from the group consisting of H, C_{1-4} alkyl, C_{3-8} cycloalkyl, and C_{1-4} haloalkyl.

2. A compound having formula (I):



(I),

or a pharmaceutically acceptable salt, hydrate, solvate, N-oxide, optically enriched form, or rotamer thereof,

wherein

Ar^1 is a 5- or 6-membered aromatic or heteroaromatic ring that is substituted with from 0 to 5 R^1 substituents independently selected from the group consisting of halogen, CN, C_{1-8} alkyl, C_{3-8} cycloalkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, C_{1-8} haloalkyl, C_{1-8} hydroxyalkyl, $-OR^a$, and $-NR^aR^b$;

each R^a and R^b is independently selected from the group consisting of hydrogen, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} hydroxyalkyl, and C_{3-6} cycloalkyl;

Ar^2 is selected from the group consisting of:

i) monocyclic 5- or 6-membered aromatic or heteroaromatic ring having 0 to 3 heteroatoms as ring vertices selected from N, O and S, and which is substituted with 0 to 5 R^2; and

ii) bicyclic 9- or 10-membered fused aromatic or heteroaromatic ring having 0 to 4 heteroatoms as ring vertices selected from N, O and S, and which is substituted with 0 to 5 R^2;

each R^2 is independently selected from the group consisting of halogen, CN, C_{1-8} alkyl, C_{3-8} cycloalkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, C_{1-8} haloalkyl, C_{1-8} hydroxyalkyl, $-OR^c$, $-SR^c$, $-COR^c$, $-CO_2R^c$, $-NR^cR^d$, $-CONR^cR^d$, $-CO(NR^c)_2COR^d$, $-SO_2R^c$, $-SO_2NR^cR^d$, $-X^2-CONR^cR^d$, $-X^2-NR^cSO_2R^d$, $-X^2-NR^cCO_2R^d$, $-X^2-P(=O)(OR^d)_2$, $-X^2-O-P(=O)(OR^d)_2$, $-NR^cR^d-X^2-NR^cR^d$, oxo, 4- to 6-membered heterocyclyl, 7- to 10-membered spiroheterocyclyl and 5- or 6-membered heteroaryl; and wherein the heterocyclyl, spiroheterocyclyl and heteroaryl rings of R^2 are each unsubstituted or substituted with one or two members independently selected from the group consisting of halogen, hydroxyl, oxo, C_{1-4} alkyl, amino, C_{1-4} alkylamino, di-C_{1-4} alkylamino, C_{1-4} alkoxy, C_{1-4} hydroxalkyl, and C_{1-4} haloalkyl; and wherein two R^2 groups attached to the same carbon atom are optionally combined to form a 3- to 6-membered spirocyclic ring;

R^c is independently selected from the group consisting of hydrogen, hydroxyl, halogen, cyano, C_{1-4} alkyl, C_{1-4} haloalkyl, and C_{1-4} hydroxyalkyl;

R^d is independently selected from the group consisting of hydrogen, hydroxyl, halogen,

cyano, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} hydroxyalkyl, C_{3-6} cycloalkyl, 4- to 6-membered heterocyclyl, and 5- or 6-membered heteroaryl; and wherein the C_{3-6} cycloalkyl, 4- to 6-membered heterocyclyl, and 5- or 6-membered heteroaryl rings of R^d are each unsubstituted or substituted with one or two members independently selected from the group consisting of halogen, hydroxyl, oxo, C_{1-4} alkyl, amino, C_{1-4} alkylamino, di-C_{1-4} alkylamino, C_{1-4} alkoxy, C_{1-4} hydroxalkyl, and C_{1-4} haloalkyl;

or R^c and R^d, when attached to the same nitrogen atom are joined to form a 4- to 7-membered heterocyclic ring having from 0 to 2 additional heteroatoms as ring vertices selected from O, S, S(O), $S(O)_2$, NH and $N(C_{1-4}$ alkyl);

X^2 is C_{1-4} alkylene;

m is 0, 1 or 2;

each R^3 is selected from the group consisting of halogen, CN, C_{1-4} alkyl, C_{1-4} alkoxy, C_{3-8} cycloalkyl, C_{1-4} haloalkyl, C_{1-4} haloalkoxy, and C_{2-4} hydroxyalkyl; and

R^4 is selected from the group consisting of H, C_{1-4} alkyl, C_{3-8} cycloalkyl, and C_{1-4} haloalkyl.

3. The compound of claim **1 or 2**, wherein

Ar^1 is a 5- or 6-membered aromatic or heteroaromatic ring that is substituted with from 0 to 5 R^1 substituents independently selected from the group consisting of halogen, CN, C_{1-8} alkyl, C_{3-8} cycloalkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, C_{1-8} haloalkyl, C_{1-8} hydroxyalkyl, $-OR^a$, and $-NR^aR^b$;

each R^a and R^b is independently selected from the group consisting of hydrogen, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} hydroxyalkyl, and C_{3-6} cycloalkyl;

Ar^2 is selected from the group consisting of:

i) monocyclic 5- or 6-membered aromatic or heteroaromatic ring having 0 to 3 heteroatoms as ring vertices selected from N, O and S, and which is substituted with 0 to 5 R^2; and

ii) bicyclic 9- or 10-membered fused aromatic or heteroaromatic ring having 0 to 4 heteroatoms as ring vertices selected from N, O and S, and which is substituted with 0 to 5 R^2;

each R^2 is independently selected from the group consisting of halogen, CN, C_{1-8} alkyl, C_{3-8} cycloalkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, C_{1-8} haloalkyl, C_{1-8} hydroxyalkyl, $-OR^c$, $-SR^c$, $-COR^c$, $-CO_2R^c$, $-NR^cR^d$, $-CONR^cR^d$, $-CO(NR^c)_2COR^d$, $-SO_2R^c$, $-SO_2NR^cR^d$, $-X^2-$

$CONR^cR^d$, $-X^2-NR^cSO_2R^d$, $-X^2-NR^cCO_2R^d$, $-NR^cR^d$ $-X^2-NR^cR^d$, oxo, 4- to 6-membered heterocyclyl, 7- to 10-membered spiroheterocyclyl and 5- or 6-membered heteroaryl; and wherein the heterocyclyl, spiroheterocyclyl and heteroaryl rings of R^2 are each unsubstituted or substituted with one or two members independently selected from the group consisting of halogen, hydroxyl, oxo, C_{1-4} alkyl, amino, C_{1-4} alkylamino, di-C_{1-4} alkylamino, C_{1-4} alkoxy and C_{1-4} haloalkyl; and wherein two R^2 groups attached to the same carbon atom are optionally combined to form a 3- to 6-membered spirocyclic ring;

each R^c and R^d is independently selected from the group consisting of hydrogen, hydroxyl, halogen, cyano, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} hydroxyalkyl, and C_{3-6} cycloalkyl; or R^c and R^d, when attached to the same nitrogen atom are joined to form a 4- to 7-membered heterocyclic ring having from 0 to 2 additional heteroatoms as ring vertices selected from O, S, S(O), $S(O)_2$, NH and $N(C_{1-4}$ alkyl);

X^2 is C_{1-4} alkylene;

m is 0, 1 or 2;

each R^3 is selected from the group consisting of halogen, CN, C_{1-4} alkyl, C_{1-4} alkoxy, C_{3-8} cycloalkyl, C_{1-4} haloalkyl, C_{1-4} haloalkoxy, and C_{2-4} hydroxyalkyl; and

R^4 is selected from the group consisting of H, C_{1-4} alkyl, C_{3-8} cycloalkyl, and C_{1-4} haloalkyl.

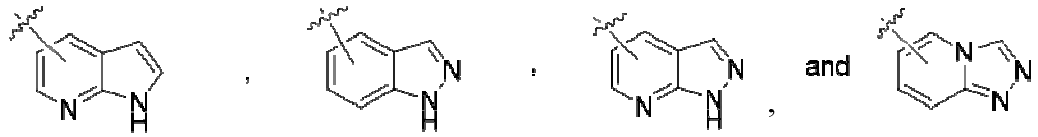
4. A compound of any one of claims **1** to **3**, or a pharmaceutically acceptable salt, hydrate, solvate, N-oxide or rotamer thereof, wherein Ar^2 is a bicyclic 9- or 10-membered fused aromatic or heteroaromatic ring that is substituted with 0 to 5 R^2.

5. A compound of any one of claims **1** to **3**, or a pharmaceutically acceptable salt, hydrate, solvate, N-oxide or rotamer thereof, wherein Ar^2 is a monocyclic 5- or 6-membered aromatic or heteroaromatic ring that is substituted with 0 to 5 R^2.

6. A compound of any one of claims **1** to **5**, wherein Ar^1 is phenyl, substituted with from 1 to 3 R^1 substituents.

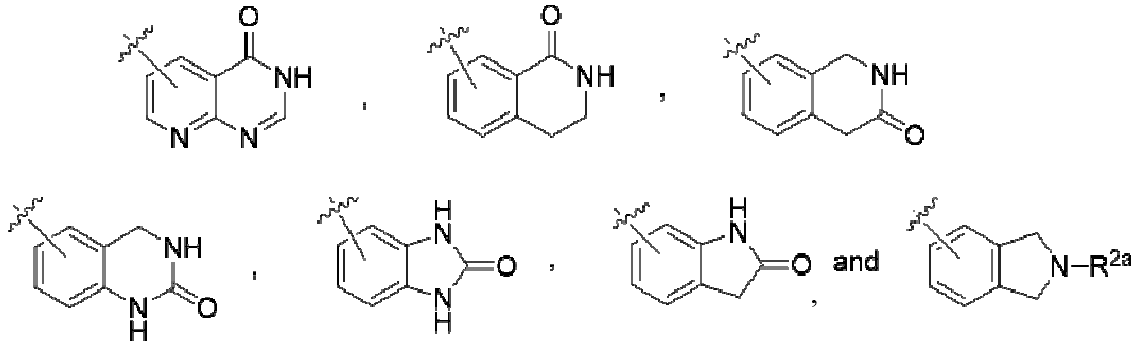
7. A compound of any one of claims **1** to **5**, wherein Ar^1 is pyridyl, substituted with from 1 to 3 R^1 substituents.

8. A compound of any one of claims **1**, **2**, **4**, **6**, or **7**, wherein Ar^2 is selected from the group consisting of



each of which is substituted with from 0-3 R^2.

9. The compound of any one of claims 1, **2**, **4**, **6**, or **7**, wherein Ar^2 is selected from the group consisting of



each of which is substituted with from 0-3 $R^{2,}$ and wherein R^{2a} is selected from the group consisting of hydrogen, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} hydroxyalkyl, $-C(O)NH_2$, $-C(O)N(H)C_{1-4}$alkyl, $-C(O)N(C_{1-4}alkyl)_2$, $-S(O)_2C_{1-4}$alkyl, $-S(O)_2N(H)C_{1-4}$alkyl, $-C(O)OC_{1-4}$alkyl, and $-C(O)C_{1-4}$alkyl.

10. The compound of any one of claims 1, **2**, **4**, **6**, or **7**, wherein Ar^2 is selected from the group consisting of phenyl, pyridyl, thiazolyl, oxadiazolyl, imidazolyl, pyridazinyl, and oxazolyl, each of which is substituted with from 0-3 R^2.

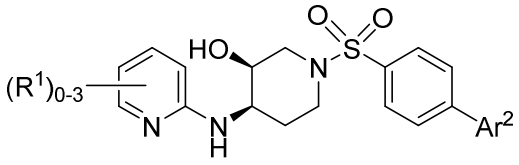
11. The compound of any one of claims **1**, **2**, **4**, **6**, or **7**, wherein Ar^2 is pyridyl, which is substituted with from 0-3 R^2.

12. The compound of any one of claims 1, **2**, **4**, **6**, or **7**, wherein Ar^2 is thiazolyl, which is substituted with from 0-2 R^2.

13. The compound of any one of claims 1, **2**, **4**, **6**, or **7**, wherein Ar^2 is 1,3,4-oxadiazolyl, which is substituted with from 0-2 R^2.

14. The compound of any one of claims 1, **2**, **4**, **6**, or **7**, wherein Ar^2 imidazolyl, which is substituted with from 0-2 R^2.

15. The compound of any one of claims **1** to **3**, having formula (Ia):



(Ia).

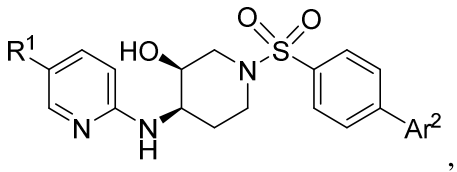
16. The compound of claim **15**, wherein each R^1 is independently selected from the group consisting of CH_3, CF_3, Cl and CN.

17. The compound of claim **15**, wherein Ar^2 is a bicyclic 9- or 10-membered aromatic or heteroaromatic ring that is substituted with 0 to 5 R^2.

18. The compound of claim **15**, wherein Ar^2 is a monocyclic 5- or 6-membered aromatic or heteroaromatic ring that is substituted with 0 to 5 R^2.

19. The compound of claim **15**, wherein Ar^2 is a 5- or 6-membered heteroaromatic ring that is substituted with 0 to 3 R^2.

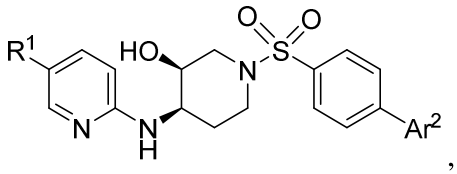
20. The compound of any one of claims **15** to **19**, having the formula (Ia1):



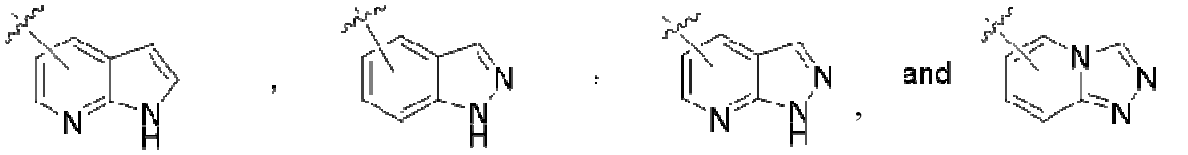
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wherein R^1 is –CN or $–CF_3$.

21. The compound of **15**, having the formula (Ia1):

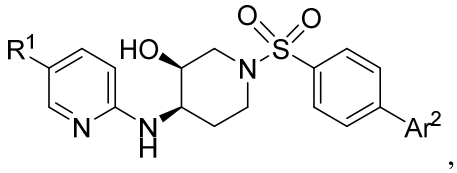


wherein R^1 is –CN or $–CF_3$; and Ar^2 is selected from the group consisting of

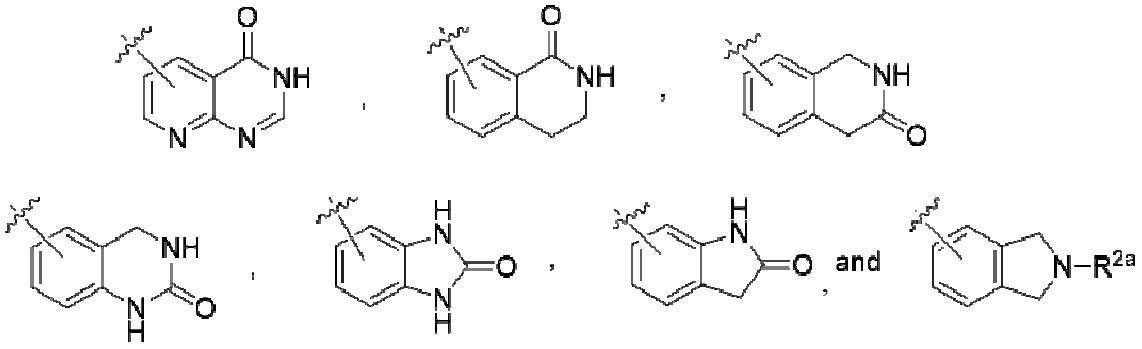


each of which is substituted with from 0-3 R^2.

22. The compound of **15**, having the formula (Ia1):

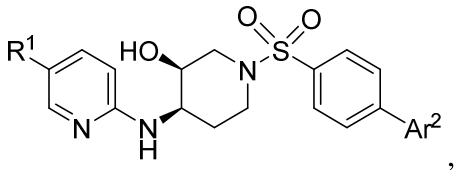


wherein R^1 is –CN or $–CF_3$; and Ar^2 is selected from the group consisting of



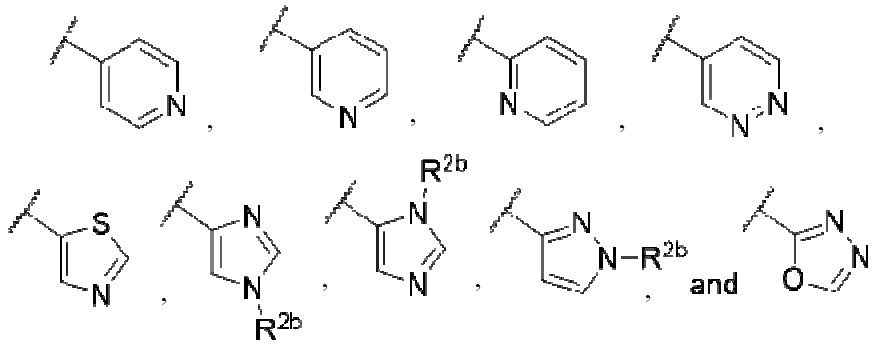
each of which is substituted with from 0-3 R^2, and wherein R^{2a} is selected from the group consisting of hydrogen, $C_{1\text{-}4}$ alkyl, $C_{1\text{-}4}$ haloalkyl, $C_{1\text{-}4}$ hydroxyalkyl, $-C(O)NH_2$, $-C(O)N(H)C_{1\text{-}4}$alkyl, $-C(O)N(C_{1\text{-}4}alkyl)_2$, $-S(O)_2C_{1\text{-}4}$alkyl, $-S(O)_2N(H)C_{1\text{-}4}$alkyl, $-C(O)OC_{1\text{-}4}$alkyl, and $-C(O)C_{1\text{-}4}$alkyl.

23. The compound of claim **15**, having the formula (Ia1):



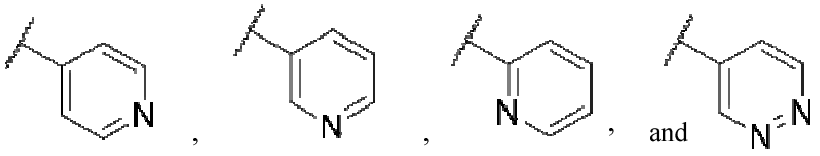
wherein R^1 is –CN or $–CF_3$; and Ar^2 is selected from the group consisting of phenyl, pyridyl, thiazolyl, oxadiazolyl, imidazolyl, pyridazinyl, and oxazolyl, each of which is substituted with from 0-2 R^2.

24. The compound of claim **23**, wherein Ar^2 is selected from the group consisting of



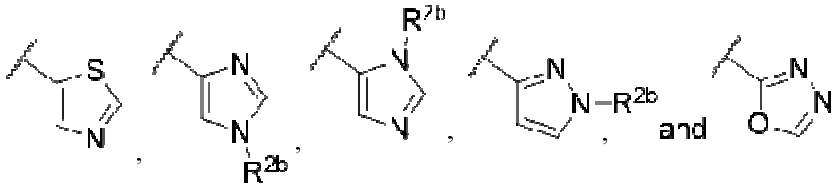
each of which is substituted with from 0-2 R^2; and wherein R^{2b} is selected from the group consisting of hydrogen, $C_{1\text{-}4}$ alkyl, $C_{1\text{-}4}$ haloalkyl, and $C_{1\text{-}4}$ hydroxyalkyl.

25. The compound of claim **24**, wherein Ar^2 is selected from the group consisting of



each of which is substituted with from 0-2 R^2; and wherein R^a is selected from the group consisting of hydrogen, $C_{1\text{-}4}$ alkyl, $C_{1\text{-}4}$ haloalkyl, and $C_{1\text{-}4}$ hydroxyalkyl.

26. The compound of claim **24**, wherein Ar^2 is selected from the group consisting of



each of which is substituted with from 0-1 R^2; and wherein R^{2b} is selected from the group consisting of hydrogen, C_{1-4} alkyl, C_{1-4} haloalkyl, and C_{1-4} hydroxyalkyl.

27. The compound of any one of the preceding claims, wherein

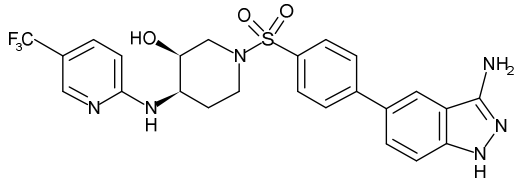
R^1 is CF_3; and

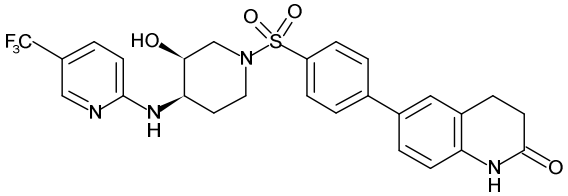
R^2 is CN, $-CH_3$, -OH, $-NH_2$, $-N(CH_3)_2$, $-C(O)NH_2$, $-C(O)N(H)(CH_3)$, $-C(O)N(CH_3)_2$, $-C(O)CH_3$, $-C(O)OCH_3$, $-S(O)_2NH_2$, Cl, F, $-N(CH_3)_2$, $-OCH_3$, $-CH_2OH$, $-N(H)R^d$, piperazinyl, piperidinyl, morpholinyl, triazolyl, 1,3,4-oxadiazolyl, pyrrolidiny, or azetidinyl, wherein the piperazinyl, piperidinyl, morpholinyl, triazolyl, 1,3,4-oxadiazolyl, pyrrolidiny and azetidinyl groups can be optionally substituted with 1 or 2 substituents selected from the group consisting of $-CH_3$, $C(CH_3)_2OH$, OH, $-OCH_3$, $-NH_2$, and $-N(CH_3)_2$.

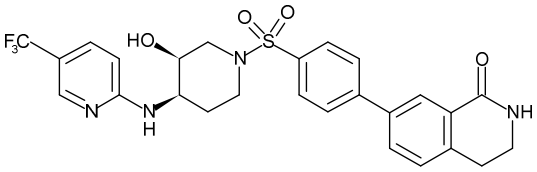
28. The compound of claim **27**, wherein R^2 is CN, $-CH_3$, -OH, $-NH_2$, $-N(CH_3)_2$, $-C(O)NH_2$, $-C(O)N(H)(CH_3)$, $-C(O)N(CH_3)_2$, $-C(O)CH_3$, $-C(O)OCH_3$, $-S(O)_2NH_2$, Cl, F, $-N(CH_3)_2$, $-OCH_3$, or $-CH_2OH$.

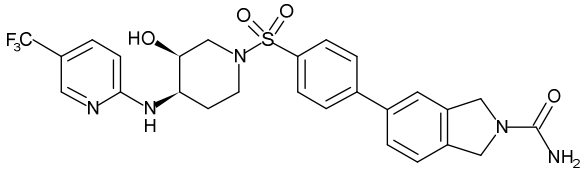
29. The compound of claim **27**, wherein R^2 is piperazinyl, piperidinyl, morpholinyl, triazolyl, 1,3,4-oxadiazolyl, pyrrolidinyl, or azetidinyl, wherein the piperazinyl, piperidinyl, morpholinyl, triazolyl, 1,3,4-oxadiazolyl, pyrrolidinyl and azetidinyl groups can be optionally substituted with 1 or 2 substituents selected from the group consisting of $-CH_3$, $C(CH_3)_2OH$, OH, $-OCH_3$, $-NH_2$, and $-N(CH_3)_2$.

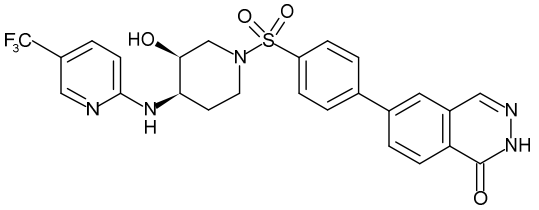
30. The compound of claim **1** or **2**, selected from the group consisting of:

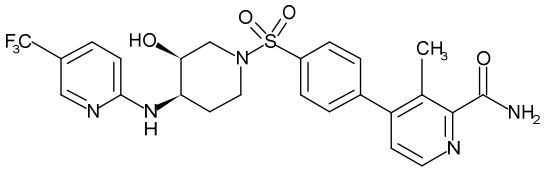

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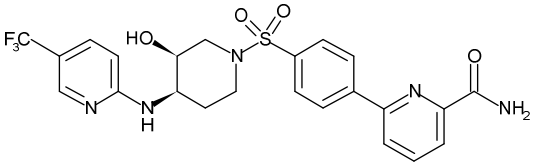

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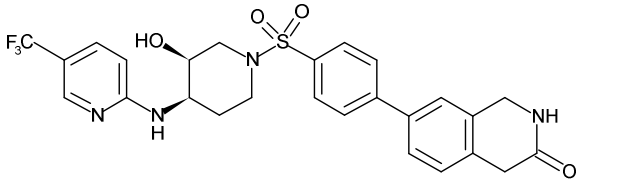

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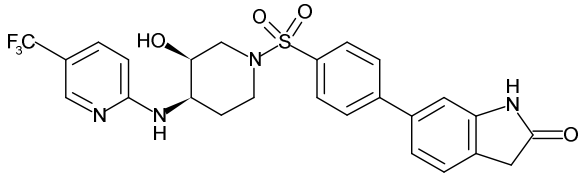

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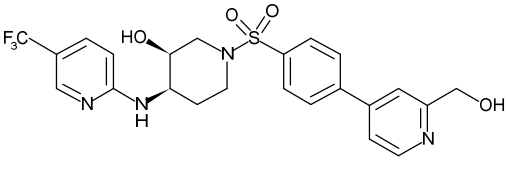

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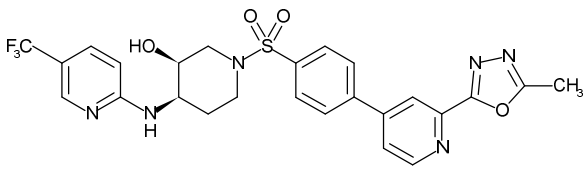
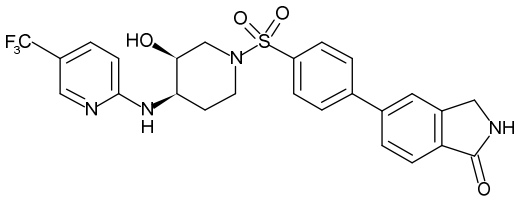
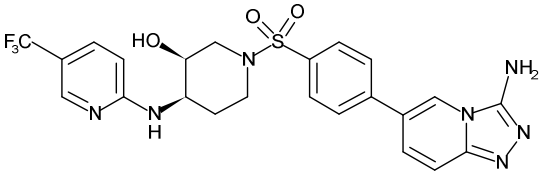
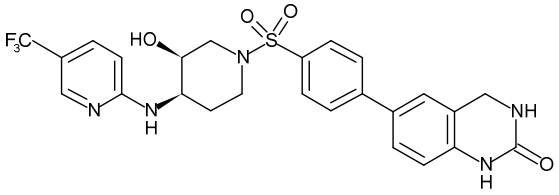
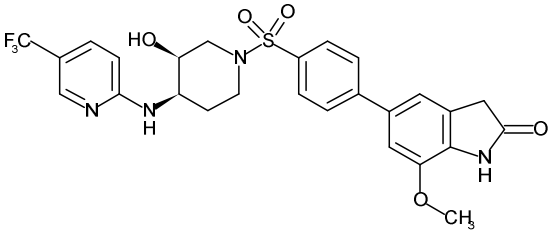
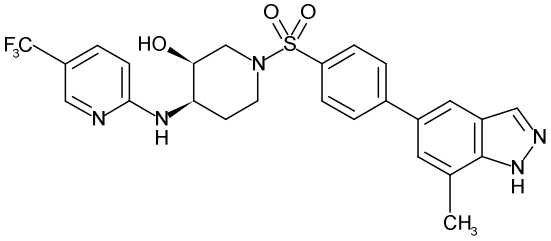
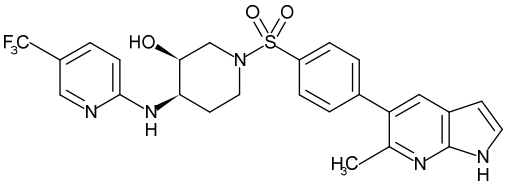
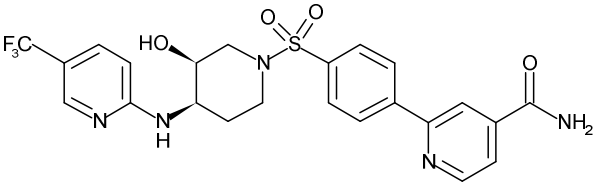
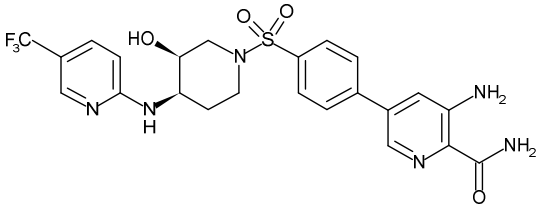
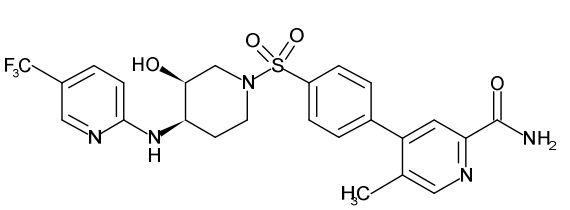
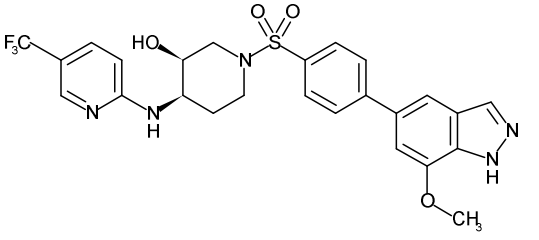
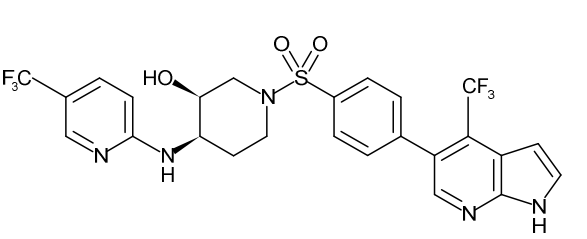

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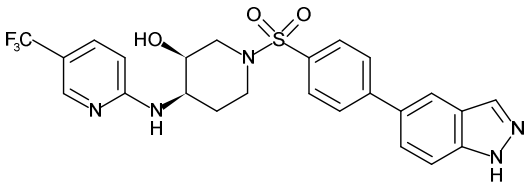
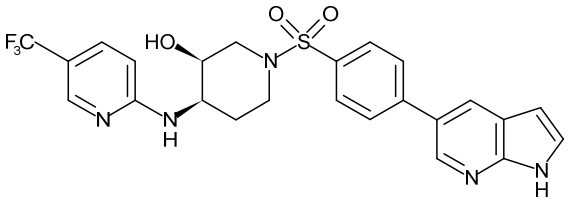
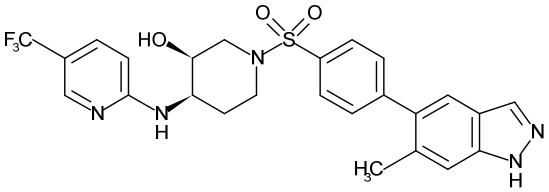
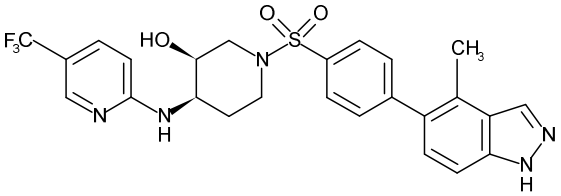
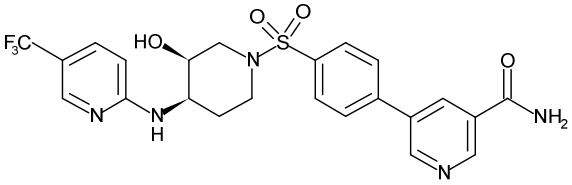
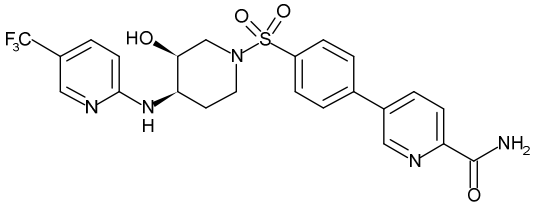
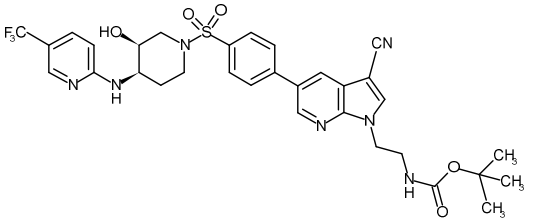
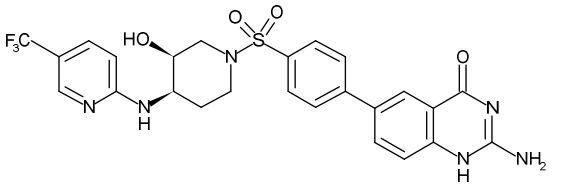
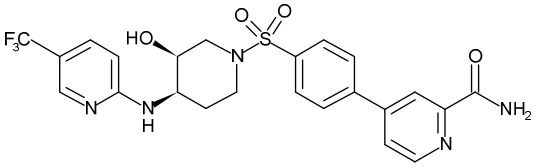
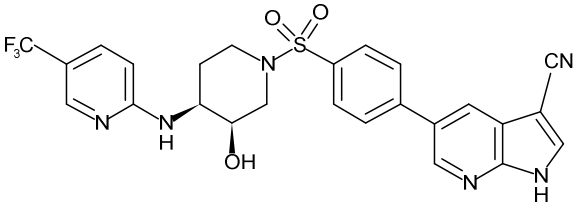
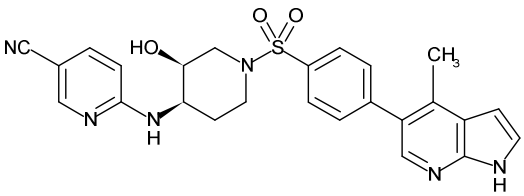
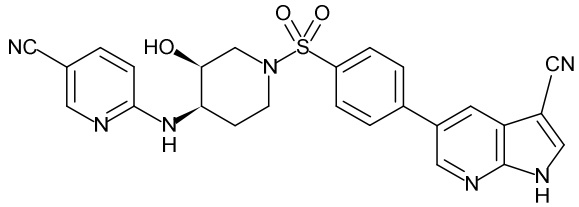
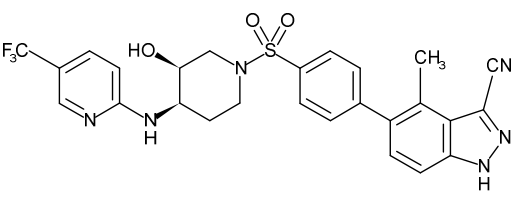
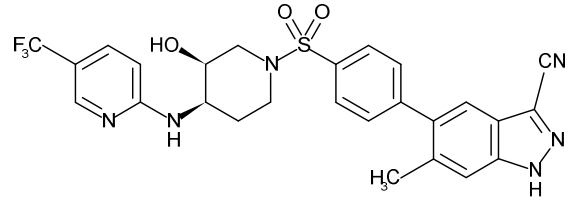
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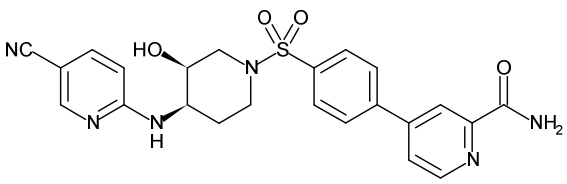
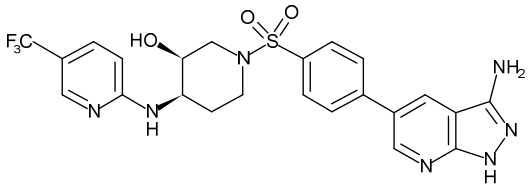
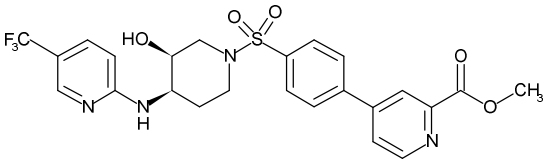
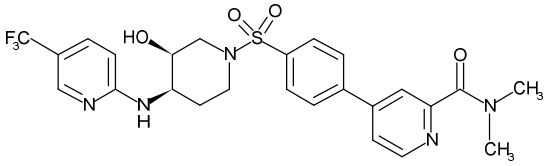
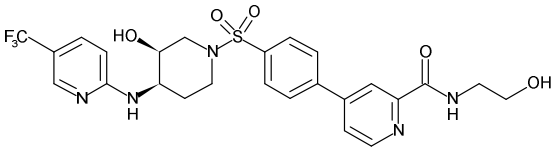
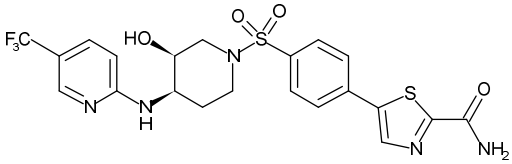
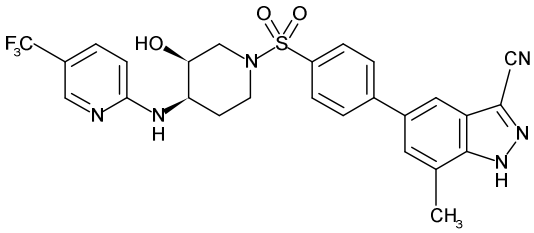
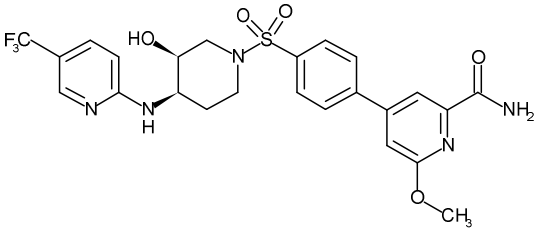
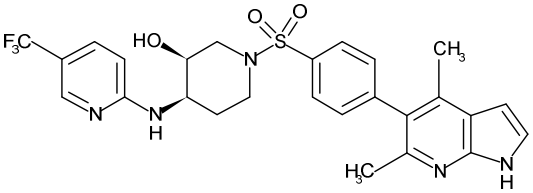
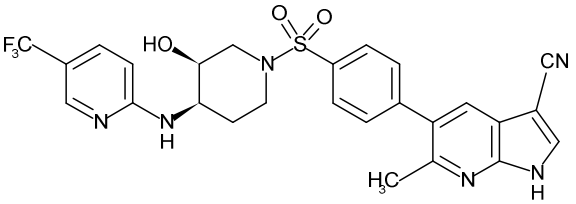
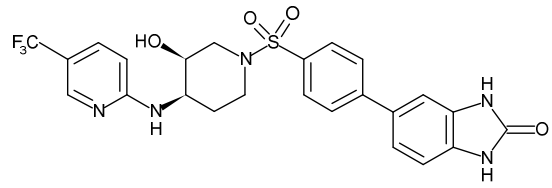
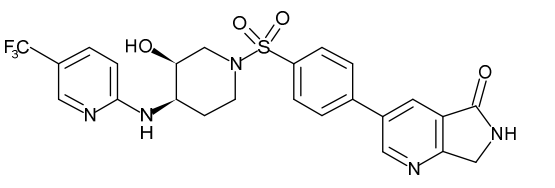
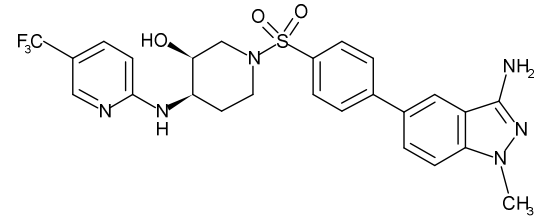
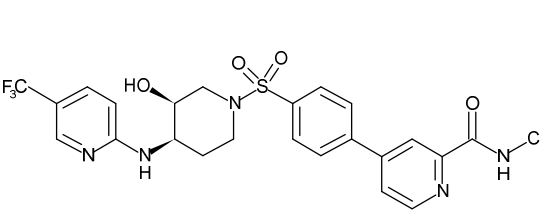
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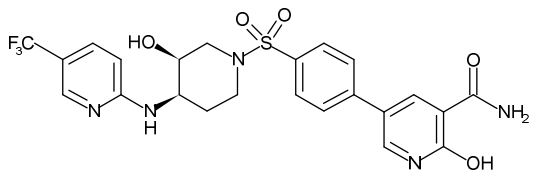
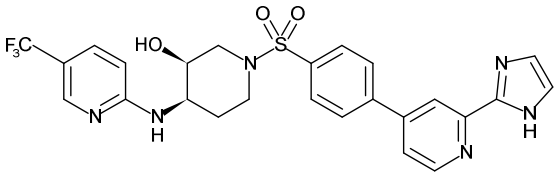
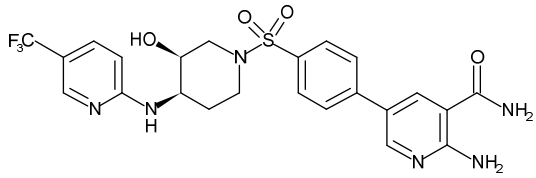
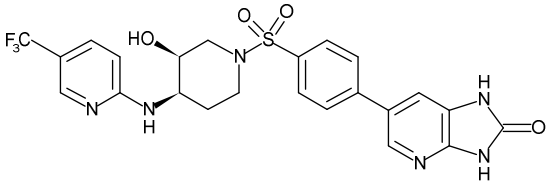
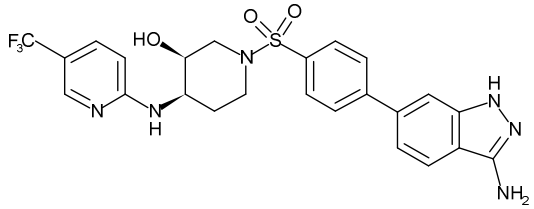
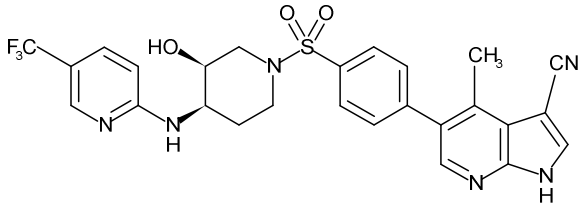
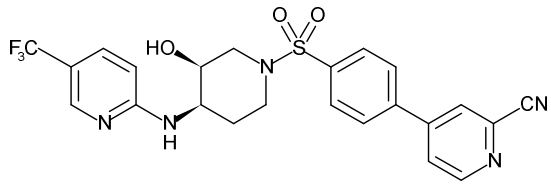
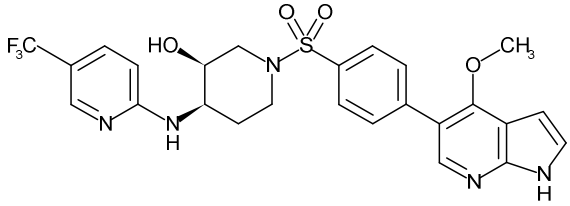
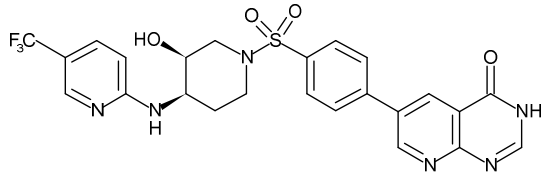
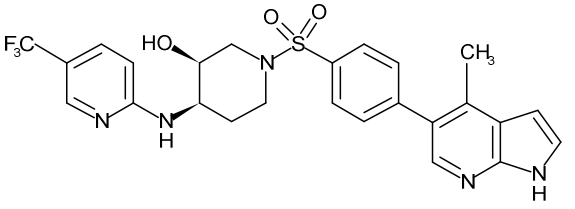
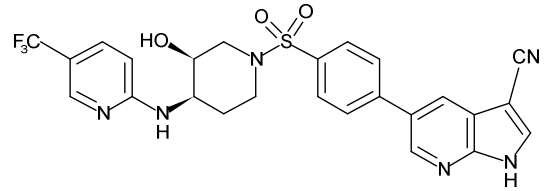
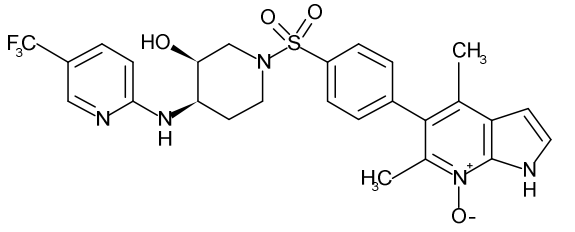
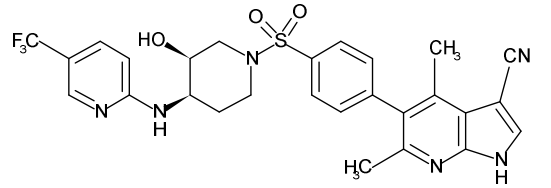
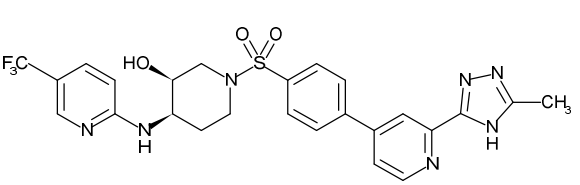
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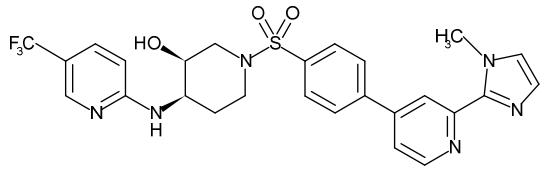
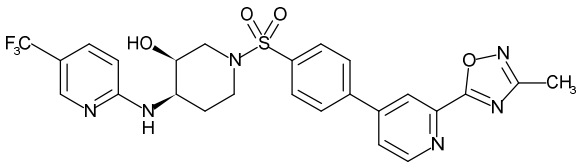
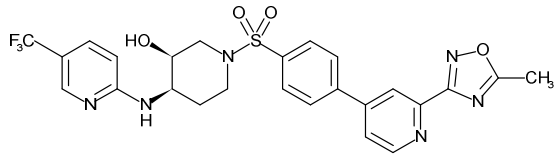
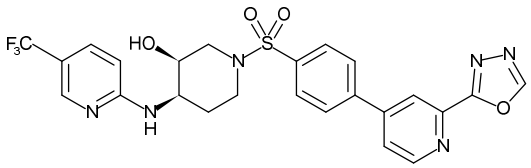
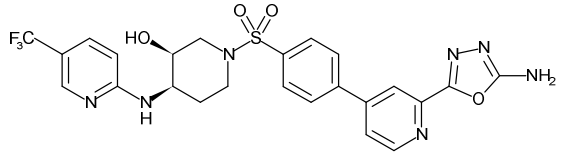
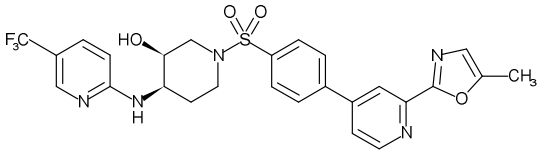
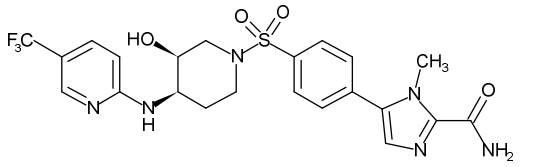
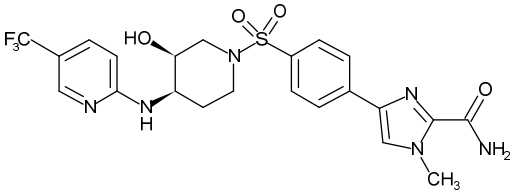
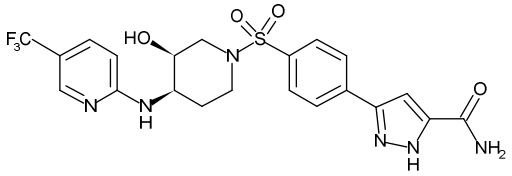
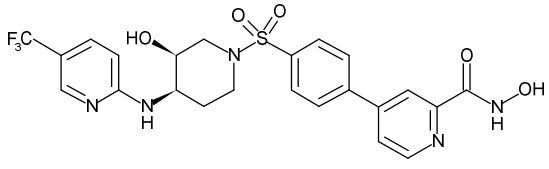
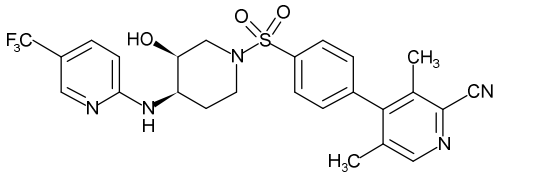
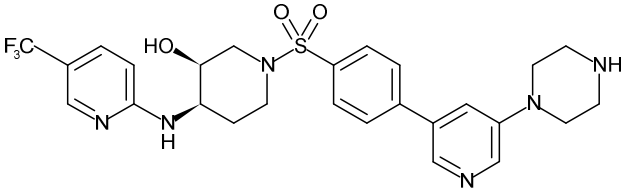
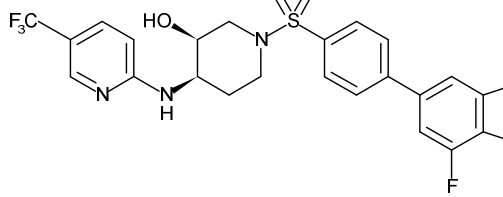
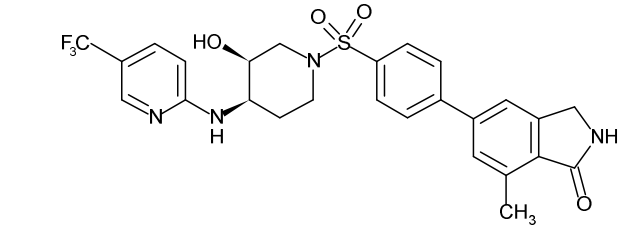
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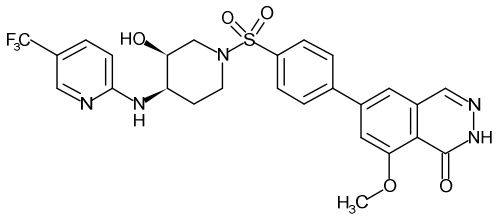
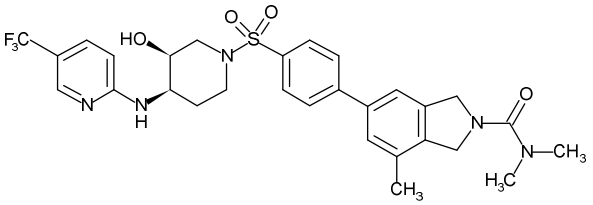
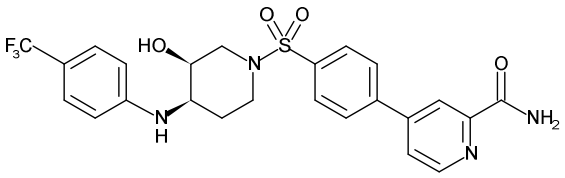
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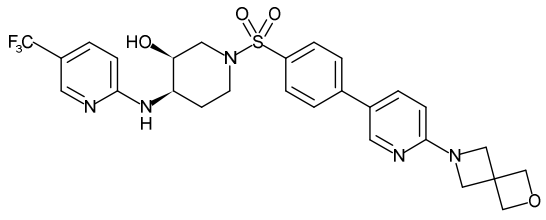
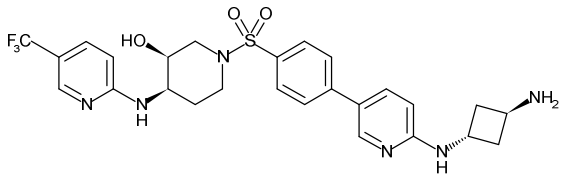
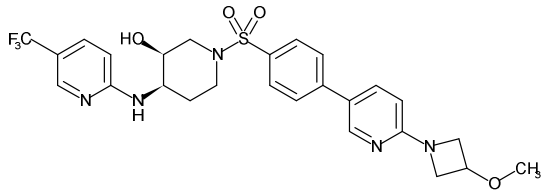
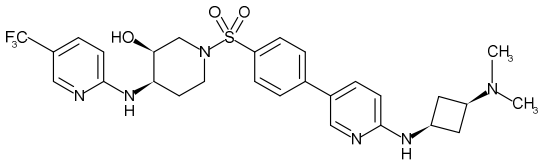
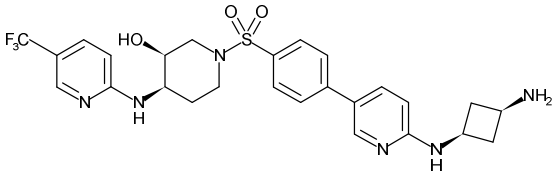
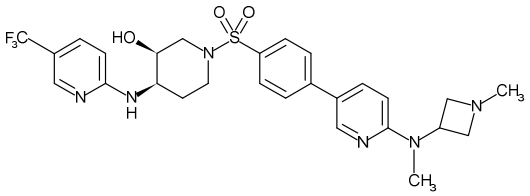
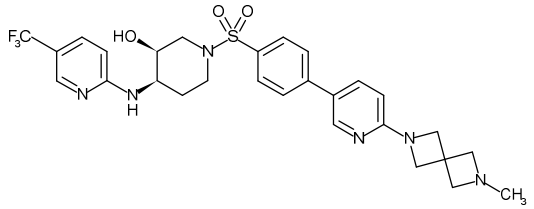
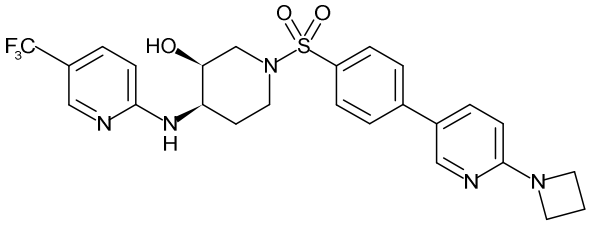
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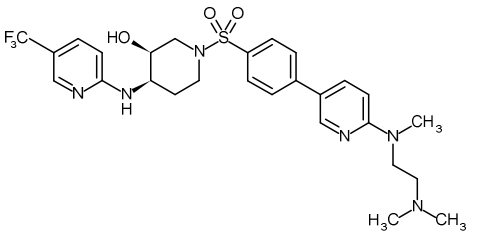
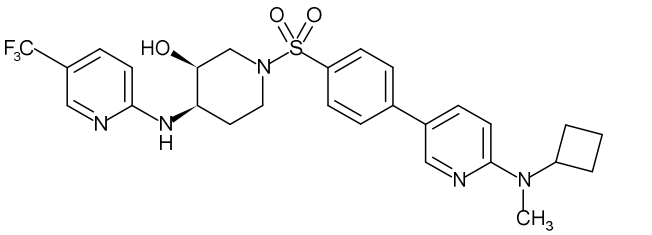
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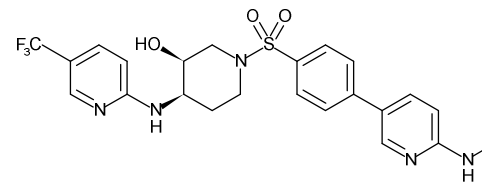
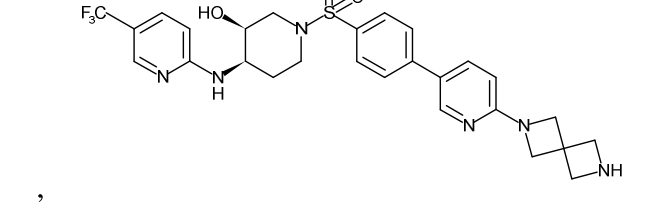

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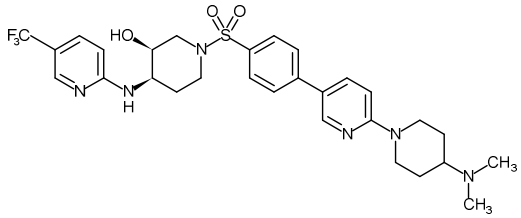
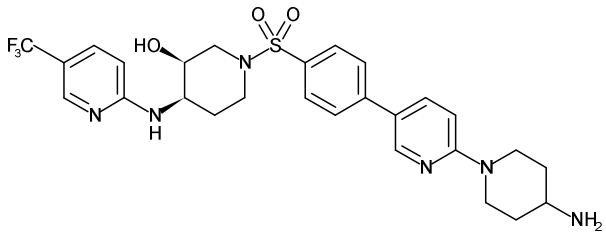
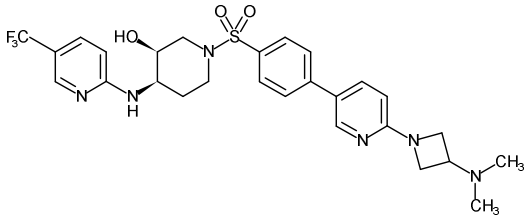
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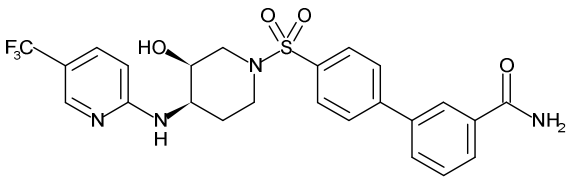
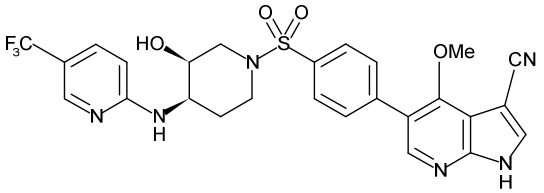
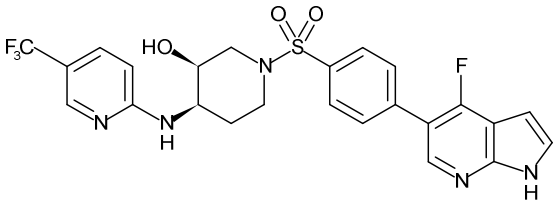
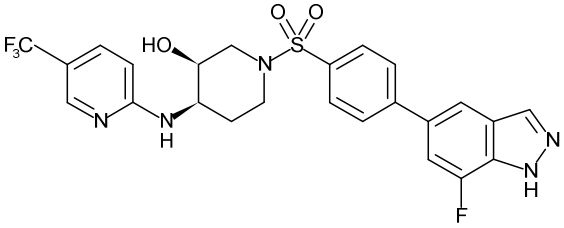
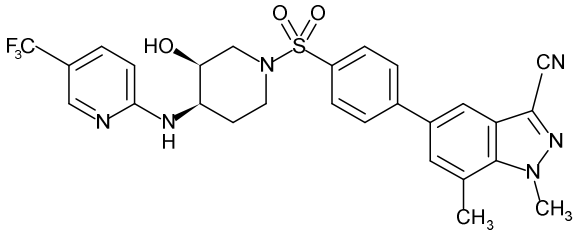
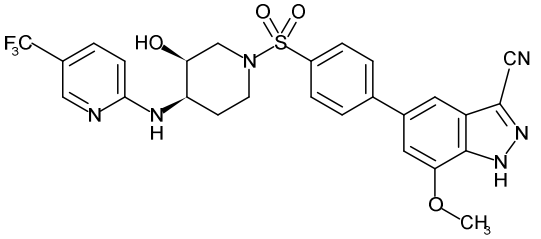
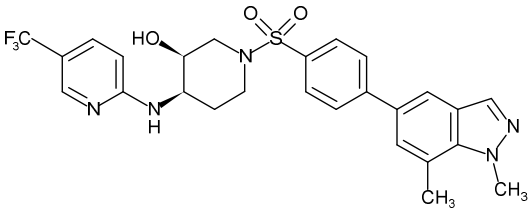
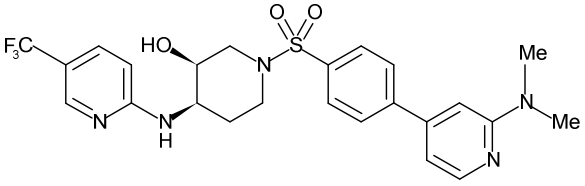
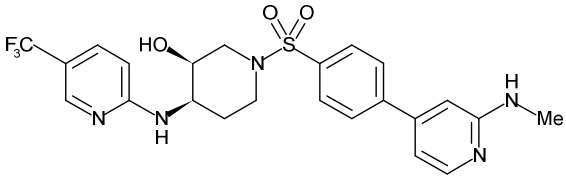
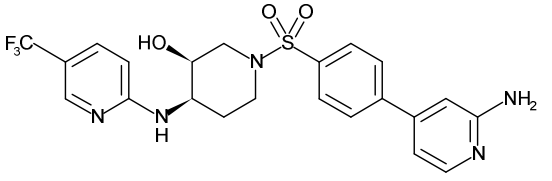
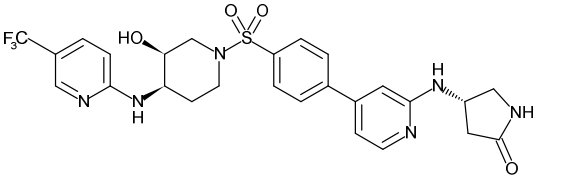
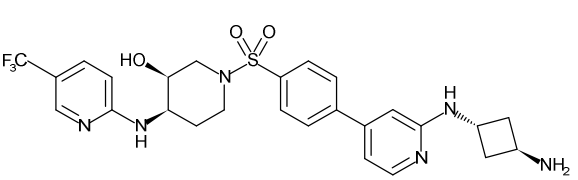
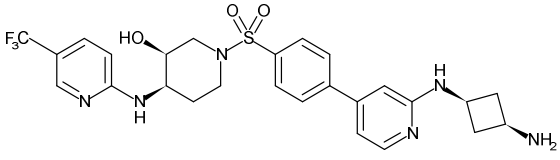
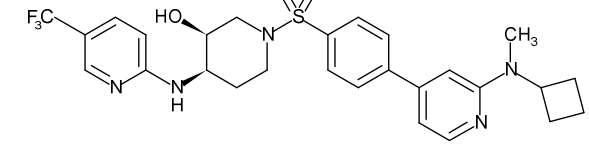
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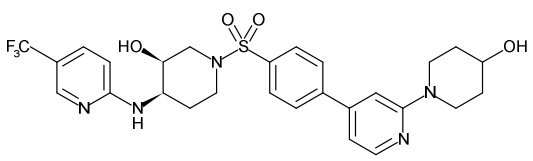
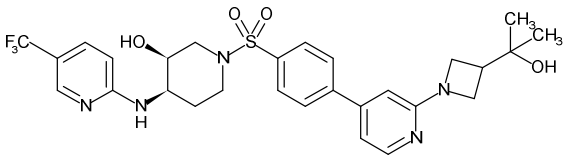
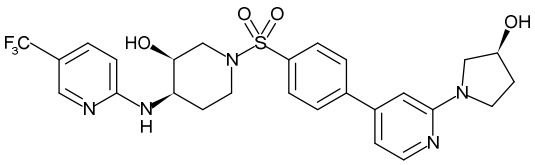
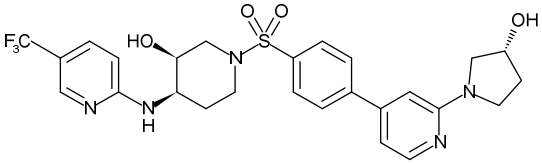
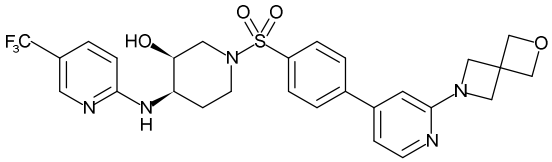
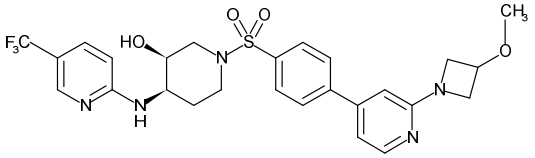
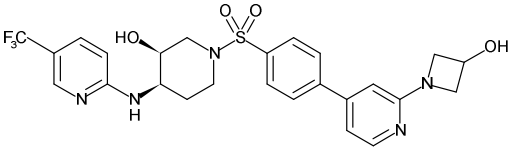
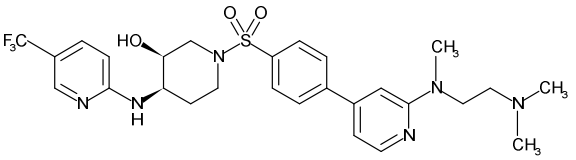
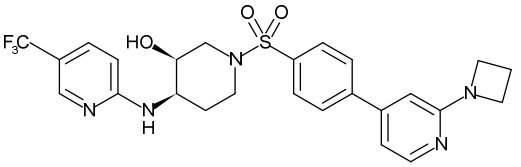
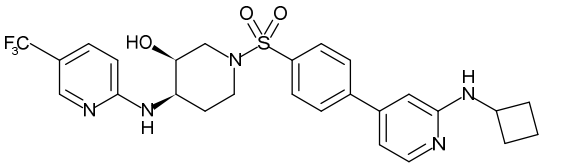
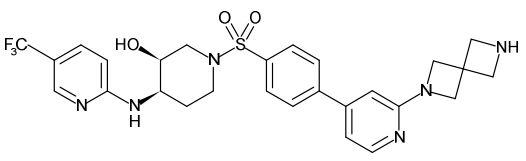
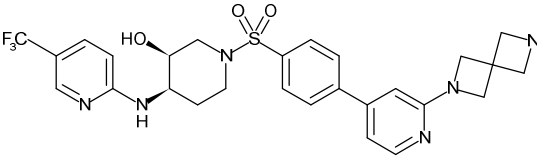
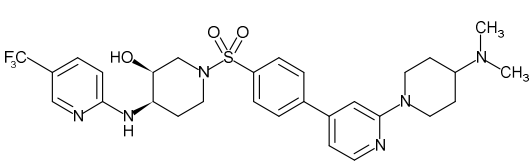
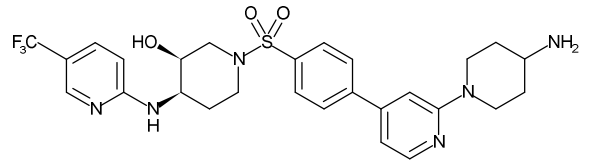
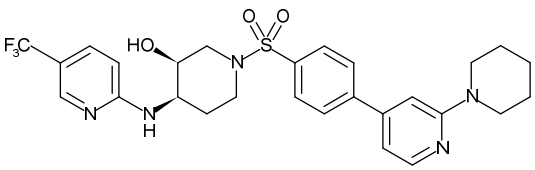
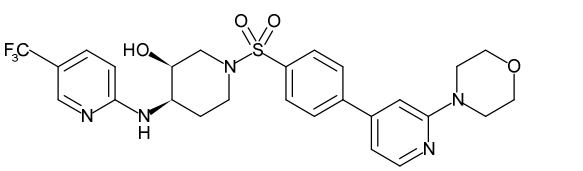
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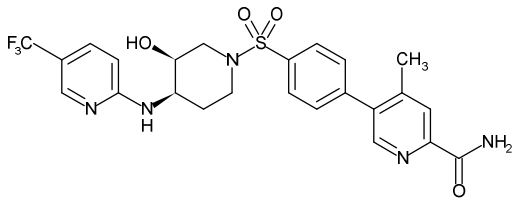
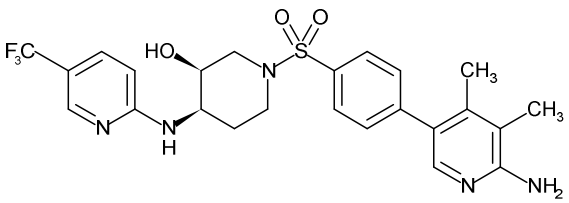
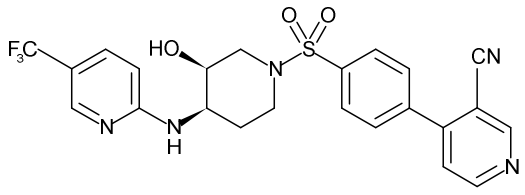
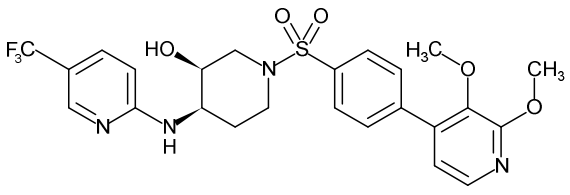
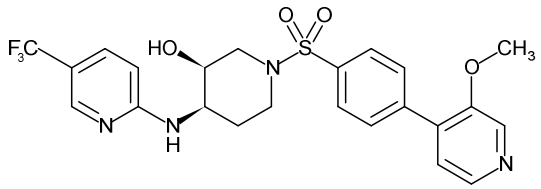
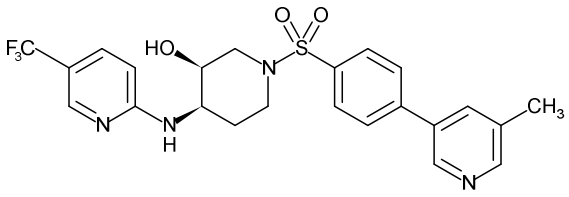
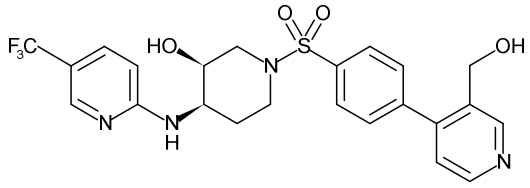
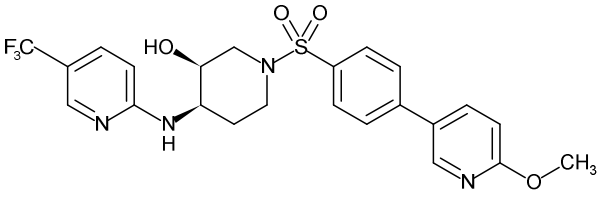
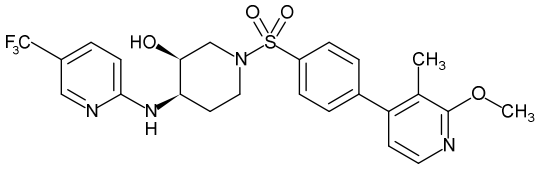
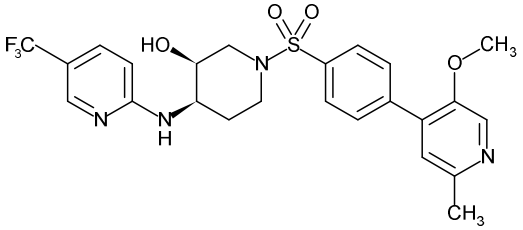
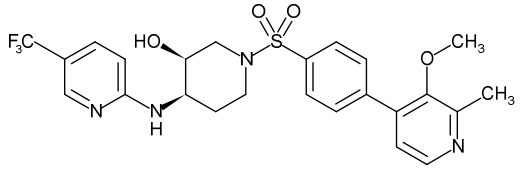
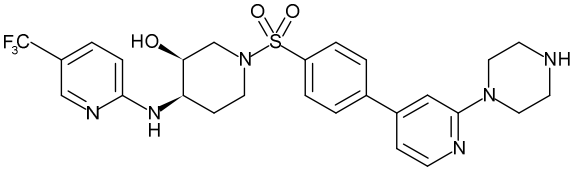
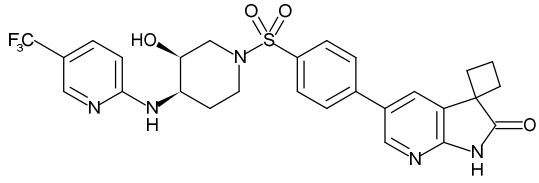
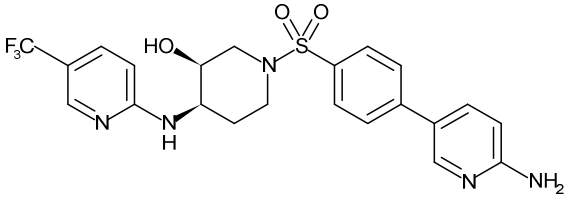
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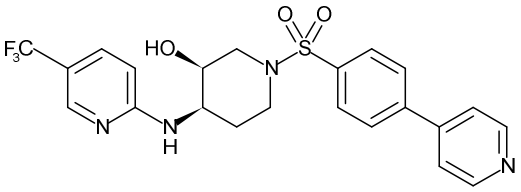
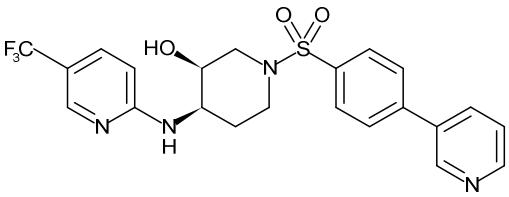
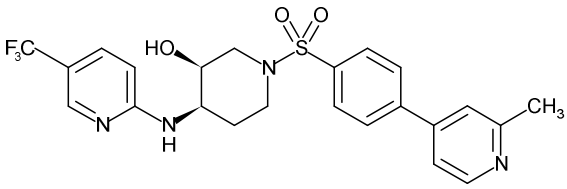
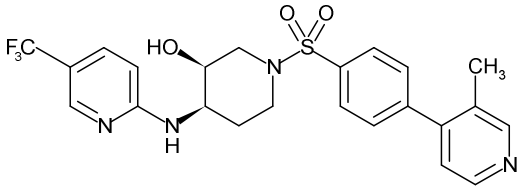
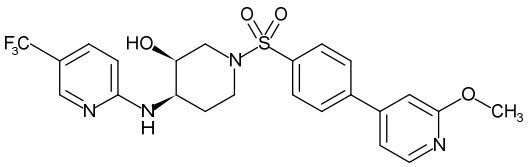
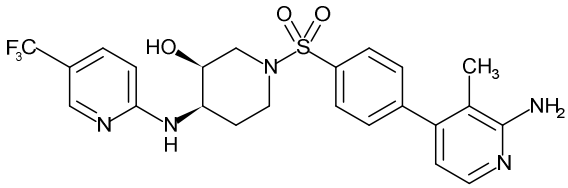
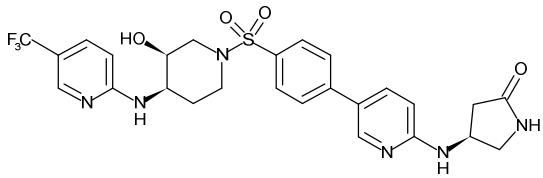
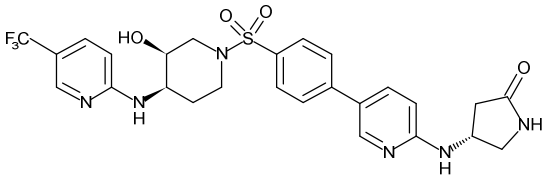
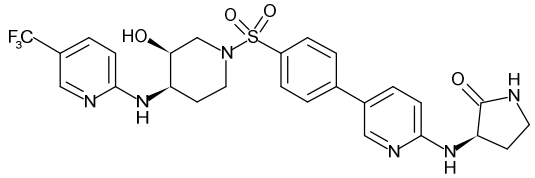
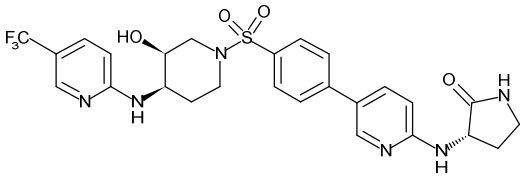
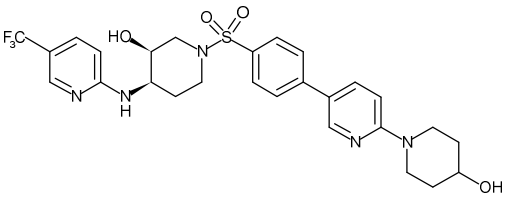
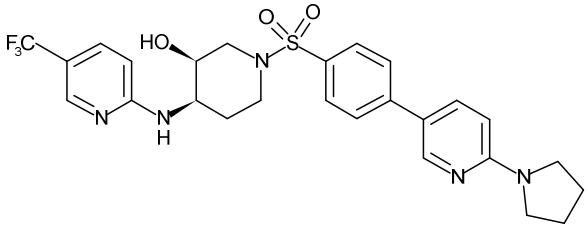
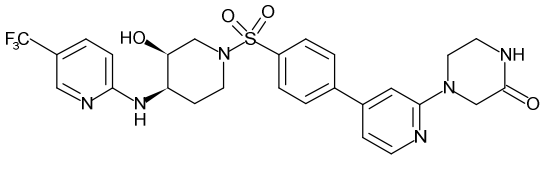
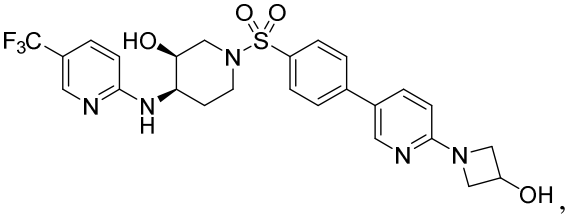
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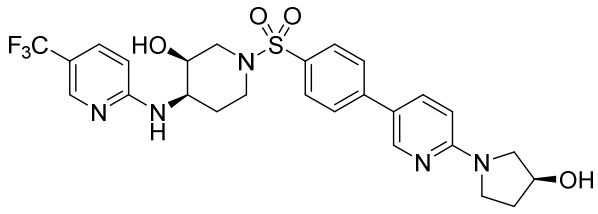
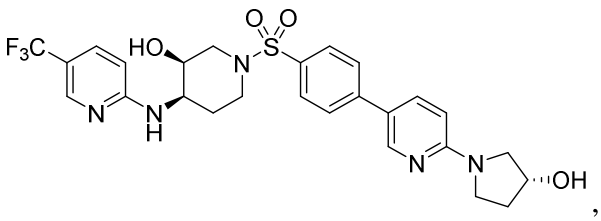
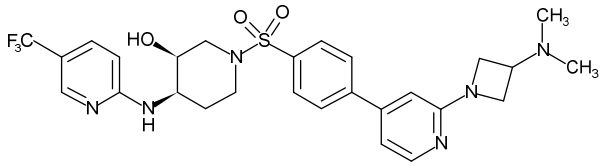
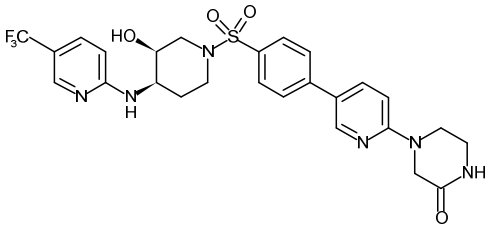
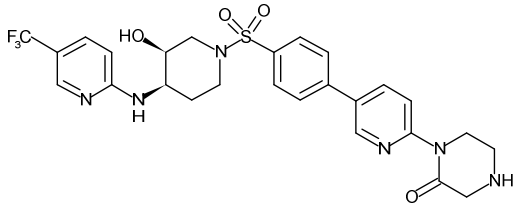
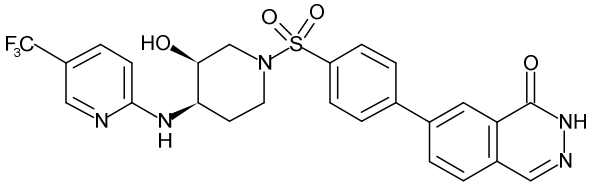
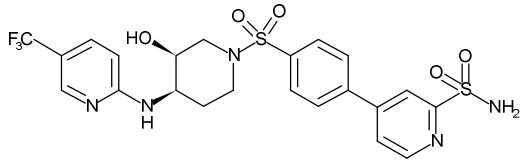
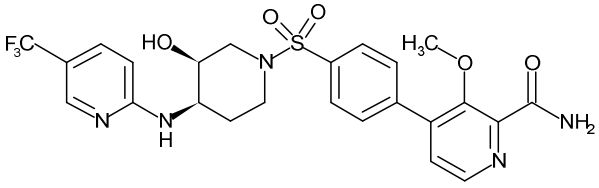
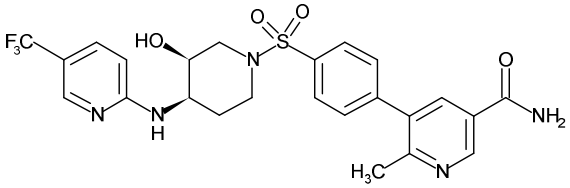
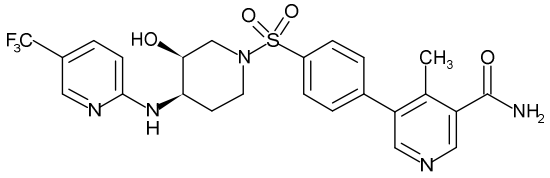
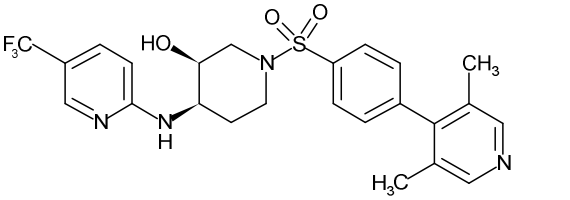
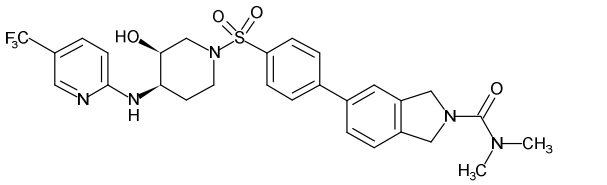
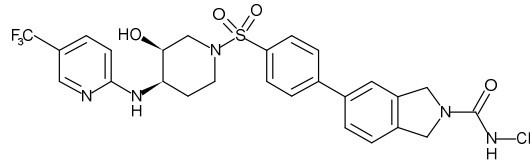
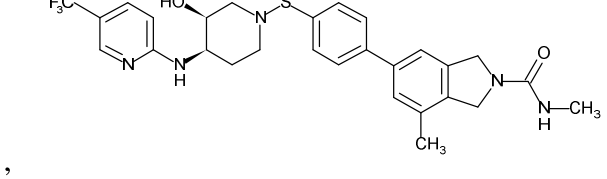

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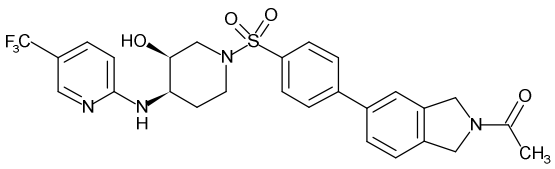
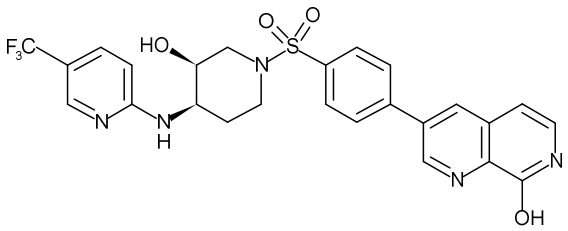
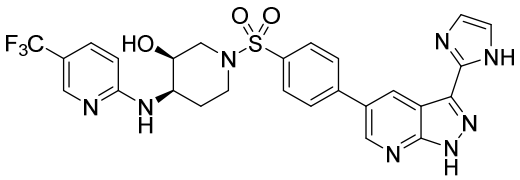
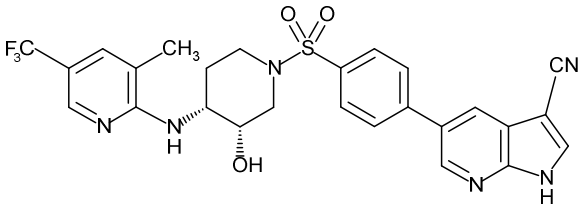
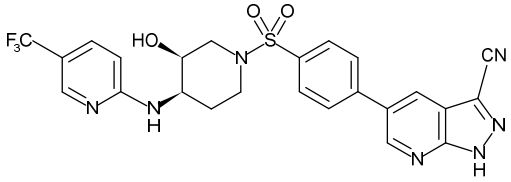
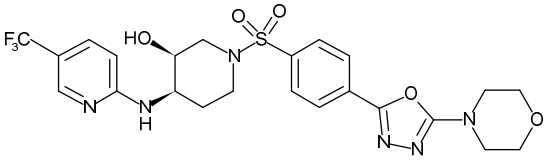
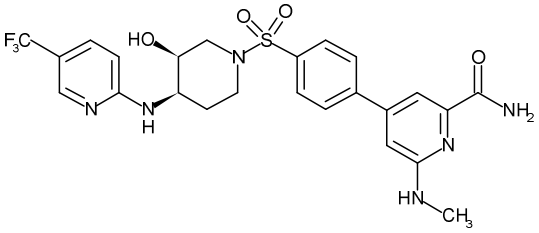
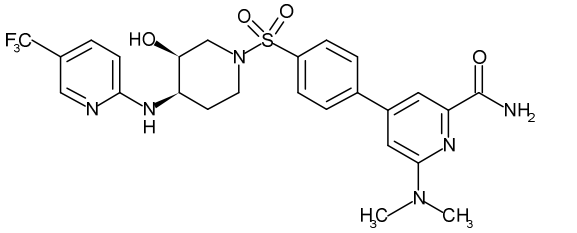
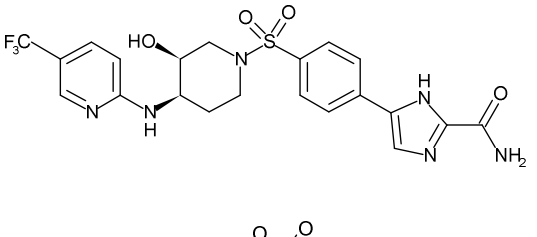
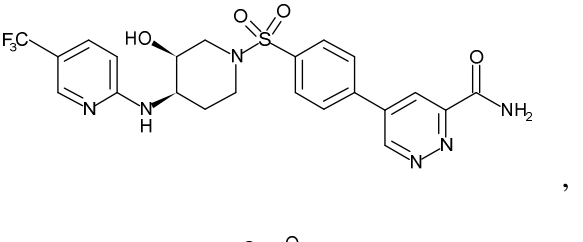
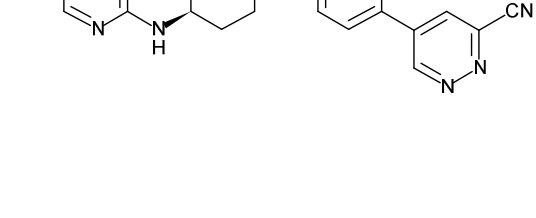
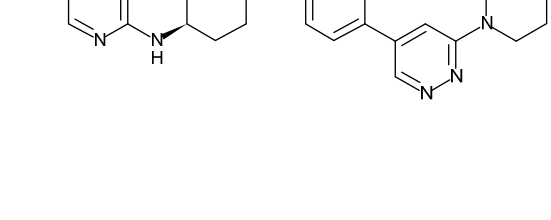

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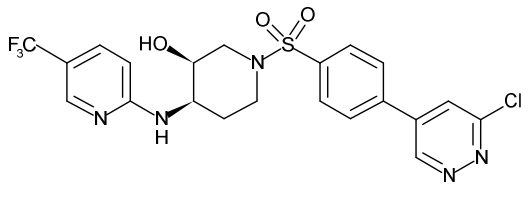
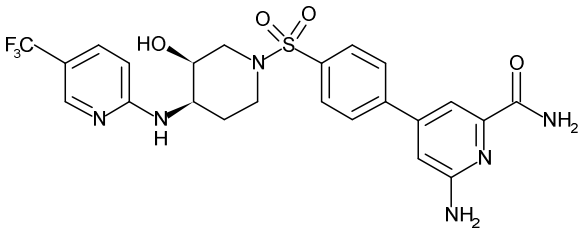
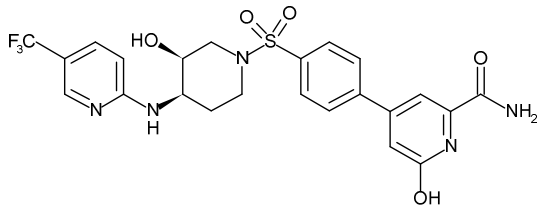
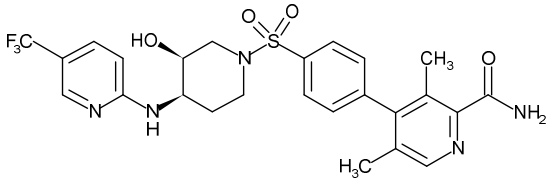
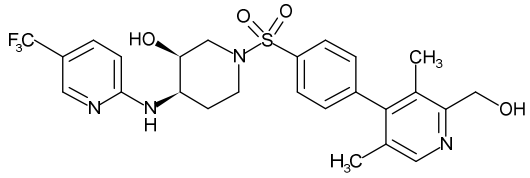
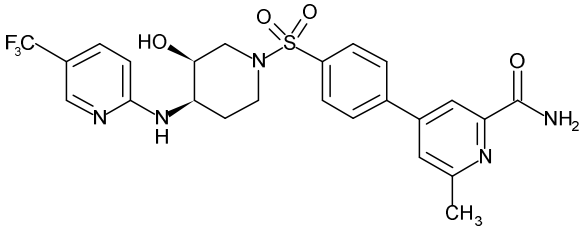
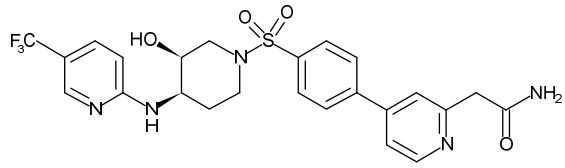
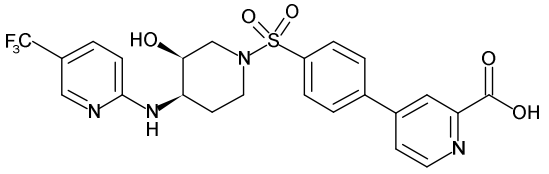
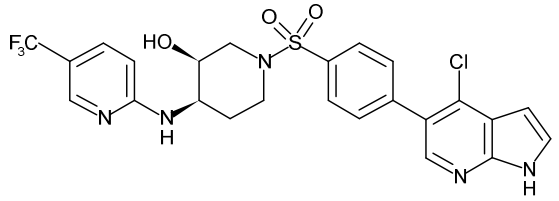
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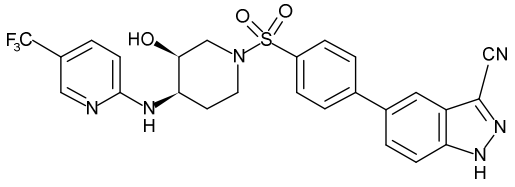
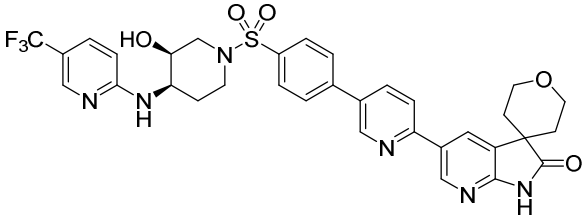
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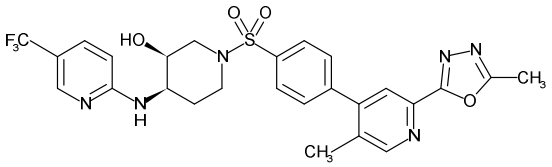
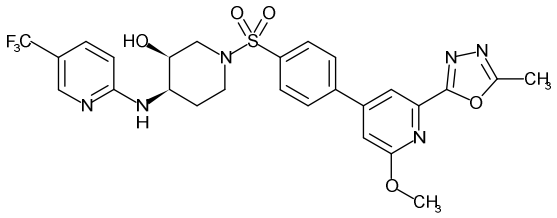
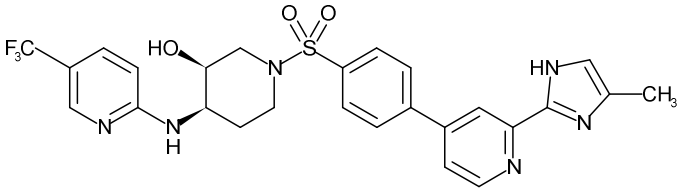
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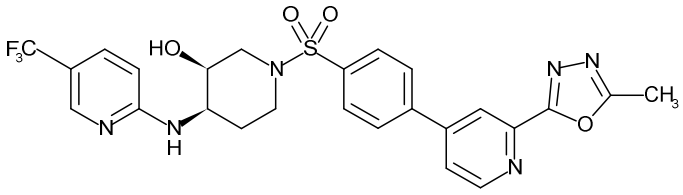
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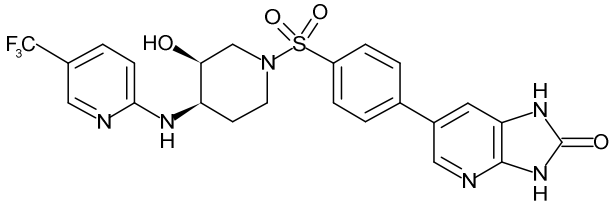

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and ; or a pharmaceutically acceptable salt thereof.

31. The compound of claim **30**, having the formula



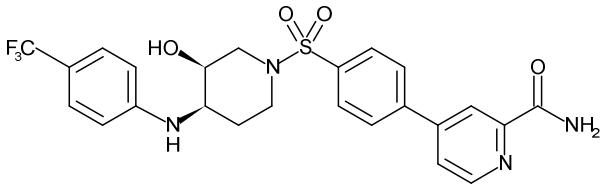
or a pharmaceutically acceptable salt thereof.

32. The compound of claim **30**, having the formula



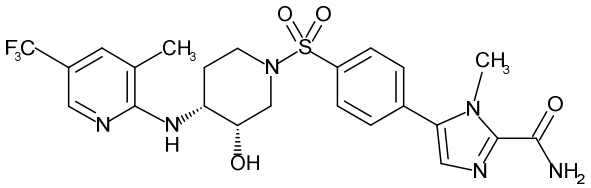
or a pharmaceutically acceptable salt thereof.

33. The compound of claim **30**, having the formula



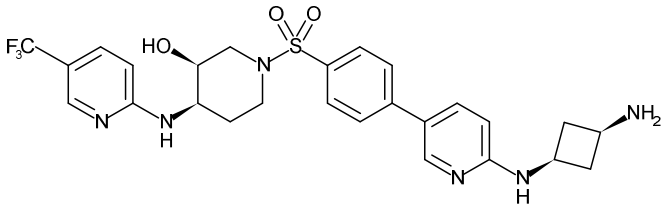
or a pharmaceutically acceptable salt thereof.

34. The compound of claim **30**, having the formula



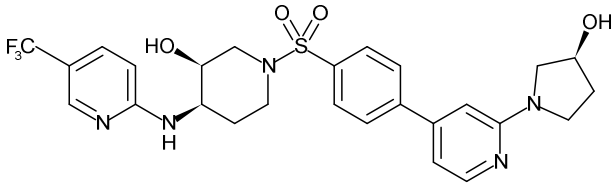
or a pharmaceutically acceptable salt thereof.

35. The compound of claim **30**, having the formula



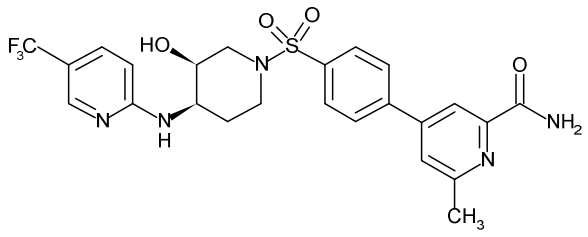
or a pharmaceutically acceptable salt thereof.

36. The compound of claim **30**, having the formula



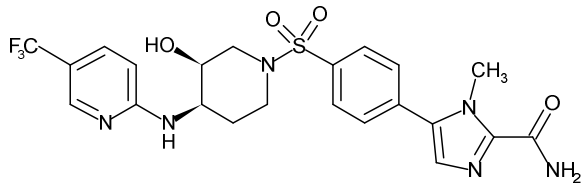
or a pharmaceutically acceptable salt thereof.

37. The compound of claim **30**, having the formula



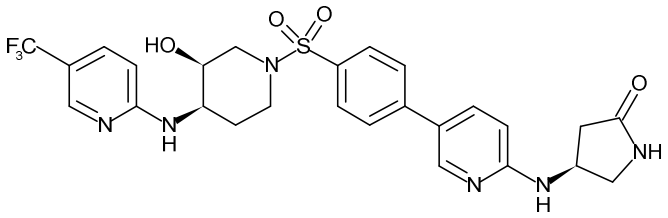
or a pharmaceutically acceptable salt thereof.

38. The compound of claim **30**, having the formula



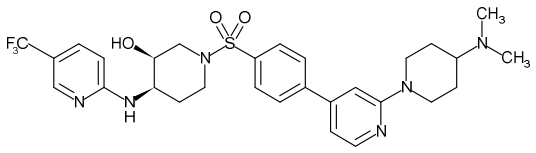
or a pharmaceutically acceptable salt thereof.

39. The compound of claim **30**, having the formula



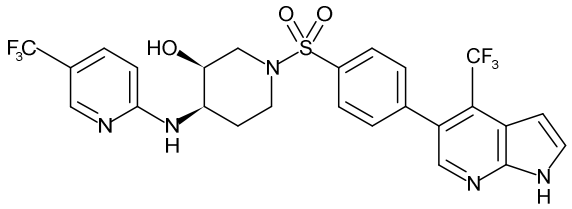
or a pharmaceutically acceptable salt thereof.

40. The compound of claim **30**, having the formula



or a pharmaceutically acceptable salt thereof.

41. The compound of claim **30**, having the formula



or a pharmaceutically acceptable salt thereof.

42. A pharmaceutical composition comprising a compound of any of claims **1** to **41**, or a pharmaceutically acceptable salt, hydrate, solvate, N-oxide or rotamer thereof, with a pharmaceutically acceptable excipient.

43. Use of a compound of any one of claims 1 to 41, or a pharmaceutically acceptable salt, hydrate, solvate, N-oxide or rotamer thereof in the manufacture of a medicament for treating a disease or condition modulated at least in part by CCR6.

44. The use in accordance with claim **43**, wherein said disease or condition is an inflammatory disease or condition.

45. The use in accordance with claim **43**, wherein said disease or condition is atopic dermatitis atopic dermatitis, scleroderma. lumbar disk disease, psoriasis, pustular psoriasis, rheumatoid arthritis, psoratic arthritis, arthritis associated with systemic lupus erythematosus, endometriosis, or periodontitis.

46. The use in accordance with claim **43**, wherein said disease or condition is psoriasis, or pustular psoriasis.

47. The use in accordance with any of claims **43**, **44**, **45**, or **46**, wherein said compound is a compound of claim **15**, **22**, **23**, or **30**, or a pharmaceutically acceptable salt, hydrate, solvate, N-oxide or rotamer thereof.

48. The use in accordance with claim **47**, wherein the compound is a compound of claim **43**, or a pharmaceutically acceptable salt thereof.