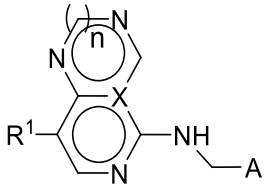
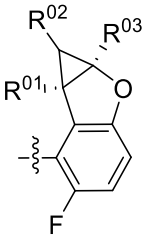
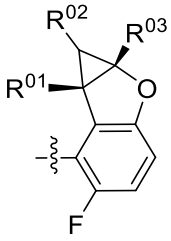
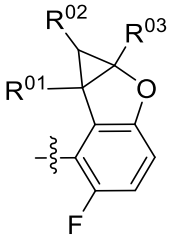
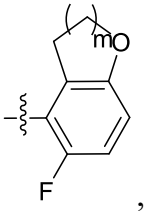
What is claimed is:

1. A compound as shown in formula (**I**), a pharmaceutically acceptable salt, hydrate, ~~prodrug,~~ stereoisomer, and solvate thereof, or their isotopically-labeled compounds:



(I)

wherein

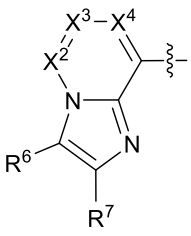
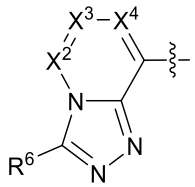
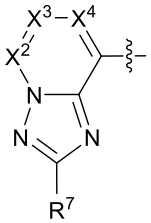
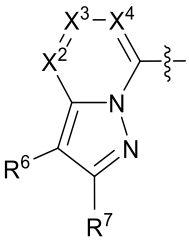
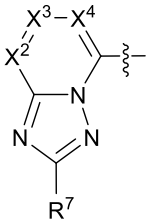
A is  ,  ,  , or  ,

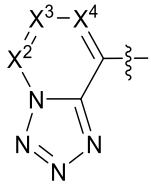
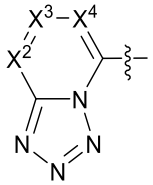
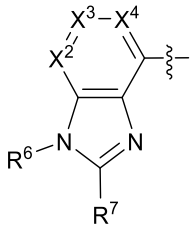
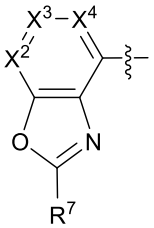
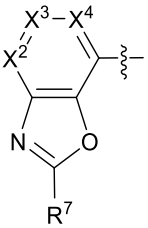
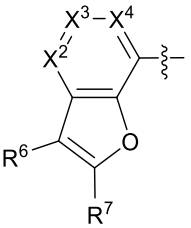
R^{01}, R^{02} and R^{03} are each independently hydrogen or halogen;

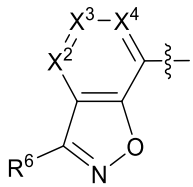
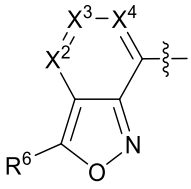
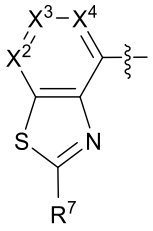
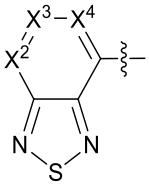
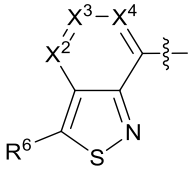
n is 0 or 1;

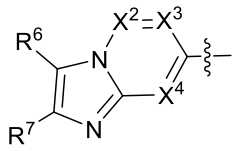
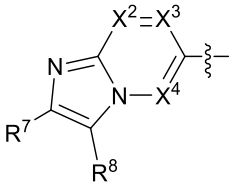
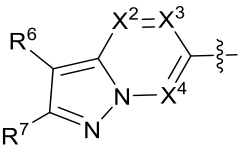
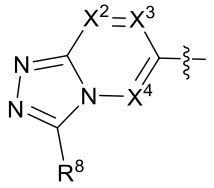
m is 1 or 2;

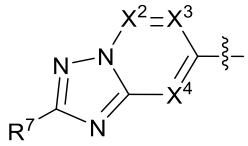
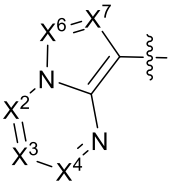
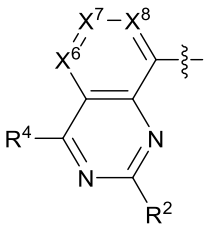
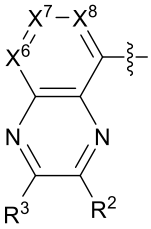
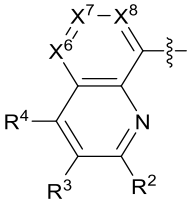
X is C or N;

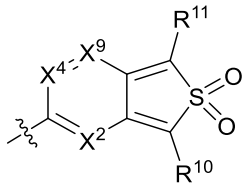
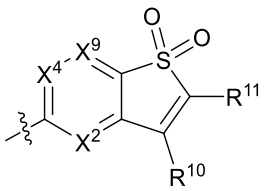
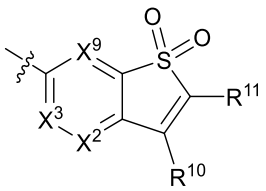
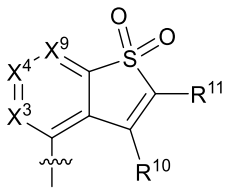
R^1 is  ,  ,  ,  ,  ,

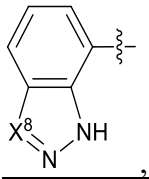
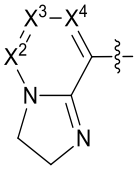
 ,  ,  ,  ,  ,  ,

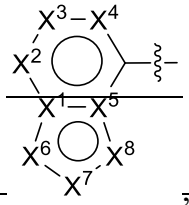
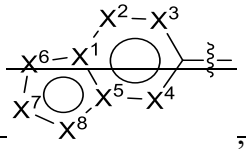
 ,  ,  ,  ,  ,

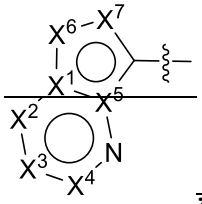
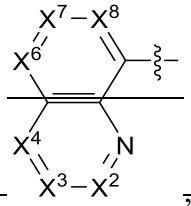
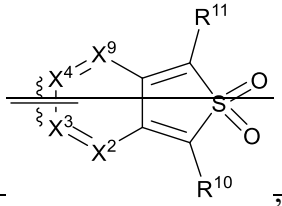
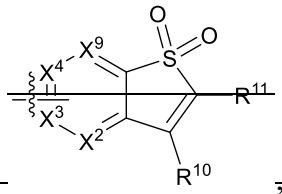
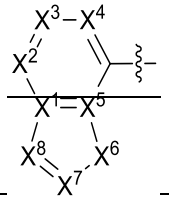
 ,  ,  ,  ,

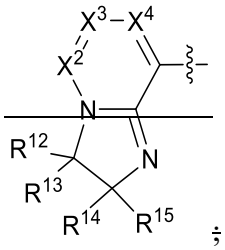
 ,  ,  ,  ,  ,

 ,  ,  ,  ,

 , or  ;

~~a bicyclic structure and is aromatic, and is preferably~~  ,  ,

 ,  ,  ,  ,  ~~or~~



;

~~X^1 and X^5 are independently C or N;~~

X^2 is independently N or CR^2;

X^3 is independently N or CR^3;

X^4 is independently N or CR^4;

X^6 is independently CR^6, N, NR^6, O or S;

X^7 is independently CR^7, N, O or S;

X^8 is independently CR^8, N, O or S;

X^9 is independently N or CR^9;

R^2 is H, halogen, -CN, $-NR^aR^b$, C_{1-4} alkyl, C_{1-4} alkyl substituted with 1, 2 or 3 R^5 groups, C_{1-4} haloalkyl, C_{1-4} alkoxy, C_{3-6} heterocycloalkyl, C_{3-6} heterocycloalkyl substituted with 1, 2 or 3 R^5 groups, C_{3-6} heterospirocycloalkyl, $-CO_2R^{16}$, $-C(=O)NR^{16}R^{17}$, or $-NR^aR^b$; each R^{16} and R^{17} are independently H or C_{1-4} alkyl; R^a and R^b are independently H or C_{1-4} alkyl; each R^5 is independently -OH, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} alkoxy substituted with 1, 2 or 3 hydroxyl groups, $-NR^{a1}R^{b1}$, C_{3-6} heterocycloalkyl, C_{3-6} heterocycloalkyl substituted with 1, 2 or 3 C_{1-4} alkyl groups, C_{3-6} heterocycloalkyl substituted with 1, 2 or 3 C_{3-6} heterocycloalkyl groups, or C_{1-15} heteroaryl; R^{a1} and R^{b1} are independently H, C_{1-4} alkyl, C_{1-4} alkyl substituted with 1, 2 or 3 $-NR^{a2}R^{b2}$ groups, or C_{1-4} alkyl substituted with 1, 2 or 3 hydroxyl groups; R^{a2} and R^{b2} are independently H or C_{1-4} alkyl; the heteroatom in the C_{3-6} heterocycloalkyl is selected from N, O and S, and the number of the heteroatom is 1, 2, 3 or 4; the heteroatom in the C_{3-6} heterospirocycloalkyl is selected from N, O and S, and the number of the heteroatom is 1, 2, 3 or 4; the heteroatom in the C_{1-15} heteroaryl is selected from N, O and S, and the number of the heteroatom is 1, 2, 3, 4, 5 or 6;

R^3 is H, halogen, -CN, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} haloalkyl, or $-C(=O)NR^{16}R^{17}$;

R^4 is H, halogen, or C_{1-4} alkyl;

R^6 is H, halogen, -CN, C_{1-4} alkyl, C_{1-4} alkyl substituted with 1, 2 or 3 R^5 groups, $-CO_2R^{16}$,

-C(=O)NR^{16}R^{17}, -(C=O)R^{16}, SO$_2$R^{16}, or -POR^{16}R^{17}; each R^{16} and each R^{17} are independently H, C$_{1-4}$ alkyl, or C$_{3-6}$ heterocycloalkyl; each R^5 is independently -OH, -CN, -NR^{a1}R^{b1}, C$_{6-18}$ aryl, -C(=O)NR^{16a}R^{17a}, -CO$_2$R^{16a}, -O(C=O)R^{16a}, -NH(C=O)R^{16a}, or -(C=O)R^{16a}; R^{a1} and R^{b1} are independently H or C$_{1-4}$ alkyl; each R^{16a} and R^{17a} are independently H, C$_{1-4}$ alkyl or C$_{3-6}$ heterocycloalkyl;

R^7 is H, -OH, -NR^{a}R^b, C$_{1-4}$ alkyl, C$_{1-4}$ alkyl substituted with 1, 2 or 3 hydroxyl groups, C$_{1-4}$ haloalkyl, -CO$_2$R^{16}, or -C(=O)NR^{16}R^{17}; R^a and R^b are independently H or C$_{1-4}$ alkyl; R^{16} and R^{17} are independently H, C$_{1-4}$ alkyl or C$_{1-4}$ haloalkyl;

R^8 is H or C$_{1-4}$ alkyl;

R^9 is H, halogen, or C$_{1-4}$ alkyl;

R^{10} is H, halogen, C$_{1-4}$ alkyl, or C$_{1-4}$ alkyl substituted with 1, 2 or 3 R^5 groups; each R^5 is independently -NR^{a1}R^{b1}; R^{a1} and R^{b1} are independently H or C$_{1-4}$ alkyl;

R^{11} is H, halogen, or C$_{1-4}$ alkyl.

~~R^2, R^3, R^4, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, and R^{15} are independently H, halogen, -CN, R^5-substituted or unsubstituted amino, R^5-substituted or unsubstituted hydroxyl, R^5-substituted or unsubstituted C$_{1-4}$ alkyl, R^5-substituted or unsubstituted C$_{1-4}$ alkoxy, R^5-substituted or unsubstituted C$_{3-6}$ cycloalkyl, R^5-substituted or unsubstituted C$_{1-4}$ haloalkyl, -(C=O)R^{16}, -CO$_2$R^{16}, -C(=O)NR^{16}R^{17}, -SO$_2$R^{16}, -SO$_2$NR^{16}R^{17}, -POR^{16}R^{17}, R^5-substituted or unsubstituted C$_{3-6}$ heterocycloalkyl, or C$_{3-6}$ heterospirocycloalkyl;~~

~~R^5 is independently C$_{1-4}$ alkoxy, -CN, C$_{1-4}$ alkoxy substituted with 1, 2 or 3 hydroxyl groups, C$_{1-4}$ alkyl, C$_{1-4}$ haloalkyl, -NR^{a1}R^{b1}, halogen, hydroxyl, C$_{3-6}$ heterocycloalkyl, C$_{3-6}$ heterocycloalkyl, C$_{3-6}$ heterocycloalkyl substituted with 1, 2 or 3 C$_{1-4}$ alkyl groups, C$_{3-6}$ heterocycloalkyl substituted with 1, 2 or 3 C$_{3-6}$ heterocycloalkyl groups, C$_{6-18}$ aryl, C$_{1-15}$ heteroaryl, -C(=O)NR^{16a}R^{17a}, -CO$_2$R^{16a}, -O(C=O)R^{16a}, -NH(C=O)R^{16a}, or -(C=O)R^{16a}; R^{a1} and R^{b1} are independently H, C$_{1-4}$ alkyl, C$_{1-4}$ alkyl substituted with 1, 2 or 3 -NR^{a2}R^{b2} groups, C$_{1-4}$ alkyl substituted with 1, 2 or 3 hydroxyl groups, or C$_{1-4}$ alkoxy substituted with 1, 2 or 3 hydroxyl groups; R^{a2} and R^{b2} are independently H or C$_{1-4}$ alkyl; each R^{16a} and each R^{17a} are independently H, C$_{1-4}$ alkyl, or C$_{3-6}$ heterocycloalkyl;~~

~~the number of R^5 is 1, 2, 3, 4, 5 or 6;~~

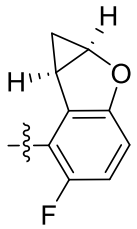
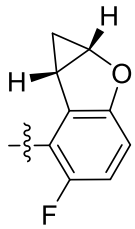
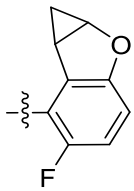
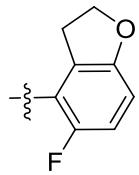
~~R^{16} and R^{17} are independently H, C_{1-4} alkyl, C_{1-4} haloalkyl, or C_{3-6} heterocycloalkyl;~~

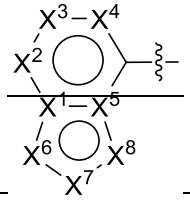
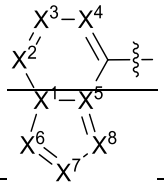
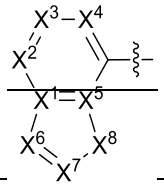
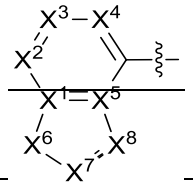
~~the heteroatom in the C_{3-6} heterocycloalkyl is selected from N, O and S, and the number of the heteroatom is 1, 2, 3 or 4; the heteroatom in the C_{3-6} heterospirocycloalkyl is selected from N, O and S, and the number of the heteroatom is 1, 2, 3 or 4; the heteroatom in the C_{1-15} heteroaryl is selected from N, O and S, and the number of the heteroatom is 1, 2, 3, 4, 5 or 6.~~

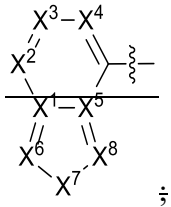
2. The compound as shown in formula (**I**), the pharmaceutically acceptable salt, hydrate, ~~prodrug,~~ stereoisomer, and solvate thereof, or their isotopically-labeled compounds according to claim 1, wherein

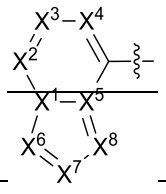
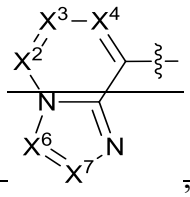
n is 1;

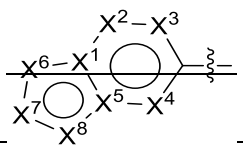
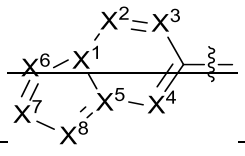
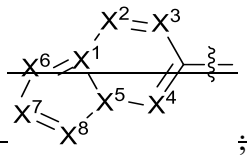
and/or, X is N;

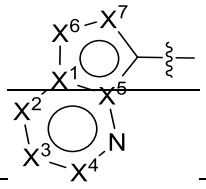
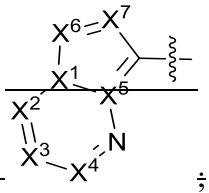
and/or, A is  ,  ,  , or  ;

~~and/or, the moiety~~  ~~is~~  ~~,~~  ~~,~~  ~~, or~~

 ~~;~~

~~and/or, the moiety~~  ~~is~~  ~~, wherein X^6 is independently CR^6 or N; X^7 is independently CR^7 or N;~~

~~and/or, the moiety~~  ~~is~~  ~~or~~  ~~;~~

and/or, the moiety  is  ;

and/or, R^2, R^3, R^4, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, and R^{15} are independently H, halogen, -CN, -OH, $-NR^aR^b$, C_{1-4} alkyl, C_{1-4} alkyl substituted with 1, 2 or 3 R^5 groups, C_{1-4} haloalkyl, C_{1-4} haloalkyl substituted with 1, 2 or 3 R^5 groups, C_{1-4} alkoxy, C_{1-4} alkoxy substituted with 1, 2 or 3 R^5 groups, C_{3-6} heterocycloalkyl, C_{3-6} heterocycloalkyl substituted with 1, 2 or 3 R^5 groups, $-(C=O)R^{16}$, $-CO_2R^{16}$, $-C(=O)NR^{16}R^{17}$, $-SO_2R^{16}$, $-SO_2NR^{16}R^{17}$, $-POR^{16}R^{17}$, or C_{3-6} heterospirocycloalkyl,

wherein R^a and R^b are independently H or C_{1-4} alkyl; R^{16} and R^{17} are independently H, C_{1-4} alkyl, C_{1-4} haloalkyl, or C_{3-6} heterocycloalkyl;

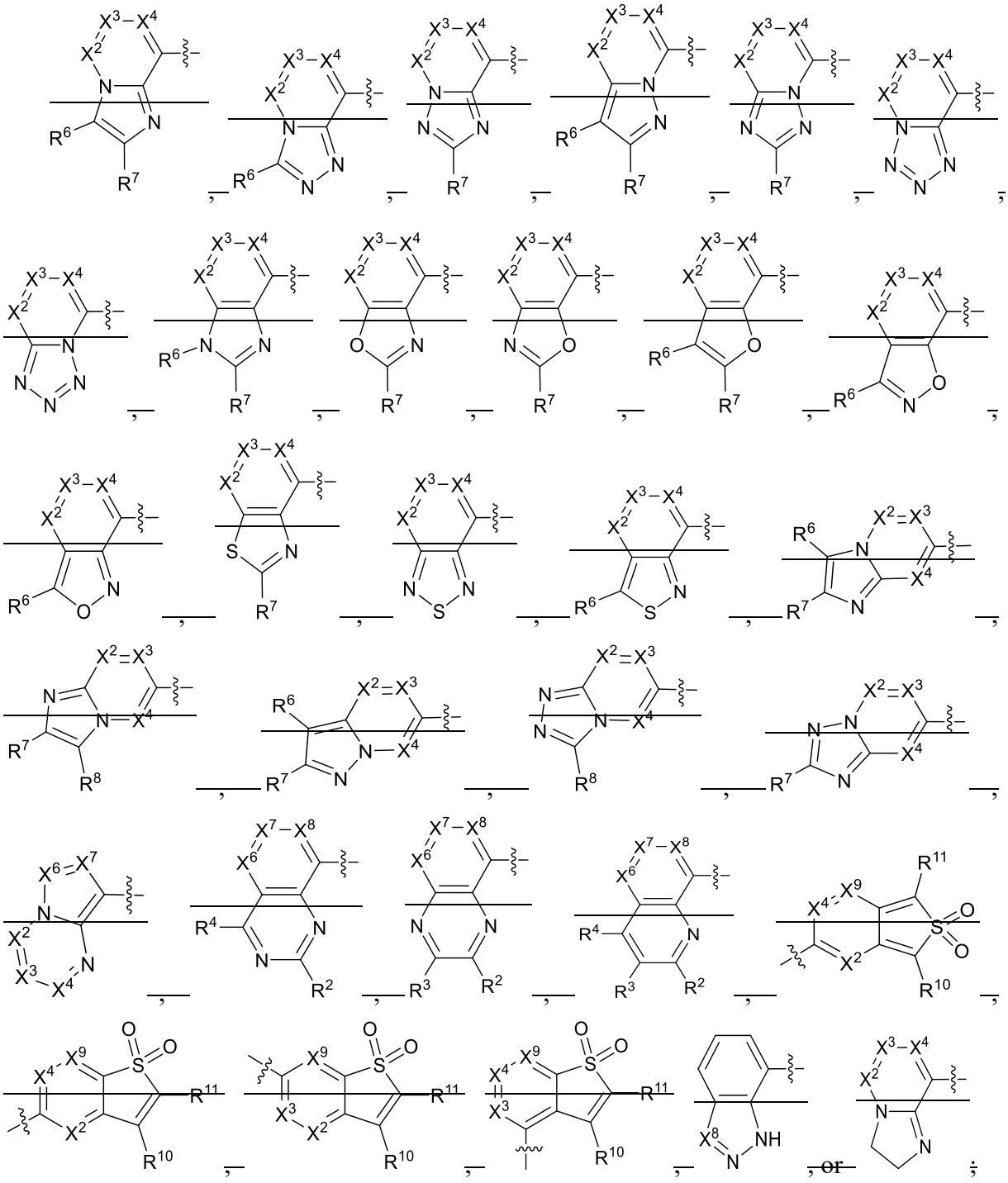
each R^5 is independently -OH, -CN, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} alkoxy substituted with 1, 2 or 3 hydroxyl groups, $-NR^{a1}R^{b1}$, C_{3-6} heterocycloalkyl, C_{3-6} heterocycloalkyl substituted with 1, 2 or 3 C_{1-4} alkyl groups, C_{3-6} heterocycloalkyl substituted with 1, 2 or 3 C_{3-6} heterocycloalkyl groups, C_{6-18} aryl, C_{1-15} heteroaryl, $-C(=O)NR^{16a}R^{17a}$, $-CO_2R^{16a}$, $-O(C=O)R^{16a}$, $-NH(C=O)R^{16a}$, or $-(C=O)R^{16a}$; R^{a1} and R^{b1} are independently H, C_{1-4} alkyl, C_{1-4} alkyl substituted with 1, 2 or 3 $-NR^{a2}R^{b2}$ groups, or C_{1-4} alkyl substituted with 1, 2 or 3 hydroxyl groups; R^{a2} and R^{b2} are independently H or C_{1-4} alkyl; each R^{16a} and R^{17a} are independently H, C_{1-4} alkyl, C_{1-4} haloalkyl, or C_{3-6} heterocycloalkyl;

the heteroatom in the C_{3-6} heterocycloalkyl is selected from N, O and S, and the number of the heteroatom is 1, 2, 3 or 4; the heteroatom in the C_{3-6} heterospirocycloalkyl is selected from N, O and S, and the number of the heteroatom is 1, 2, 3 or 4; the heteroatom in the C_{1-15} heteroaryl is selected from N, O and S, and the number of the heteroatom is 1, 2, 3, 4, 5 or 6;

and/or, the isotope in the isotopically-labeled compound is selected from ^2H, ^3H, ^{11}C, ^{13}C, ^{14}C, ^{15}N, ^{18}F, ^{31}P, ^{32}P, ^{35}S, ^{36}Cl and ^{125}I.

3. The compound as shown in formula (**I**), the pharmaceutically acceptable salt, hydrate, prodrug, stereoisomer, and solvate thereof, or their isotopically-labeled compounds according to claim 1 or 2, wherein

R^1 is any one of the following structures:



~~and/or, R^2 is H, halogen, –CN, –NR^aR^b, C_{1-4} alkyl, C_{1-4} alkyl substituted with 1, 2 or 3 R^5 groups, C_{1-4} haloalkyl, C_{1-4} alkoxy, C_{3-6} heterocycloalkyl, C_{3-6} heterocycloalkyl substituted with 1, 2 or 3 R^5 groups, C_{3-6} heterospirocycloalkyl, –CO_2R^{16}, –$C(=O)NR^{16}R^{17}$, or –NR^aR^b; each R^{16} and R^{17} are independently H or C_{1-4} alkyl; R^a and R^b are independently H or C_{1-4} alkyl; each R^5 is independently –OH, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} alkoxy substituted with 1, 2 or 3 hydroxyl groups, –$NR^{a1}R^{b1}$, C_{3-6} heterocycloalkyl, C_{3-6} heterocycloalkyl substituted with~~

~~1, 2 or 3 C_{1-4} alkyl groups, C_{3-6} heterocycloalkyl substituted with 1, 2 or 3 C_{3-6} heterocycloalkyl groups, or C_{1-15} heteroaryl; R^{a1} and R^{b1} are independently H, C_{1-4} alkyl, C_{1-4} alkyl substituted with 1, 2 or 3 $-NR^{a2}R^{b2}$ groups, or C_{1-4} alkyl substituted with 1, 2 or 3 hydroxyl groups; R^{a2} and R^{b2} are independently H or C_{1-4} alkyl; the heteroatom in the C_{3-6} heterocycloalkyl is selected from N, O and S, and the number of the heteroatom is 1, 2, 3 or 4; the heteroatom in the C_{3-6} heterospirocycloalkyl is selected from N, O and S, and the number of the heteroatom is 1, 2, 3 or 4; the heteroatom in the C_{1-15} heteroaryl is selected from N, O and S, and the number of the heteroatom is 1, 2, 3, 4, 5 or 6;~~

~~and/or, R^3 is H, halogen, -CN, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} haloalkyl, or $-C(=O)NR^{16}R^{17}$;~~

~~and/or, R^4 is H, halogen, or C_{1-4} alkyl;~~

~~and/or, R^6 is H, halogen, -CN, C_{1-4} alkyl, C_{1-4} alkyl substituted with 1, 2 or 3 R^5 groups, $-CO_2R^{16}$, $-C(=O)NR^{16}R^{17}$, $-(C=O)R^{16}$, SO_2R^{16}, or $-POR^{16}R^{17}$; each R^{16} and each R^{17} are independently H, C_{1-4} alkyl, or C_{3-6} heterocycloalkyl; each R^5 is independently -OH, -CN, $-NR^{a1}R^{b1}$, C_{6-18} aryl, $-C(=O)NR^{16a}R^{17a}$, $-CO_2R^{16a}$, $-O(C=O)R^{16a}$, $-NH(C=O)R^{16a}$, or $-(C=O)R^{16a}$; R^{a1} and R^{b1} are independently H or C_{1-4} alkyl; each R^{16a} and R^{17a} are independently H, C_{1-4} alkyl or C_{3-6} heterocycloalkyl;~~

~~and/or, R^7 is H, -OH, $-NR^aR^b$, C_{1-4} alkyl, C_{1-4} alkyl substituted with 1, 2 or 3 hydroxyl groups, C_{1-4} haloalkyl, $-CO_2R^{16}$, or $-C(=O)NR^{16}R^{17}$; R^a and R^b are independently H or C_{1-4} alkyl; R^{16} and R^{17} are independently H, C_{1-4} alkyl or C_{1-4} haloalkyl;~~

~~and/or, R^8 is H or C_{1-4} alkyl;~~

~~and/or, R^9 is H, halogen, or C_{1-4} alkyl;~~

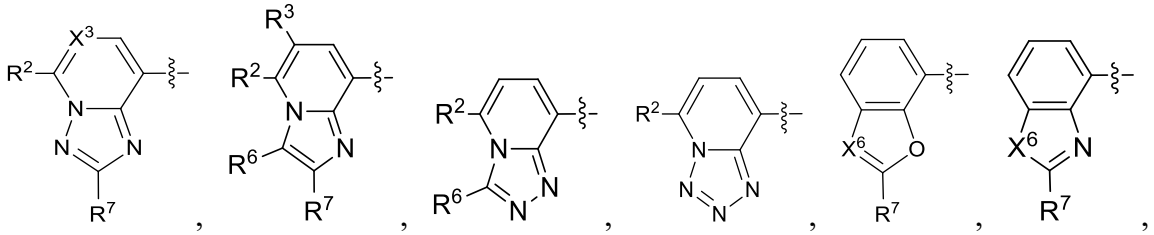
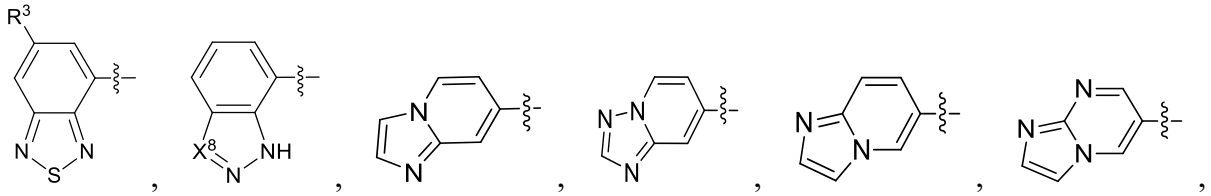
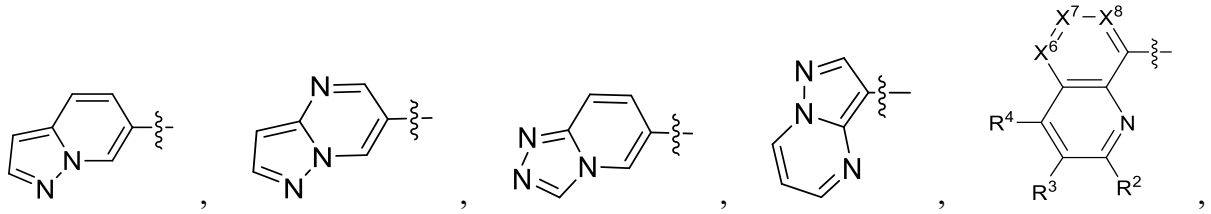
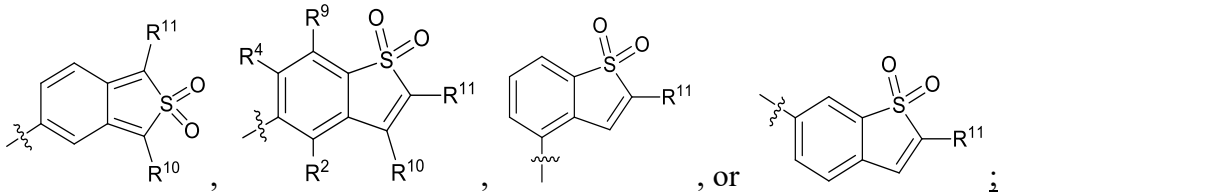
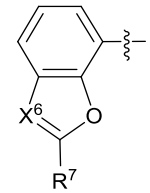
~~and/or, R^{10} is H, halogen, C_{1-4} alkyl, or C_{1-4} alkyl substituted with 1, 2 or 3 R^5 groups; each R^5 is independently $-NR^{a1}R^{b1}$; R^{a1} and R^{b1} are independently H or C_{1-4} alkyl;~~

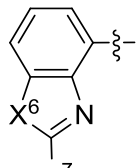
~~and/or, R^{11} is H, halogen, or C_{1-4} alkyl;~~

~~and/or, R^{12}, R^{13}, R^{14}, and R^{15} are H.~~

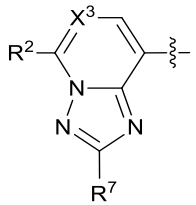
~~4~~3. The compound as shown in formula (**I**), the pharmaceutically acceptable salt, hydrate, ~~prodrug,~~ stereoisomer, and solvate thereof, or their isotopically-labeled compounds according to at least one of claims 1-~~3~~2, wherein

R^1 is any one of the following structures:






in the moiety , X^6 is N or CH; R^7 is H, $C_{1\text{-}4}$ alkyl, $C_{1\text{-}4}$ haloalkyl, or -NR^aR^b; R^a and R^b are independently H or $C_{1\text{-}4}$ alkyl;


and/or, in the moiety , X^6 is NR^6, O or S; R^6 is $C_{1\text{-}4}$ alkyl; R^7 is H, $C_{1\text{-}4}$ alkyl, $C_{1\text{-}4}$ haloalkyl, or -NR^aR^b; R^a and R^b are independently H or $C_{1\text{-}4}$ alkyl.

~~5~~4. The compound as shown in formula (**I**), the pharmaceutically acceptable salt, hydrate, ~~prodrug,~~ stereoisomer, and solvate thereof, or their isotopically-labeled compounds according


to claim 4~~3~~, wherein in the moiety :

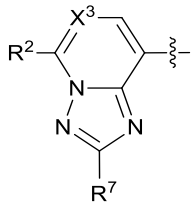
(i) R^2 is H, C_{1-4} alkyl, C_{1-4} alkyl substituted with 1, 2 or 3 R^{5-2-1} groups, C_{1-4} haloalkyl, C_{1-4} alkoxy, C_{3-6} heterocycloalkyl, C_{3-6} heterocycloalkyl substituted with 1, 2 or 3 C_{1-4} alkyl groups, C_{3-6} heterospirocycloalkyl, or $-NR^aR^b$; R^a and R^b are independently H or C_{1-4} alkyl;

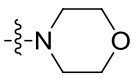
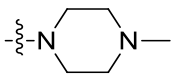
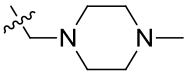
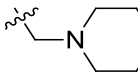
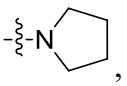
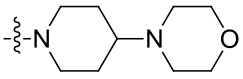
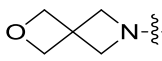
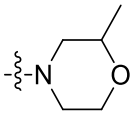
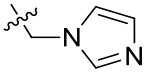
each R^{5-2-1} is independently -OH, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} alkoxy substituted with 1, 2 or 3 hydroxyl groups, $-NR^{a1}R^{b1}$, C_{3-6} heterocycloalkyl, or C_{3-6} heterocycloalkyl substituted with 1, 2 or 3 R^{5-2-2} groups; R^{a1} and R^{b1} are independently H, C_{1-4} alkyl, C_{1-4} alkyl substituted with 1, 2 or 3 $-NR^{a2}R^{b2}$ groups, or C_{1-4} alkyl substituted with 1, 2 or 3 hydroxyl groups; R^{5-2-2} is C_{1-4} alkyl or C_{3-6} heterocycloalkyl; R^{a2} and R^{b2} are independently H or C_{1-4} alkyl;

wherein the heteroatom in the C_{3-6} heterocycloalkyl is selected from N, O and S, and the number of the heteroatom is 1, 2, 3 or 4; the heteroatom in the C_{3-6} heterospirocycloalkyl is selected from N, O and S, and the number of the heteroatom is 1, 2, 3 or 4;

and/or, (ii) when X^3 is CR^3, then R^3 is H, halogen, C_{1-4} alkoxy, or -CN;

and/or, (iii) R^7 is H, C_{1-4} alkyl, or $-NR^aR^b$; R^a and R^b are independently H or C_{1-4} alkyl.

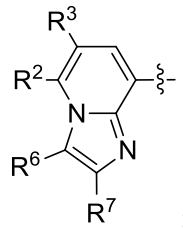
~~6~~5. The compound as shown in formula (**I**), the pharmaceutically acceptable salt, hydrate, ~~prodrug,~~ stereoisomer, and solvate thereof, or their isotopically-labeled compounds according to claim ~~5~~4, wherein in the moiety  :

(i) R^2 is H, $-CH_3$, $-CF_3$, $-OCH_3$,  , $-N(CH_3)_2$,  ,  , $-CH_2OCH_2C(CH_3)_2OH$, $-CH_2N(CH_3)_2$, $-CH_2NHCH_2C(CH_3)_2OH$,  ,  ,  ,  , $-CH_2N(CH_3)CH_2CH_2N(CH_3)_2$,  ,  , $-C(CH_3)_2OH$, or $-CHF_2$;

and/or, (ii) when X^3 is CR^3, then R^3 is H, $-OCH_3$, -F, or -CN;

and/or, (iii) R^7 is H, $-NH(CH_3)$, $-N(CH_3)_2$, or $-CH_3$.

~~7~~6. The compound as shown in formula (I), the pharmaceutically acceptable salt, hydrate, ~~prodrug,~~ stereoisomer, and solvate thereof, or their isotopically-labeled compounds according

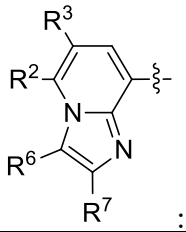
to claim 43, wherein in the moiety  :

(i) R^2 is H, -CN, C_{1-4} alkyl, C_{1-4} alkyl substituted with 1, 2 or 3 R^{5-2-3} groups, C_{1-4} haloalkyl, C_{1-4} alkoxy, $-CO_2R^{16}$, $-C(=O)NR^{16}R^{17}$, or $-NR^aR^b$, wherein each R^{16} and R^{17} are independently H or C_{1-4} alkyl; each R^{5-2-3} is independently -OH or $-NR^{a1}R^{b1}$; R^{a1} and R^{b1} are independently H or C_{1-4} alkyl; ~~each R^{5-2-3} is preferably -OH or $-N(CH_3)_2$;~~

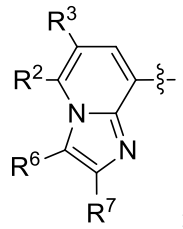
and/or, (ii) R^3 is H, halogen, C_{1-4} alkyl, C_{1-4} alkoxy, or $-C(=O)NR^{16}R^{17}$; R^{16} and R^{17} are independently H or C_{1-4} alkyl;

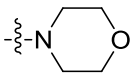
and/or, (iii) R^6 is H, halogen, -CN, C_{1-4} alkyl, C_{1-4} alkyl substituted with 1, 2 or 3 R^{5-6-1} groups, $-CO_2R^{16}$, $-C(=O)NR^{16}R^{17}$, $-(C=O)R^{16-1}$, $-SO_2R^{16}$, or $-POR^{16}R^{17}$; each R^{16} and each R^{17} are independently H or C_{1-4} alkyl; R^{16-1} is H, C_{1-4} alkyl or C_{3-6} heterocycloalkyl; each R^{5-6-1} is independently C_{6-18} aryl, $-C(=O)NR^{16a}R^{17a}$, -OH, -CN, $-CO_2R^{16a}$, $-O(C=O)R^{16a}$, $-NH(C=O)R^{16a}$, $-(C=O)R^{16a1}$, or $-NR^{a1}R^{b1}$; R^{a1} and R^{b1} are independently H or C_{1-4} alkyl; each R^{16a} and each R^{17a} are independently H or C_{1-4} alkyl; R^{16a1} is C_3-C_6 heterocycloalkyl; for R^{16-1} and R^{16a1}, the heteroatom in the C_{3-6} heterocycloalkyl is selected from N, O and S, and the number of the heteroatom is 1, 2, 3 or 4;

and/or, (iv) R^7 is H, C_{1-4} alkyl, C_{1-4} alkyl substituted with 1, 2 or 3 hydroxyl groups, C_{1-4} haloalkyl, -OH, $-CO_2R^{16}$, or $-C(=O)NR^{16}R^{17}$; R^{16} and R^{17} are independently H or C_{1-4} alkyl.

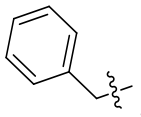
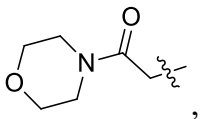
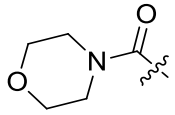
7. The compound as shown in formula (I), the pharmaceutically acceptable salt, hydrate, stereoisomer, and solvate thereof, or their isotopically-labeled compounds according to claim 6, wherein in the moiety  : (i) each R^{5-2-3} is -OH or $-N(CH_3)_2$.

8. The compound as shown in formula (I), the pharmaceutically acceptable salt, hydrate, ~~prodrug,~~ stereoisomer, and solvate thereof, or their isotopically-labeled compounds according

to claim 3~~7~~, wherein in the moiety  :

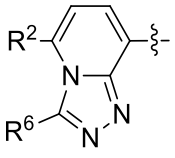
(i) R^2 is H, $-CH_3$, $-CO_2CH_3$, $-CH_2OH$, $-CON(CH_3)_2$, $-CF_3$, $-CH_2N(CH_3)_2$, $-OCH_3$, $-N(CH_3)_2$,  , or -CN;

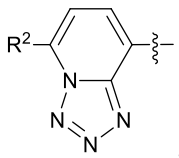
and/or, (ii) R^3 is H, -F, -Cl, $-CH_3$, $-OCH_3$, $-CONH_2$, $-CONHCH_3$, or $-CON(CH_3)_2$;

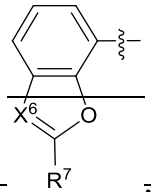
and/or, (iii) R^6 is H, $-COOCH_2CH_3$, -COOH, $-CONH_2$, $-CH_3$, $-COCH_3$,  , $-CH_2CH_3$, -F, -CN, $-CH(CH_3)_2$, $-CH_2CONH_2$, $-CH_2CH_2OH$, $-CH_2OH$, $-CH_2NH_2$, $-CH_2COOCH_3$, $-CH_2COOH$, $-CH_2CON(CH_3)_2$, $-CH_2CH_2OCOCH_3$, $-CH_2NHCOCH_3$, $-CON(CH_3)_2$, -CN,  ,  , $-CONH_2$, $-CH_2CN$, $-SO_2Me$, or $-PO(CH_3)_2$;

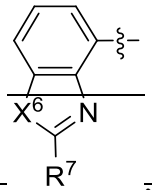
and/or, (iv) R^7 is H, $-CF_3$, $-CH_3$, -OH, $-CH_2OH$, $-COOCH_2CH_3$, -COOH, $-CONH_2$, or $-CON(CH_3)_2$.

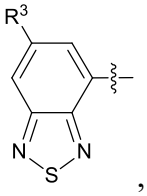
9. The compound as shown in formula (**I**), the pharmaceutically acceptable salt, hydrate, ~~prodrug,~~ stereoisomer, and solvate thereof, or their isotopically-labeled compounds according to claim 4~~3~~, wherein

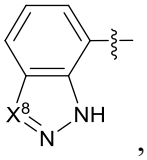
in the moiety  , R^2 is H, halogen, C_{1-4} alkyl, or $-NR^aR^b$; R^a and R^b are independently H or C_{1-4} alkyl; R^6 is H or C_{1-4} alkyl;

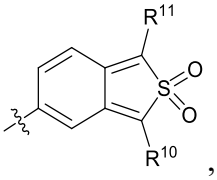
and/or, in the moiety  , R^2 is C_{1-4} alkyl;

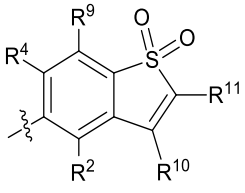
~~and/or, in the moiety~~  ~~, X^6 is N or CH; R^7 is H, C_{1-4} alkyl, C_{1-4} haloalkyl, or NR^aR^b; R^a and R^b are independently H or C_{1-4} alkyl;~~

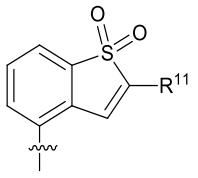
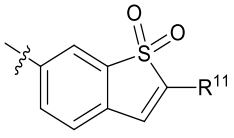
~~and/or, in the moiety~~  ~~, X^6 is NR^6, O or S; R^6 is C_{1-4} alkyl; R^7 is H, C_{1-4} alkyl, C_{1-4} haloalkyl, or $-NR^aR^b$; R^a and R^b are independently H or C_{1-4} alkyl;~~

and/or, in the moiety  , R^3 is H or C_{1-4} haloalkyl;

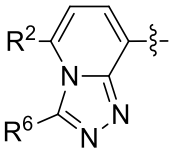
and/or, in the moiety  , X^8 is CR^8 or N; R^8 is H or C_{1-4} alkyl;

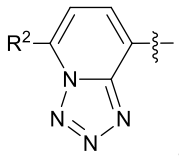
and/or, in the moiety  , R^{10} and R^{11} are independently H or halogen;

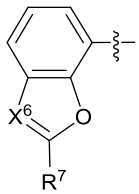
and/or, in the moiety  , R^2 is H or halogen; R^4 is H, halogen or C_{1-4} alkyl; R^9 is H, halogen or C_{1-4} alkyl; R^{10} is H, C_{1-4} alkyl, C_{1-4} alkyl substituted with 1, 2 or 3 amino groups, or halogen; R^{11} is H, C_{1-4} alkyl, or halogen;

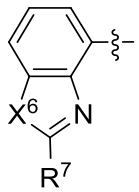
and/or, in the moieties  and  , R^{11} is independently H or C_{1-4} alkyl.

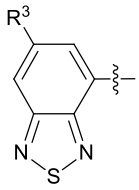
10. The compound as shown in formula (**I**), the pharmaceutically acceptable salt, hydrate, ~~prodrug,~~ stereoisomer, and solvate thereof, or their isotopically-labeled compounds according to claim 9, wherein

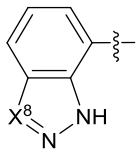
in the moiety  , R^2 is H, -Cl, $-CH_3$, or $-N(CH_3)_2$; R^6 is H or $-CH_3$;

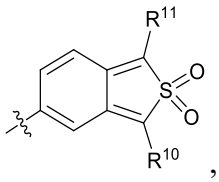
and/or, in the moiety  , R^2 is $-CH_3$;

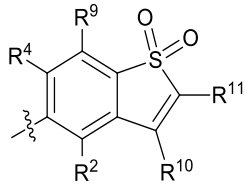
and/or, in the moiety  , X^6 is N or CH; R^7 is H, $-CH_3$, $-NH_2$, or $-CF_3$;

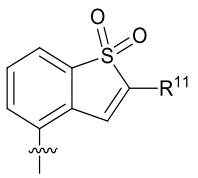
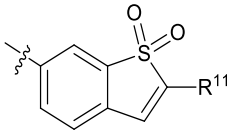
and/or, in the moiety  , X^6 is $-NCH_3$, O or S; R^7 is H, $-CH_3$, $-NH_2$, or $-CF_3$;

and/or, in the moiety  , R^3 is H or $-CF_3$;

and/or, in the moiety  , X^8 is CH or N;

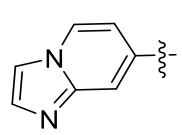
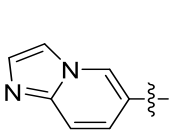
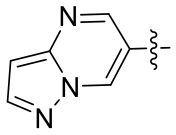
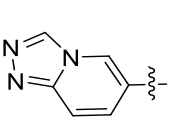
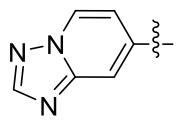
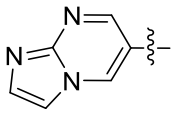
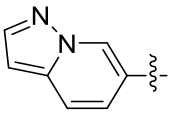
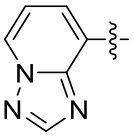
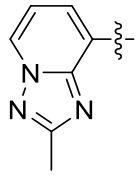
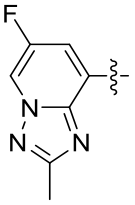
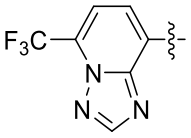
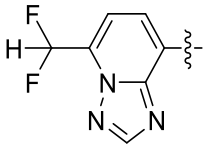
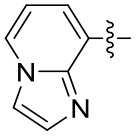
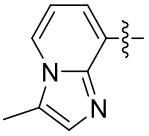
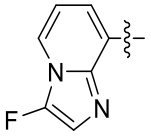
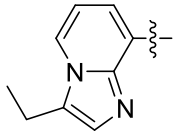
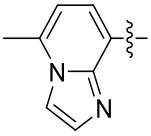
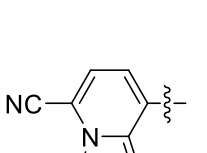
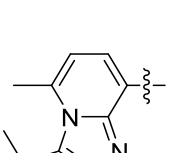
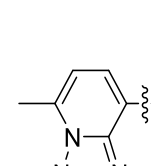
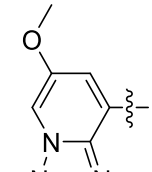
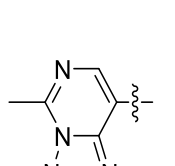
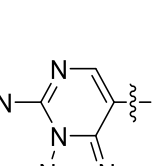
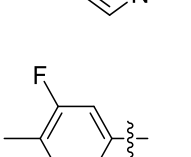
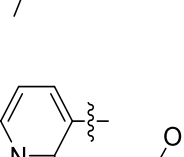
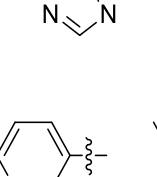
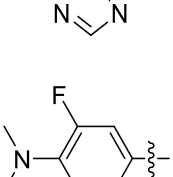
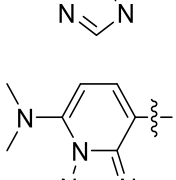
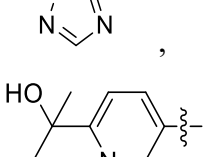
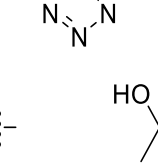
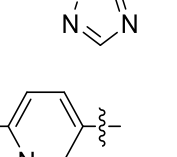
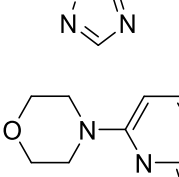
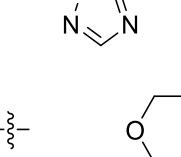
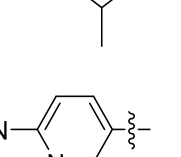
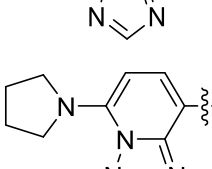
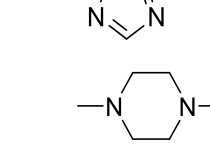
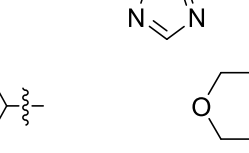
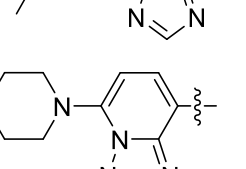
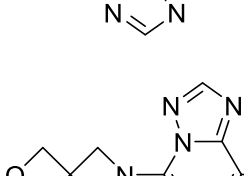
and/or, in the moiety  , R^{10} and R^{11} are independently H or -F;

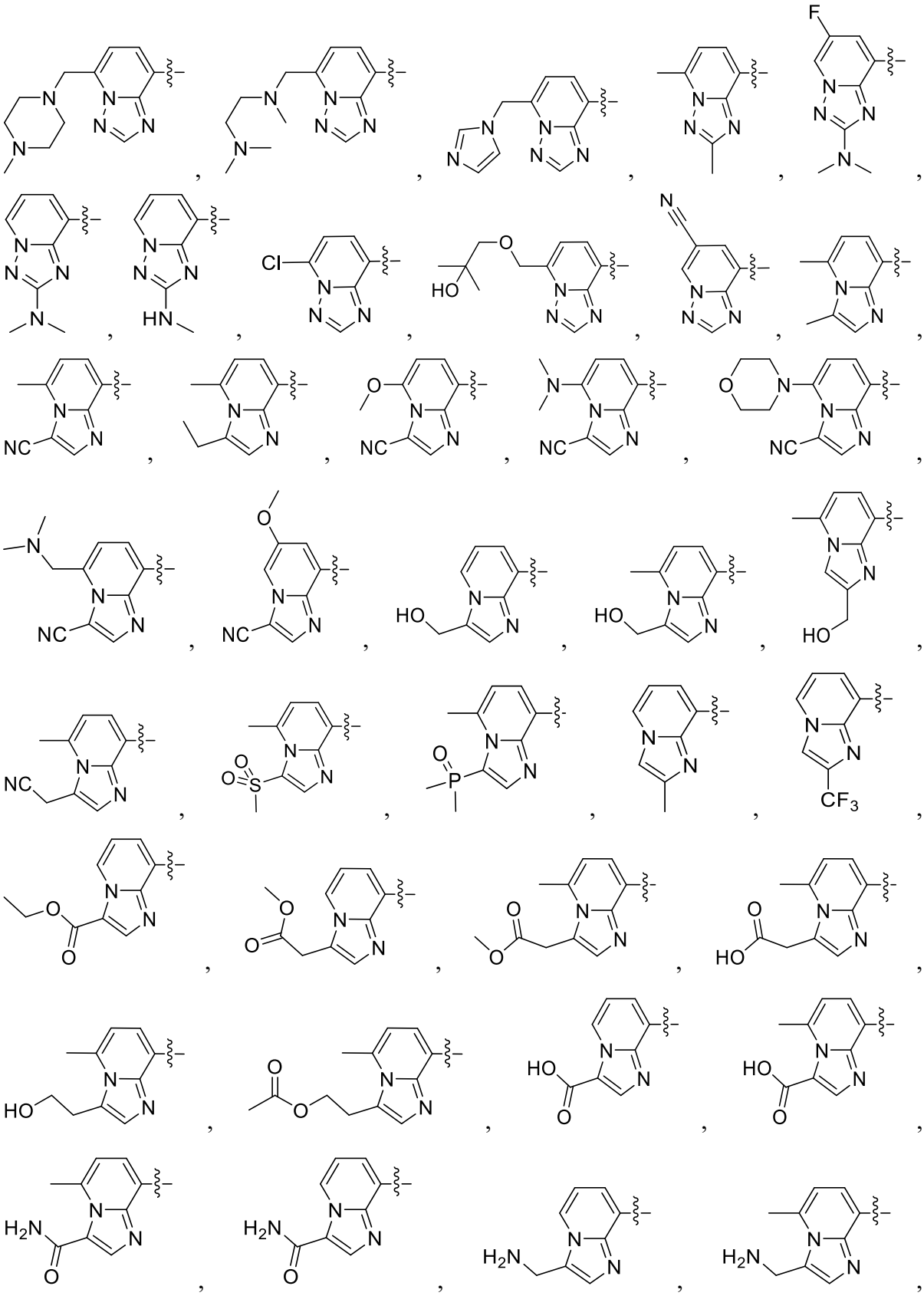
and/or, in the moiety  , R^2 is H or -F; R^4 is H, -F or $-CH_3$; R^9 is H, F, -Cl, or $-CH_3$; R^{10} is H, $-CH_3$, $-CH_2CH_2NH_2$, -F, or -Cl; R^{11} is H, $-CH_3$, or -F;

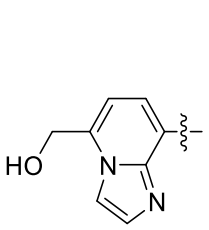
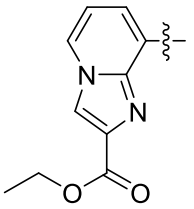
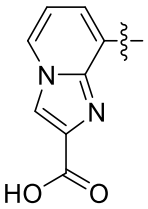
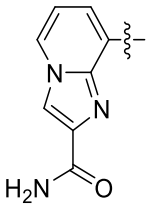
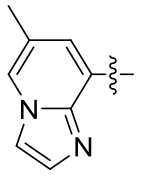
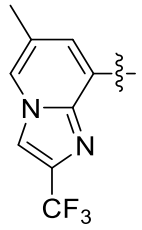
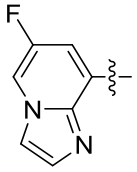
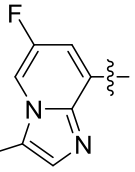
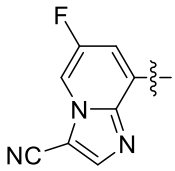
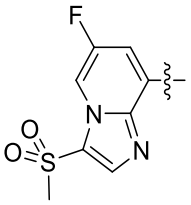
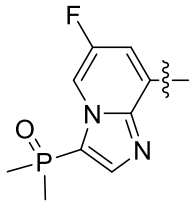
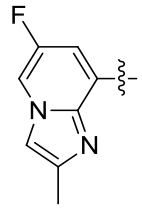
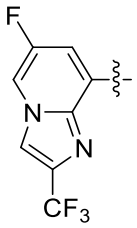
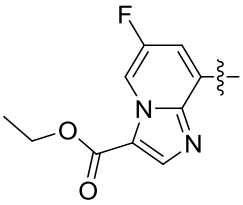
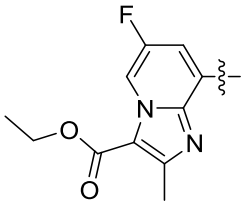
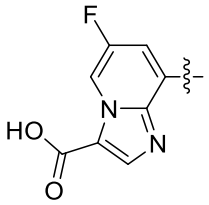
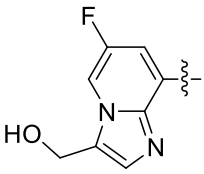
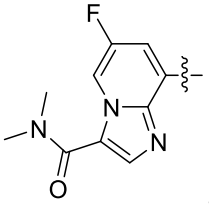
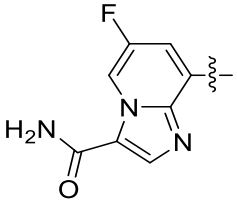
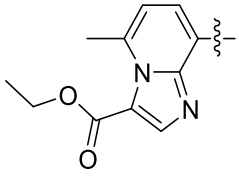
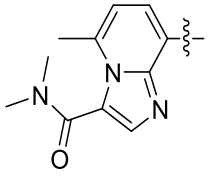
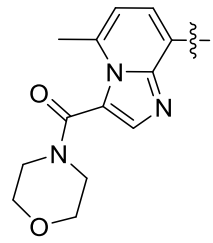
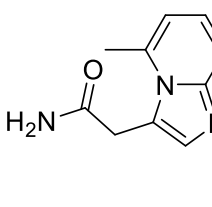
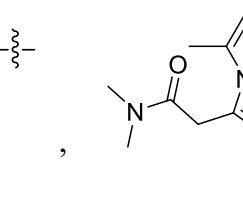
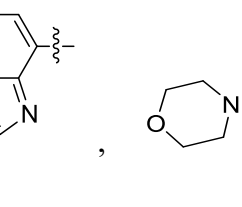
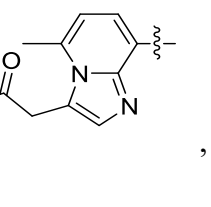
and/or, in the moieties  and  , R^{11} is independently H or $-CH_3$.

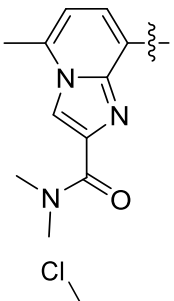
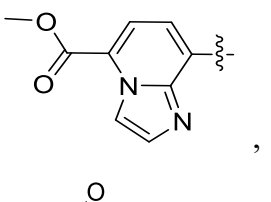
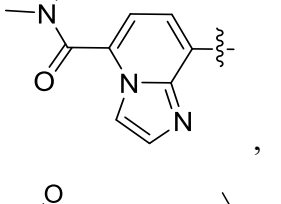
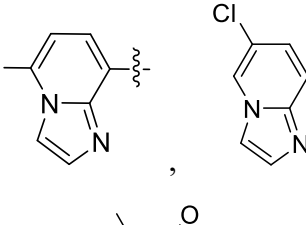
11. The compound as shown in formula (**I**), the pharmaceutically acceptable salt, hydrate, ~~prodrug,~~ stereoisomer, and solvate thereof, or their isotopically-labeled compounds according

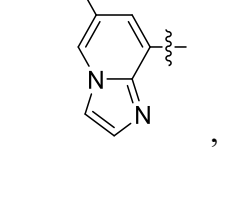
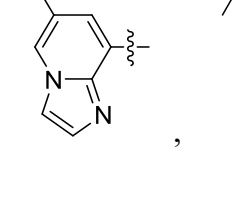
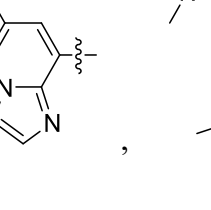
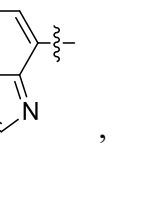
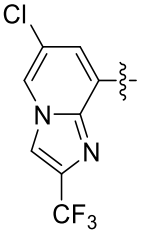
to ~~at least one of~~ claims ~~1–10~~ <u>or 2</u>, wherein

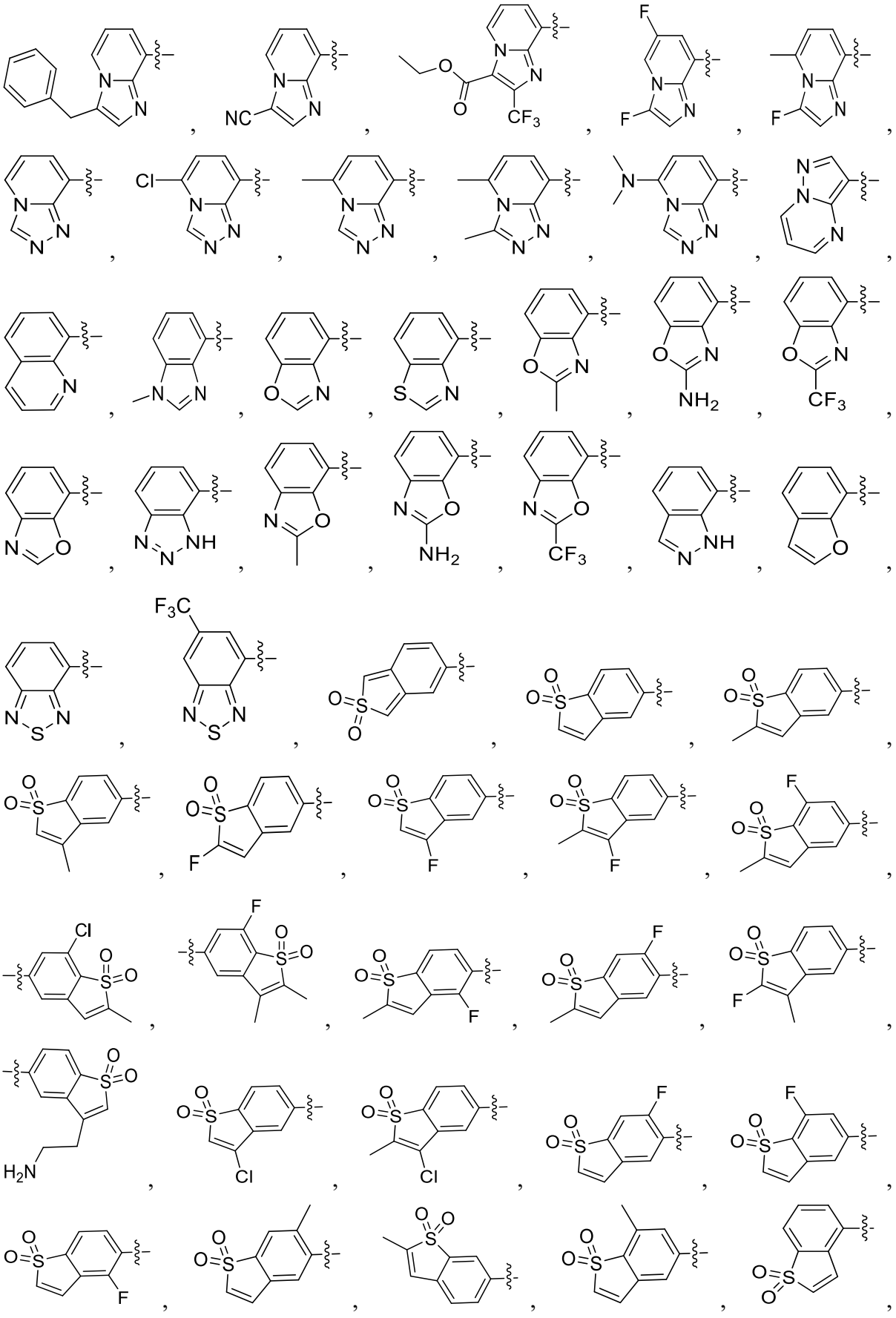
R^1 is  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  , ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  ,  , , , , , , , ,

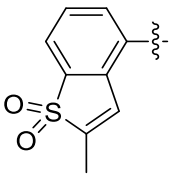
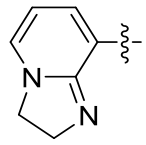
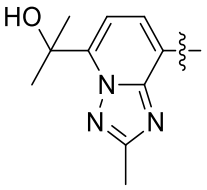


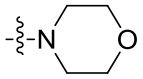
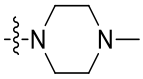
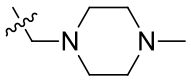
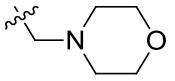
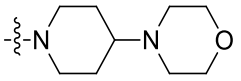
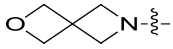
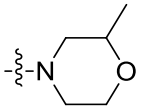
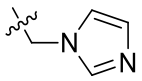



























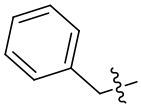
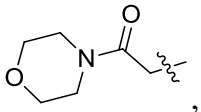
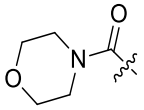


 ,  , or  ;

and/or, R^2 is H, -CH_3, -CF_3, -OCH_3,  , -$N(CH_3)_2$,  , -$CH_2OCH_2C(CH_3)_2OH$, -$CH_2N(CH_3)_2$,  , -$CH_2NHCH_2C(CH_3)_2OH$,  ,  ,  ,  , -$CH_2N(CH_3)CH_2CH_2N(CH_3)_2$,  ,  , -$C(CH_3)_2OH$, -CHF_2, -CO_2CH_3, -CH_2OH, -$CON(CH_3)_2$, -$CH_2N(CH_3)_2$, -CN, or -Cl;

and/or, R^3 is H, -OCH_3, -F, -CN, -Cl, -CH_3, -$CONH_2$, -CF_3, -$CONHCH_3$, or -$CON(CH_3)_2$;

and/or, R^4 is H, -F, or -CH_3;

and/or, R^6 is H, -$COOCH_2CH_3$, -COOH, -$CONH_2$, -CH_3, -$COCH_3$,  , -CH_2CH_3, -F, -CN, -$CH(CH_3)_2$, -CH_2CONH_2, -CH_2CH_2OH, -CH_2OH, -CH_2NH_2, -CH_2COOCH_3, -CH_2COOH, -$CH_2CON(CH_3)_2$, -$CH_2CH_2OCOCH_3$, -$CH_2NHCOCH_3$, -$CON(CH_3)_2$, -CN,  ,  , -$CONH_2$, -CH_2CN, -SO_2Me, or -$PO(CH_3)_2$;

and/or, R^7 is H, -$NH(CH_3)$, -$N(CH_3)_2$, -CH_3, -CF_3, -OH, -CH_2OH, -$COOCH_2CH_3$, -COOH, -$CONH_2$, -$CON(CH_3)_2$, or -NH_2;

and/or, R^8 is H;

and/or, R^9 is H, -F, -Cl, or -CH_3;

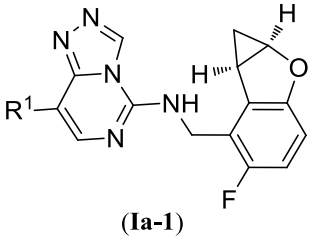
and/or, R^{10} is H, -CH_3, -$CH_2CH_2NH_2$, -F, or -Cl;

and/or, R^{11} is H, -CH_3, or -F;

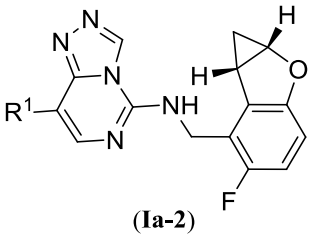
and/or, R^{12}, R^{13}, R^{14}, and R^{15} are H.

12. The compound as shown in formula (**I**), the pharmaceutically acceptable salt, hydrate, ~~prodrug,~~ stereoisomer, and solvate thereof, or their isotopically-labeled compounds according

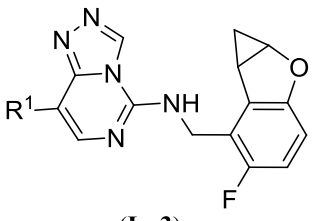
to at least one of claims 1-11, wherein the compound as shown in formula (**I**) is selected from the compounds as shown below:



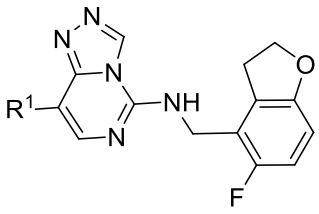
(**Ia-1**)



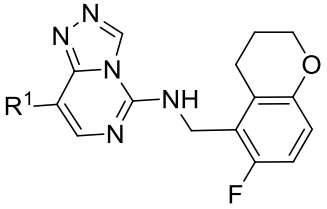
(**Ia-2**)



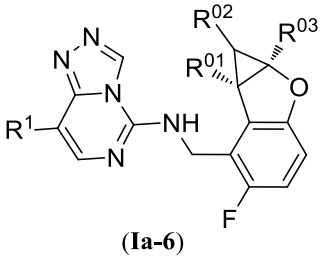
(**Ia-3**)



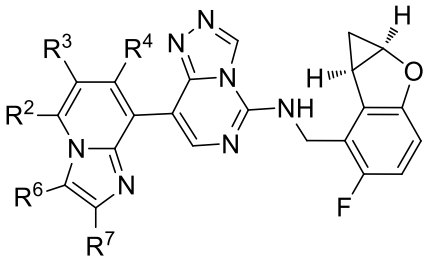
(Ia-4)



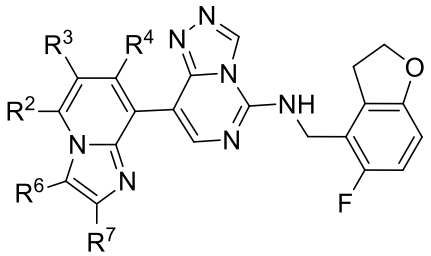
(**Ia-5**)



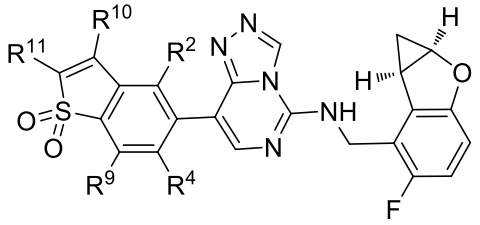
(**Ia-6**)



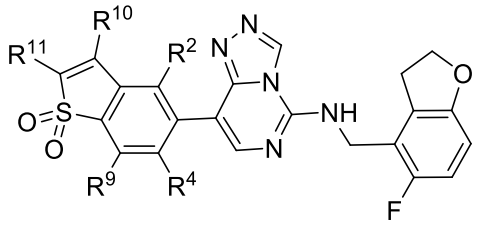
(**Ia-7**)



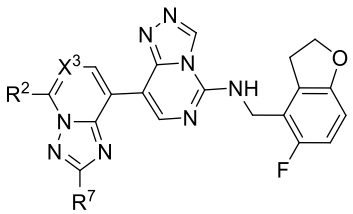
(**Ia-8**)



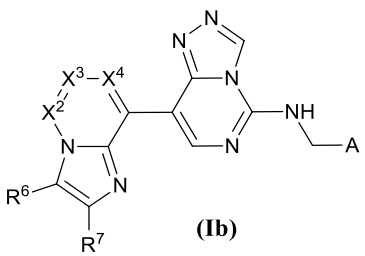
(**Ia-9**)



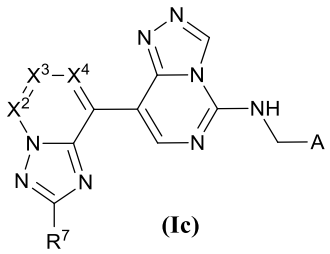
(**Ia-10**)



(**Ia-11**)



(**Ib**)

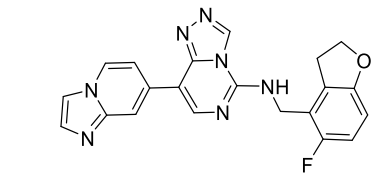


(**Ic**)

and in the compounds described above, the definitions of each letter and group are as

defined in claim 1.

13. The compound as shown in formula (**I**), the pharmaceutically acceptable salt, hydrate, ~~prodrug,~~ stereoisomer, and solvate thereof, or their isotopically-labeled compounds according to at least one of claims 1-12, wherein the compound as shown in formula (**I**) is selected from any one of the following compounds: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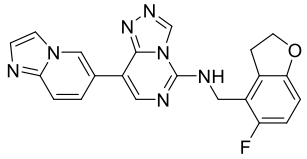
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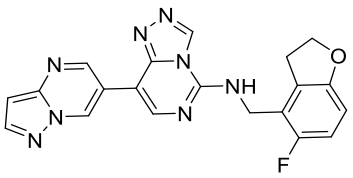
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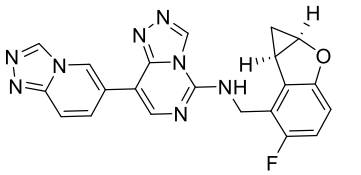
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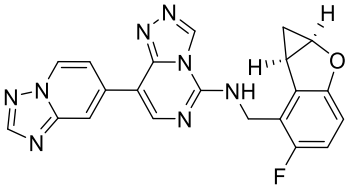
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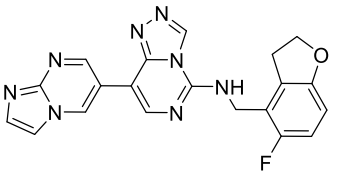
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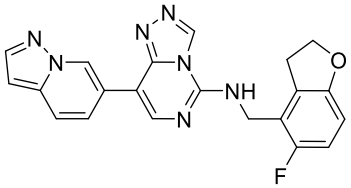
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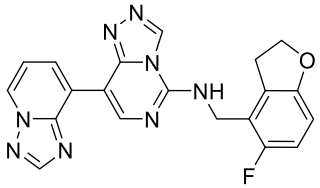
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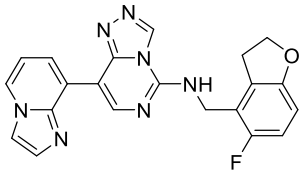
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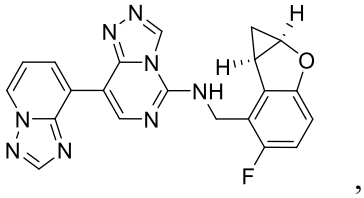
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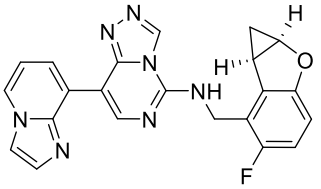
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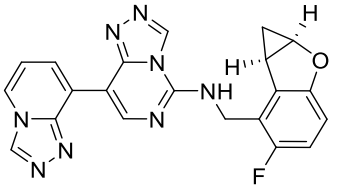
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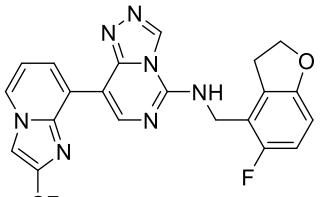
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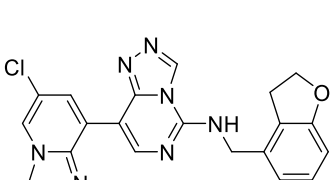
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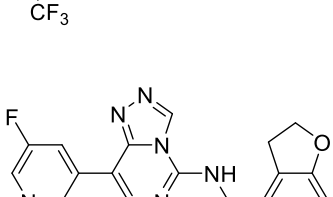
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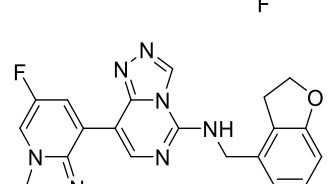
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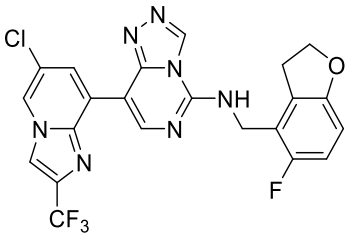
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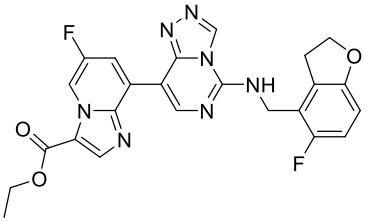
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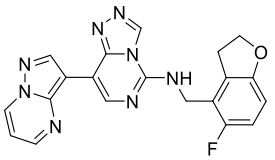
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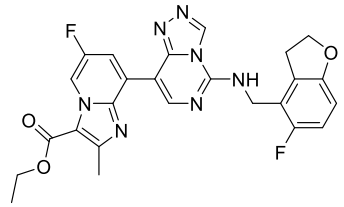
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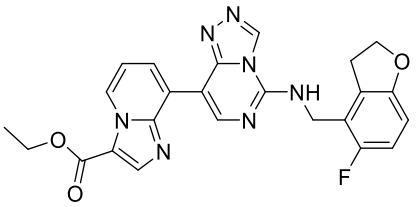
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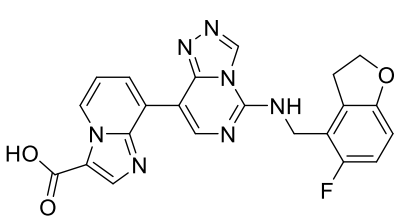
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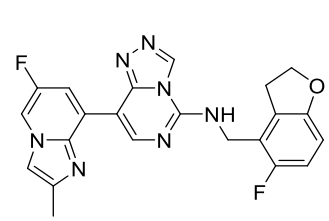
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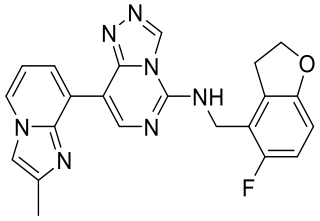
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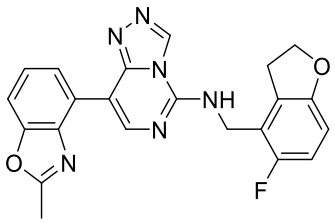
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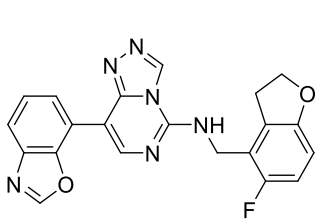
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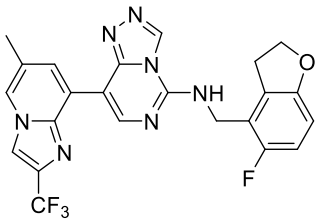
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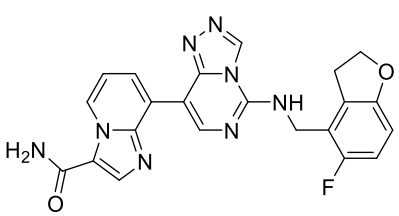
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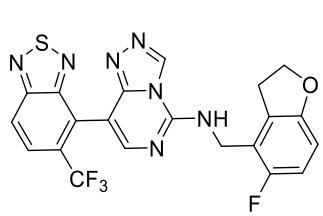
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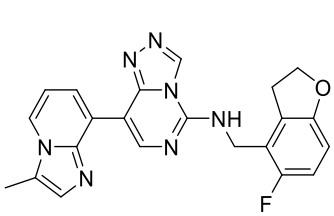
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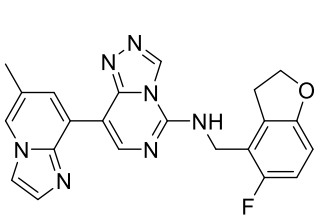
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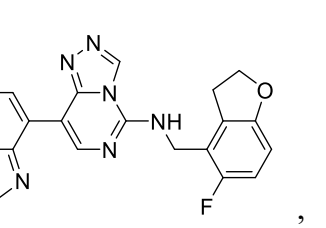
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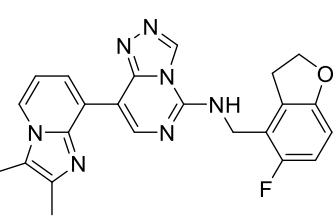
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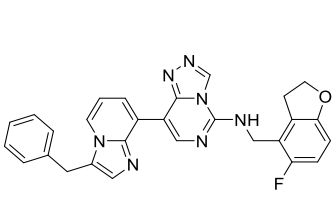
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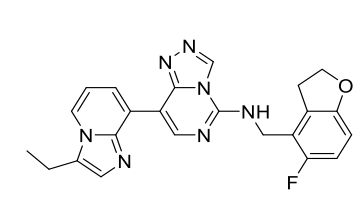
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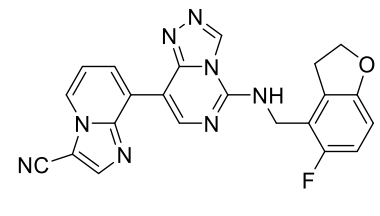
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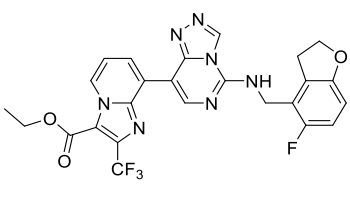
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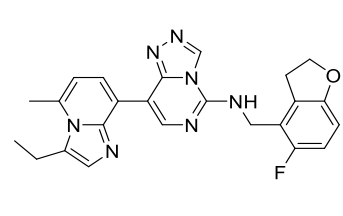
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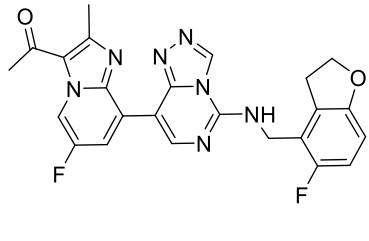
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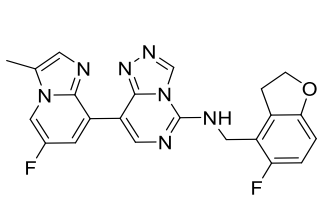
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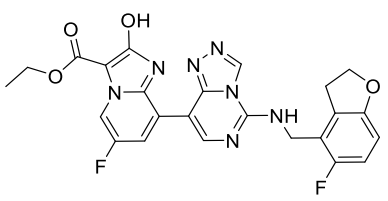
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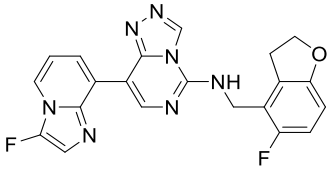
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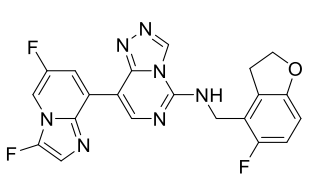
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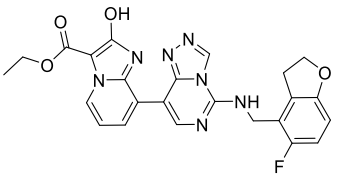
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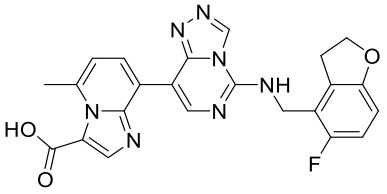
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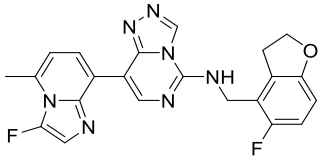
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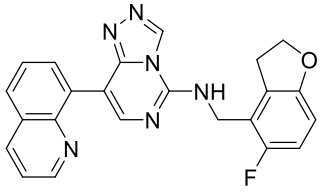
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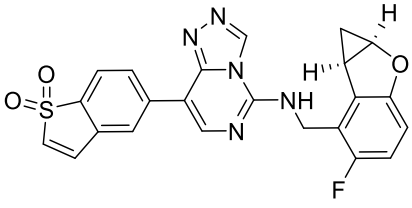
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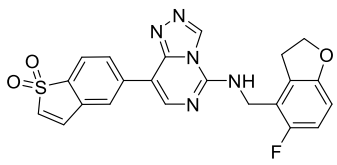
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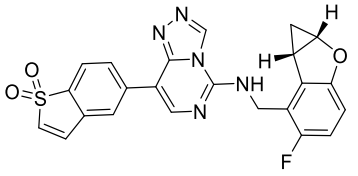
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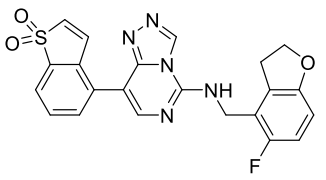
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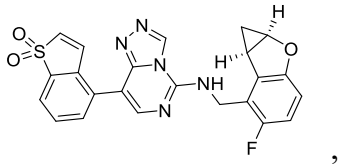
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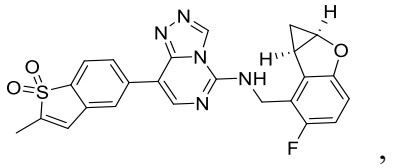
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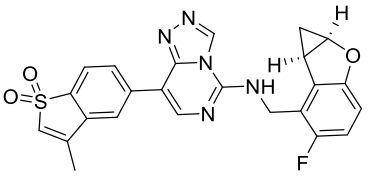
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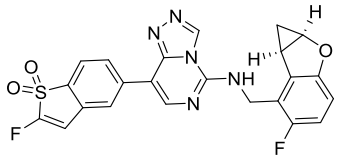
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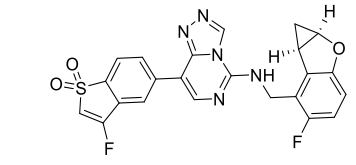
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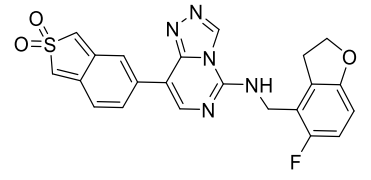
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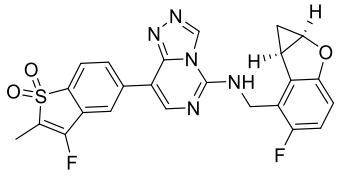
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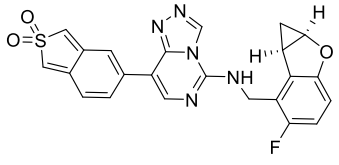
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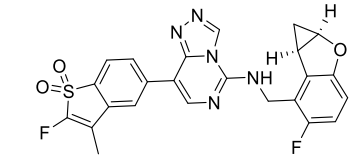
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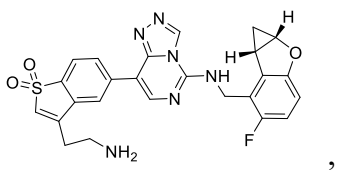
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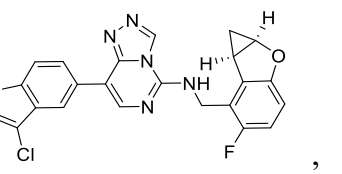
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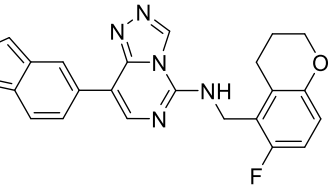
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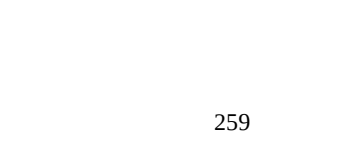
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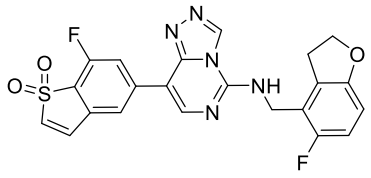
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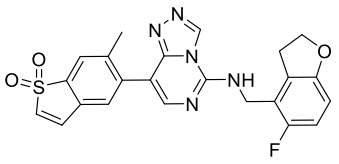
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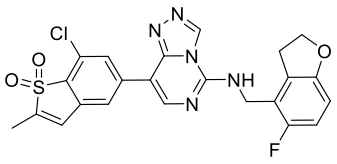
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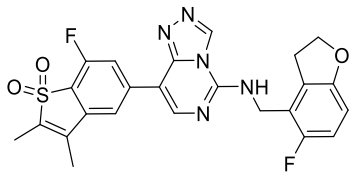
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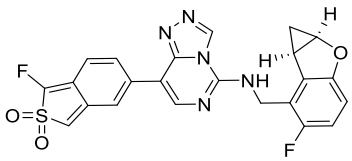
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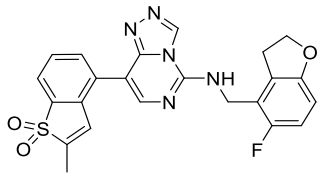
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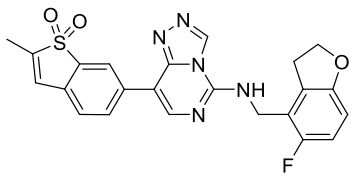
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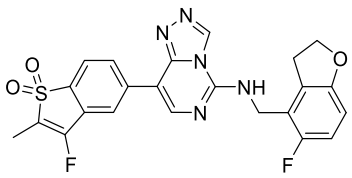
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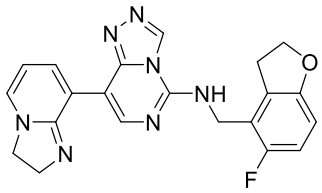
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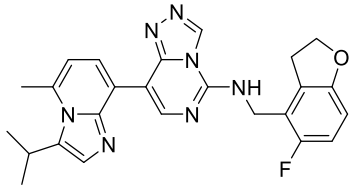
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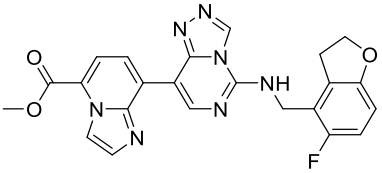
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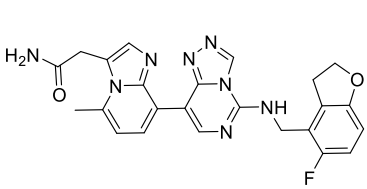
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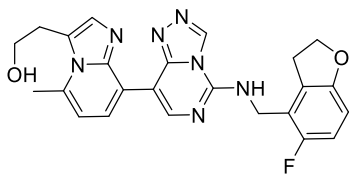
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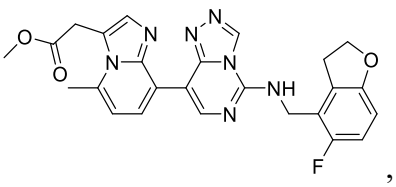
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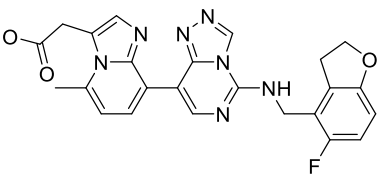
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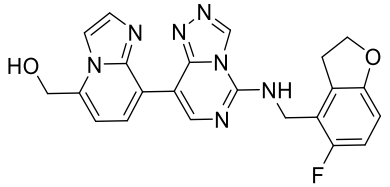
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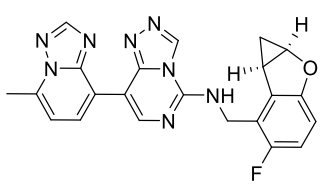
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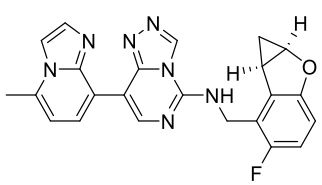
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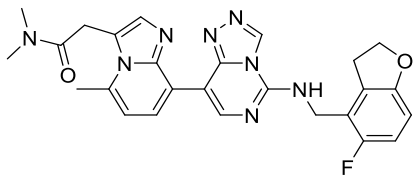
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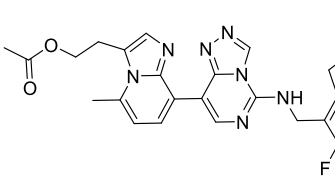
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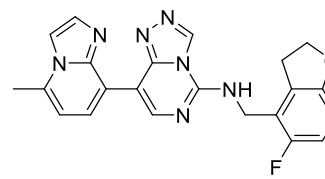
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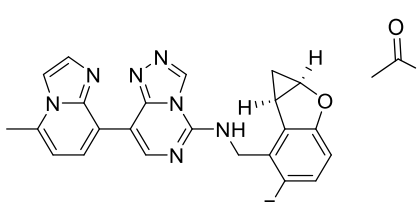
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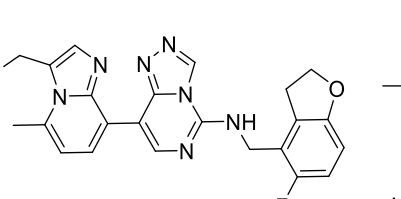
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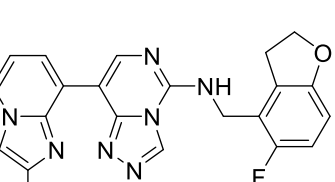
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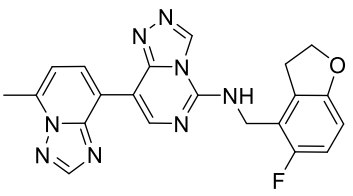
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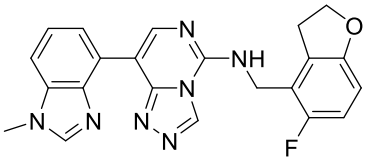
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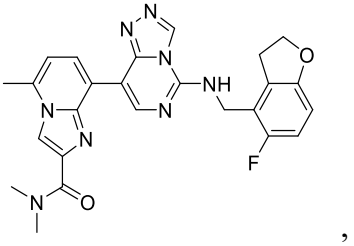
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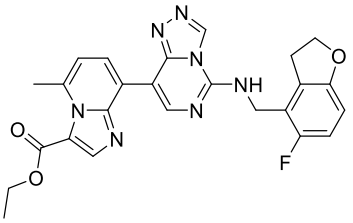
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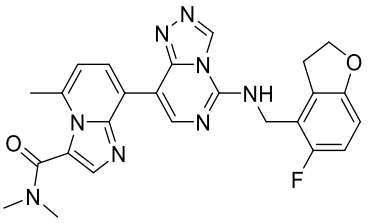
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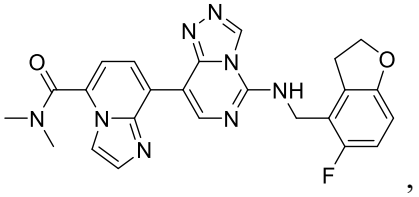
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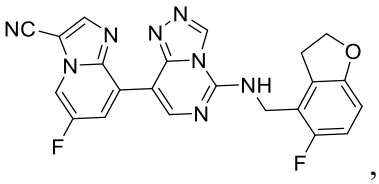
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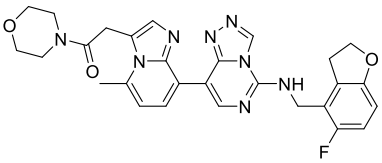
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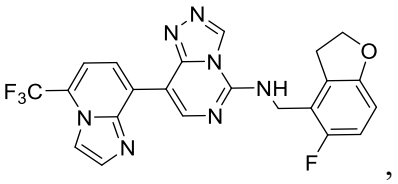
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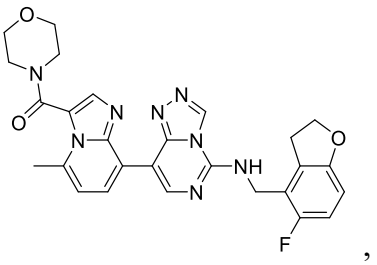
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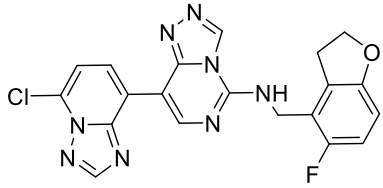
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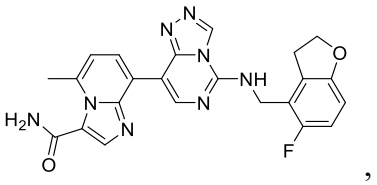
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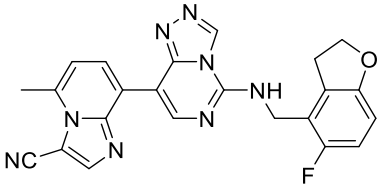
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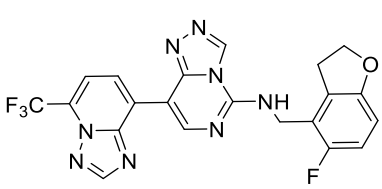
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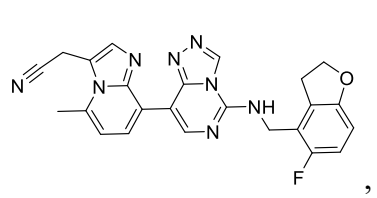
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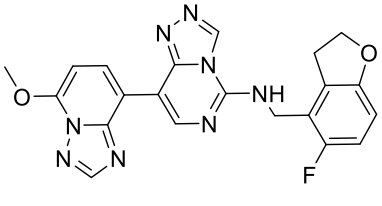
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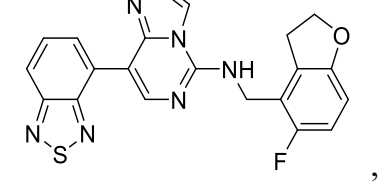
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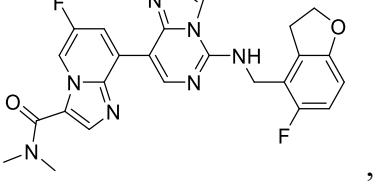
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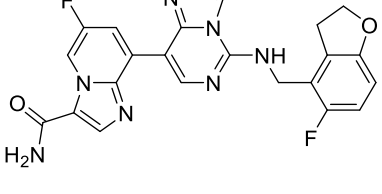
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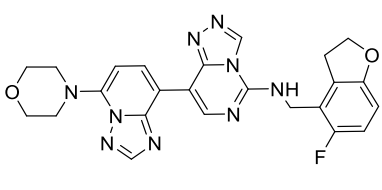
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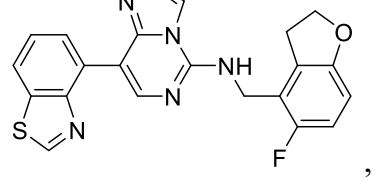
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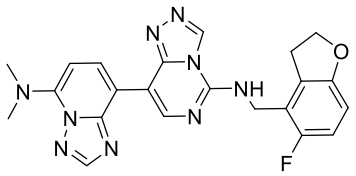
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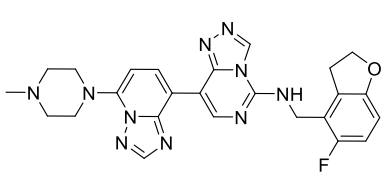
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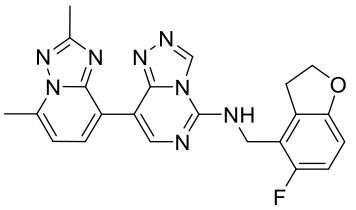
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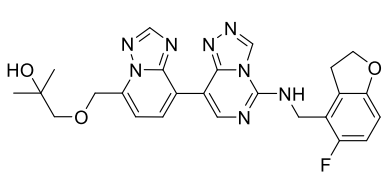
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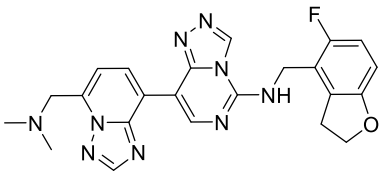
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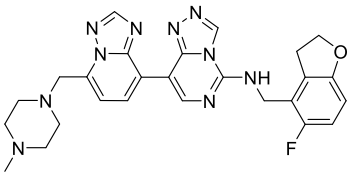
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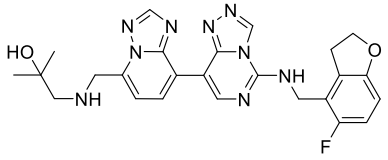
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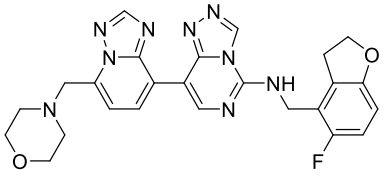
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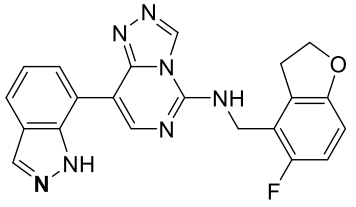
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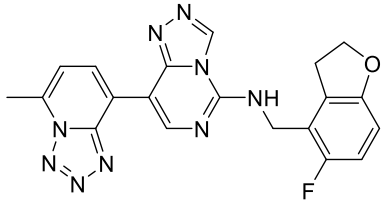
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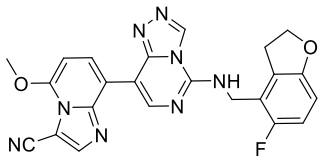
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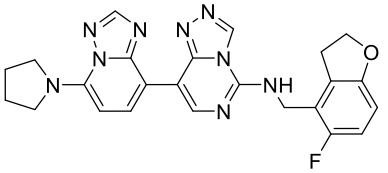
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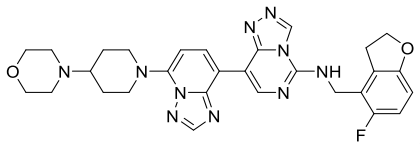
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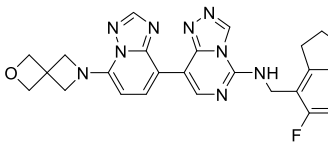
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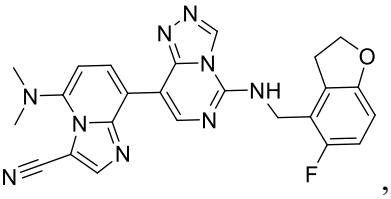
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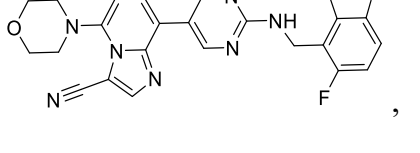
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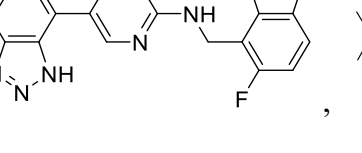
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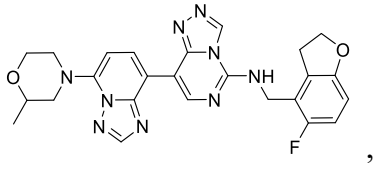
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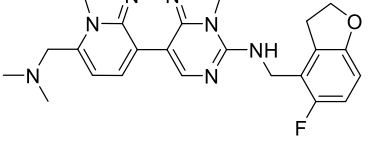
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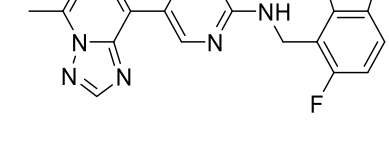
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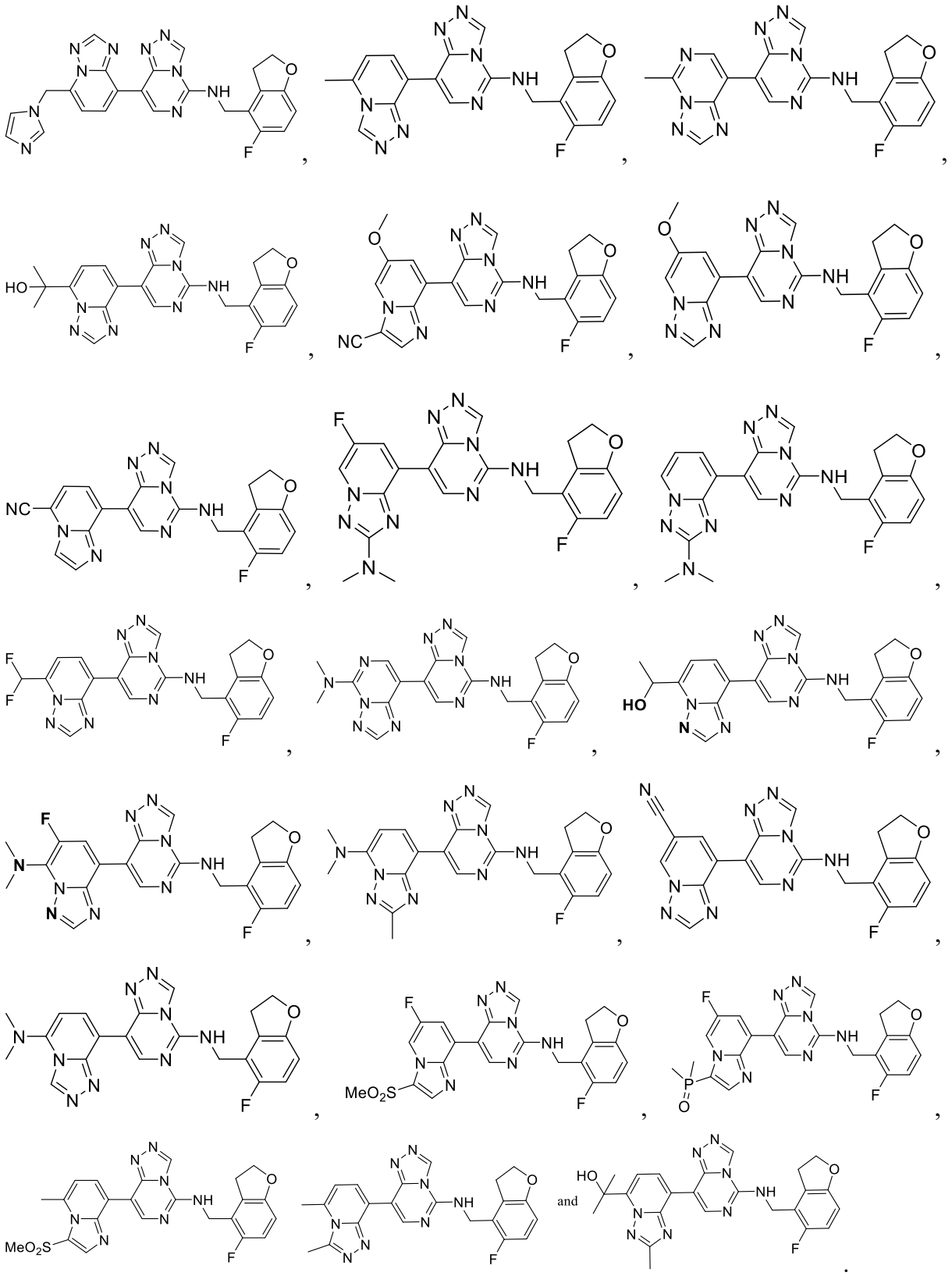
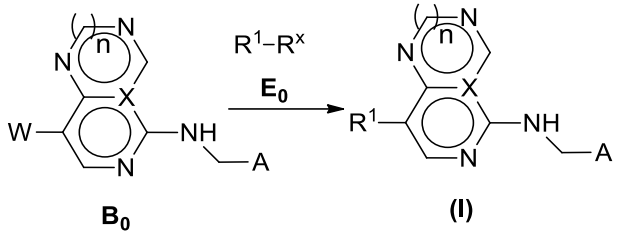
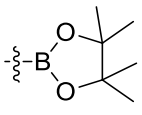


14. A method for preparing the compound as shown in formula (**I**) according to at least one of claims 1-13, comprising the step of:

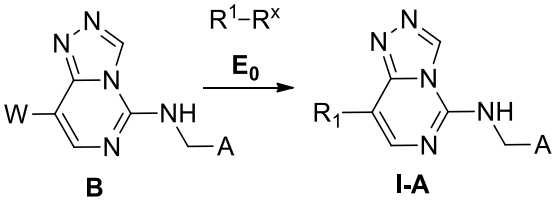
subjecting halo intermediate $\mathbf{B_0}$ and intermediate $\mathbf{E_0}$ to a coupling reaction so as to obtain

the compound as shown in formula (**I**),

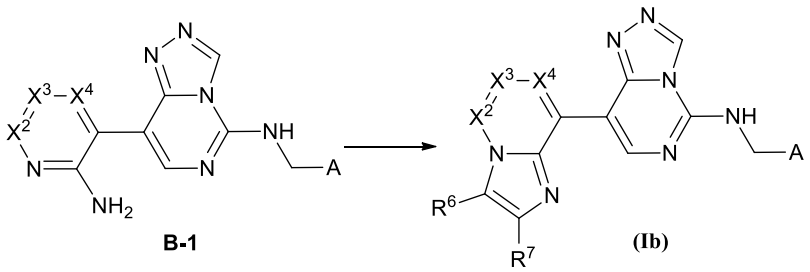


wherein **W** represents halogen; R^x is -$B(OH)_2$ or  ; the definitions of **A**, R^1, X, and n are as defined in claim 1.

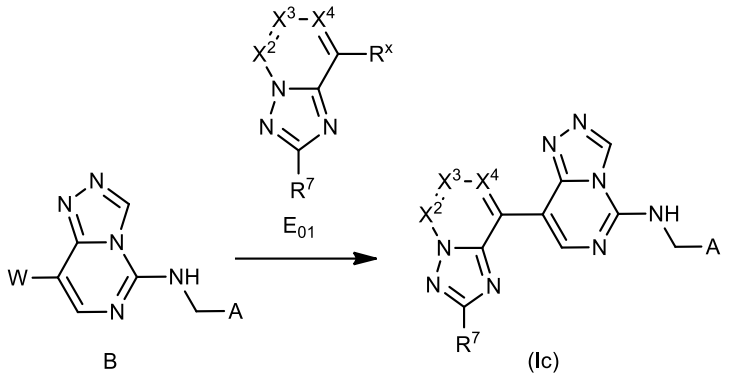
15. A method for preparing the compounds as shown in formulae I-A, (Ib) or (Ic), wherein the method for preparing the compound as shown in formula **I-A** includes the step of: subjecting halo intermediate compound **B** and intermediate $\mathbf{E_0}$ to a coupling reaction as shown below so as to obtain the compound as shown in formula **I-A**;



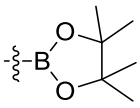
or, the method for preparing the compound as shown in formula **I-A** includes the step of: subjecting intermediate **B-1** to a ring closure reaction as shown below so as to obtain the compound as shown in formula (**Ib**);



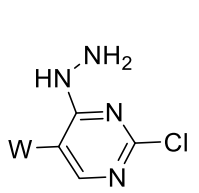
or, the method for preparing the compound as shown in formula (**Ic**) comprises the step of: subjecting halo intermediate compound **B** and intermediate $\mathbf{E_{01}}$ to a coupling reaction as shown below so as to obtain the compound as shown in formula (**Ic**);



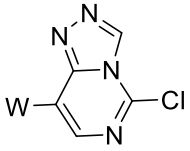
B (Ic)

wherein in the compounds described above, **W** represents halogen; R^x is $-B(OH)_2$ or  ; the definitions of **A**, R^1, X^2, X^3, X^4, R^6, and R^7 are according to any one of claims 1-13.

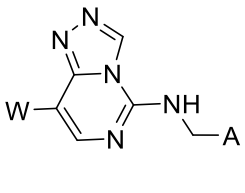
16. A compound as shown below:



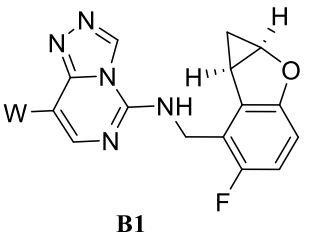
D-2,



D,



B,



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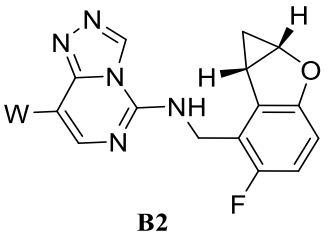

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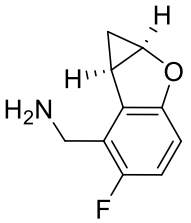
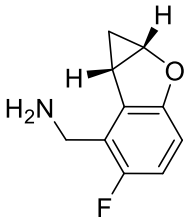
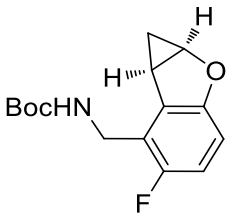


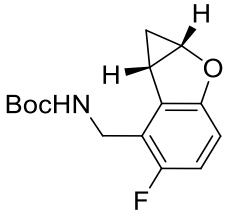
C1-a,



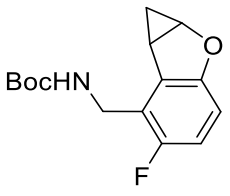
C1-b,



C1-7a,



C1-7b, or



C1-7,

wherein W represents ~~halogen~~F, Cl or I;

A is as defined in claim 1.

17. Use of the compound as shown in formula **(I)**, the pharmaceutically acceptable salt, hydrate, ~~prodrug,~~ stereoisomer, ~~and~~ solvate thereof, or their isotopically-labeled compounds

according to at least one of claims 1-13, or in combination with an additional drug, in the preparation of a drug~~, wherein the drug is preferably a drug~~ for treating cancer; ~~the compound as shown in formula (**I**), the pharmaceutically acceptable salt, hydrate, prodrug, stereoisomer, and solvate thereof, or their isotopically-labeled compounds can be used alone or in combination with an additional drug;~~wherein the additional drug is ~~preferably~~ an anti-cancer drug, an immuno-oncology drug, an antiallergic drug, an antiemetic, an analgesic, or a cell protective drug.

18. The use according to claim 17, wherein the cancer is selected from lymphoma, leukemia, multiple myeloma, mesothelioma, gastric cancer, malignant rhabdoid tumor, liver cancer, prostate cancer, breast cancer, cerebroma including neuroblastoma, glioma, glioblastoma and astrocytoma, cervical cancer, colon cancer, melanoma, endometrial carcinoma, esophageal carcinoma, head and neck cancer, lung cancer, nasopharyngeal carcinoma, ovarian cancer, pancreatic cancer, renal carcinoma, rectal cancer, thyroid cancer, parathyroid tumor, uterine cancer, and soft tissue sarcoma~~, wherein the lymphoma is preferably diffuse large B-cell lymphoma, follicular lymphoma, or non-Hodgkin's lymphoma~~.

19. The use according to claim 18, wherein the lymphoma is diffuse large B-cell lymphoma, follicular lymphoma, or non-Hodgkin's lymphoma.

~~19~~20. A pharmaceutical composition, comprising the compound as shown in formula (**I**), the pharmaceutically acceptable salt, hydrate, ~~prodrug,~~ stereoisomer thereof, and solvate thereof, or their isotopically-labeled compounds according to at least one of claims 1-13, and a pharmaceutically acceptable excipient.

~~20~~21. A pharmaceutical preparation, comprising the compound as shown in formula (**I**), the pharmaceutically acceptable salt, hydrate, ~~prodrug,~~ stereoisomer thereof, and solvate thereof, or their isotopically-labeled compounds according to at least one of claims 1-13, or the pharmaceutical composition according to claim 19~~, wherein the pharmaceutical preparation is preferably in the form of tablets, capsules, pills, powders, granules, elixirs, tinctures, suspensions, syrups, emulsions, or solutions; the mode of administration of the pharmaceutical preparation is preferably oral administration, sublingual administration, subcutaneous injection, intravenous injection, intramuscular injection, intrasternal injection, nasal administration, local~~

~~topical administration, or rectal administration~~.

22. The pharmaceutical preparation according to claim 21, wherein the pharmaceutical preparation is in the form of tablets, capsules, pills, powders, granules, elixirs, tinctures, suspensions, syrups, emulsions, or solutions.

23. The pharmaceutical preparation according to claim 21, wherein the mode of administration of the pharmaceutical preparation is oral administration, sublingual administration, subcutaneous injection, intravenous injection, intramuscular injection, intrasternal injection, nasal administration, local topical administration, or rectal administration.