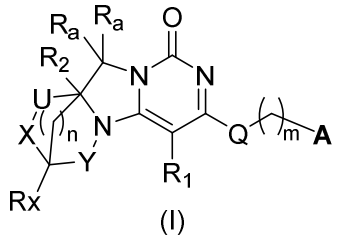
What is claimed is:

1. A compound shown in Formula I, cis-trans isomer thereof, enantiomer thereof, diastereomer thereof, racemate thereof, solvate thereof, hydrate thereof or pharmaceutically acceptable salt thereof,



(I)

wherein

n is 1 or 2; R_2 is absent;

R_1 is H, halogen, cyano, C_{1-6} alkyl, C_{1-6} alkoxy, C_{3-8} cycloalkyl or 3- to 8-membered heterocyclyl, R_1 may be optionally substituted with one or more of the following substituents: halogen, cyano, C_{1-6} alkoxy, C_{3-8} cycloalkyl, 3- to 8-membered heterocyclyl or 6- to 10-membered heteroaryl;

R_a independently is H or D;

m is 1 or 2;

R_x is H, halogen, hydroxyl, carboxyl, cyano, amino, C_{1-6} alkyl, C_{1-6} alkoxy, C_{3-8} cycloalkyl, 3- to 8-membered heterocyclyl, 6- to 10-membered aryl, 6- to 10-membered heteroaryl, $-C(O)NR_bR_c$ or $-S(O)_2NR_bR_c$, R_x may be optionally substituted with one or more of the following substituents: halogen, hydroxyl, C_{1-6} alkoxy, cyano, C_{3-8} cycloalkyl, 3- to 8-membered heterocyclyl, 6- to 10-membered aryl or 6- to 10-membered heteroaryl;

Q is -O-, -S-, $-CH_2-$ or $-NR_b-$;

X is -O-, $-CH_2-$, $-NR_c-$, $-OCH_2-$, or is absent;

R_b is H, C_{1-6} alkyl or C_{3-8} cycloalkyl or 3- to 8-membered heterocyclyl;

R_c is L, L-C(O)-, L-CH_2- or L-$S(O)_2$-, wherein L is H, C_{1-6} alkyl, C_{3-6} cycloalkyl, 3- to 8-membered heterocyclyl, 6- to 10-membered aryl or 6- to 10-membered heteroaryl, L may be optionally substituted with one or more of the following groups:

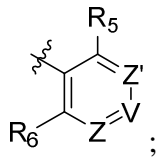
halogen, hydroxy, C_{1-6} alkoxy, cyano, C_{3-8} cycloalkyl, 3- to 8-membered heterocyclyl, 6- to 10-membered aryl or 6- to 10-membered heteroaryl;

Y is $-CH_2-$, $-CH_2CH_2-$, or is absent;

U is $-CH_2-$, -C(O)-, or is absent;

X and U are not absent at the same time;

Y and U may be optionally substituted with one or more of the following substituents: halogen, hydroxy, C_{1-6} alkyl, C_{1-6} alkoxy, cyano, C_{3-8} cycloalkyl, 3- to 8-membered heterocyclyl, 6- to 10-membered aryl or 6- to 10-membered heteroaryl;

A is 

;

(1) When n=1,

Z is N or CR_3;

Z' is N or CR_4;

R_3, R_4, R_5, R_6 are each independently H, cyano, halogen or C_{1-3} haloalkyl;

V is N or CR_9, wherein R_9 is H, cyano, halogen, C_{1-3} alkyl, C_{1-3} haloalkyl or -O-W;

W is phenyl or 5- or 6-membered heteroaryl, which may be optionally substituted with one or more of the following substituents: halogen, cyano, C_{1-6} alkyl, C_{1-3} alkoxy, C_{1-3} haloalkyl and C_{1-3} haloalkoxy;

(2) When n=2,

Z is N or CR_3;

Z' is N or CR_4;

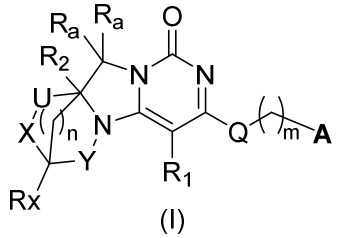
R_3, R_4, R_5, R_6 are each independently H, cyano, halogen or C_{1-3}halolakyl;

V is CR_9, wherein R_9 is halogen, cyano or -O-W;

W is phenyl or 5- or 6-membered heteroaryl, which may be optionally substituted with one or more of the following substituents: halogen, cyano, C_{1-6} alkyl, C_{1-3} haloalkyl and C_{1-3} haloalkoxy,

provided that R9 is halogen or -O-pyrazolyl when Z is CR3, Z' is CR4 and both R3 and R4 are halogen, and R9 is halogen when Z is CR3, Z' is CR4, R3 is cyano and R4 is H.

2. A compound shown in Formula I, enantiomer thereof, diastereomer thereof, or pharmaceutically acceptable salt thereof,



(I)

wherein

n is 0, R_2 is methyl or ethyl;

R_1 is H;

R_a is H;

m is 1 or 2;

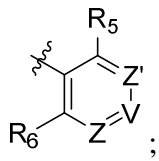
R_x is H;

Q is -O-;

X is -O- or $-CH_2-$;

Y is $-CH_2-$ or is absent;

U is $-CH_2-$;

A is 

;

Z is N or CR_3;

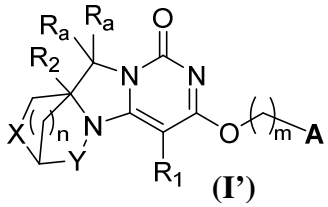
Z' is N or CR_4;

R_3, R_4, R_5, R_6 are each independently H, cyano or halogen;

V is CR_9, wherein R_9 is halogen or -O-W;

W is phenyl or 5- or 6-membered heteroaryl, which may be optionally substituted with one or more of the following substituents: halogen, cyano, C_{1-6} alkyl, C_{1-3} haloalkyl and C_{1-3} haloalkoxy.

3. The compound according to claim 1, the compound having Formula I'



(I')

(I)

wherein

R_1 is H, cyano, halogen, C_{1-6} alkyl, C_{1-3} alkoxy or C_{1-3} haloalkyl;

X is -O-, $-CH_2-$, $-NR_c-$, or is absent;

R_c is L or L-C(O)-, wherein L is H, C_{1-3} alkyl, C_{3-6} cycloalkyl, C_{3-6} heterocycloalkyl, C_{1-3} haloalkyl, or benzyl;

Y is $-CH_2-$, or is absent;

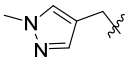
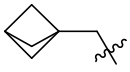
n, R_2, Ra, A and m are as defined in claim 1.

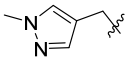
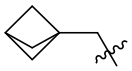
4. The compound according to claim 2, wherein

m is 1.

5. The compound according to claim 1, wherein n is 1; R_x is H; R_1 is H, cyano, amino, halogen, C_{1-3} alkyl, C_{1-3} haloalkyl or C_{1-6} alkoxy.

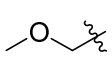
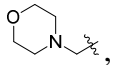
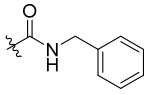
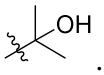
6. The compound according to claim 5, wherein U is -CH_2-; X is-CH_2- or -O-; and Q is -O-.

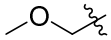
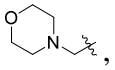
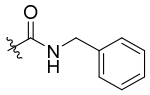
7. The compound according to claim 5, wherein U is -CH_2-; X is -NR_c-; R_c is methyl, oxetanyl, trifluoroethyl, benzoyl, cyclobutyl, benzyl,  or .

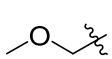
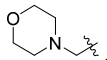
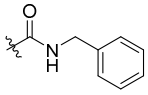
8. The compound according to claim 5, wherein U is -C(O)-; R_1 and R_x are both H; Y is -CH_2-; X is -NR_c-; R_c is L or L-C(O)-, wherein L is methyl, trifluoroethyl, benzoyl, oxetane, cyclobutane, benzyl,  or .

9. The compound according to claim 1, wherein n is 1; X is -CH_2-; U is absent; R_x is H, hydroxy, halogen, cyano, amino, C_{1-3} alkoxy, C_{1-3} haloalkyl or 3- to 8-membered heterocyclyl, R_x may be optionally substituted with one or more of the following substituents: halogen, hydroxyl, C_{1-6} alkoxy, cyano, 3- to 8-membered heterocyclyl, 6- to 10-membered aryl or 6- to 10-membered heteroaryl.

10. The compound according to claim 9, wherein Y is -CH_2-; R_1 is H, cyano, halogen, C_{1-3} alkyl, C_{1-3} haloalkyl or C_{1-6} alkoxy; and Q is - O-.

11. The compound according to claim 10, wherein R_x is H, halogen, cyano, amino, difluoromethyl, , ,  or .

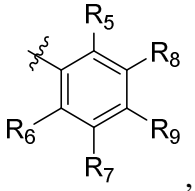
12. The compound according to claim 9, wherein Y is -CH_2CH_2-; R_x is H, halogen, cyano, amino, difluoromethyl, , ,  or ; R_1 is H, cyano, halogen, C_{1-3} alkyl, C_{1-3} haloalkyl or C_{1-6} alkoxy, and Q is -O-.

13. The compound of claim 1, wherein n is 2; U is -CH_2-; X is -CH_2- or -O-; Y is -CH_2-, or is absent; R_x is H, halogen, cyano, amino, difluoromethyl, , ,  or ; R_1 is H, cyano, halogen, C_{1-3} alkyl, C_{1-3} haloalkyl or C_{1-6} alkoxy; and Q is -O-.

14. The compound according to any one of claims 1-2, wherein m=2; R_1 is H, cyano or C_{1-3} haloalkyl; and R_x is H.

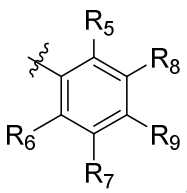
15. The compound according to any one of claims 1-2, wherein m=1; R_1 is H, cyano, halogen, C_{1-3} alkyl, C_{1-3} haloalkyl or C_{1-6} alkoxy; R_x is H.

16. The compound according to any one of claims 1 to 15, wherein when n=0 or 1, A is



, and R_5, R_6, R_7, R_8, R_9 are each independently H, F or cyano, and

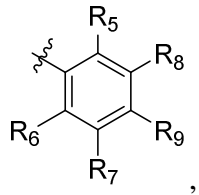
When n=2, A is



, and R_5, R_6, R_7, R_8, R_9 are each independently H, F or cyano,

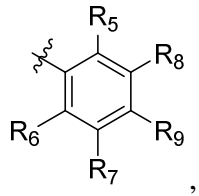
provided that R9 is halogen when both R7 and R8 are F, and R9 is halogen when R7 is cyano and R8 is H.

17. The compound according to any one of claims 1 to 15, or pharmaceutically acceptable salt thereof, wherein when n=0 or 1, A is



, R_5, R_6, R_7 and R_8 are each independently H, F or cyano; R_9 is -O-W; W is 5- or 6-membered heteroaryl or phenyl, which can be optionally substituted with one or more of the following substituents: C_{1-3} haloalkyl, C_{1-3} haloalkoxy, cyano, halogen and C_{1-6} alkyl, and

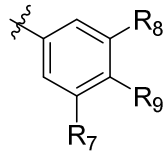
When n=2, A is



, R_5, R_6, R_7 and R_8 are each independently H, F or cyano; R_9 is -O-W; W is 5- or 6-membered heteroaryl or phenyl, which can be optionally substituted with one or more of the following substituents: C_{1-3} haloalkyl, C_{1-3} haloalkoxy, cyano, halogen and C_{1-6} alkyl,

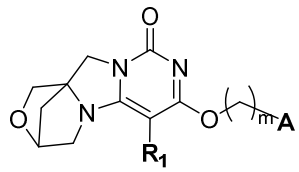
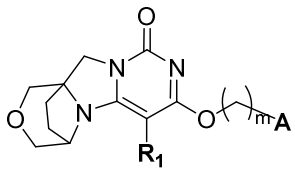
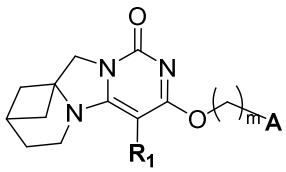
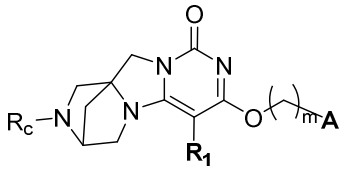
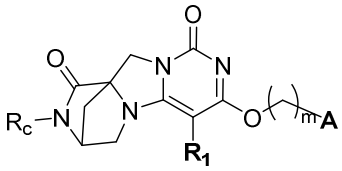
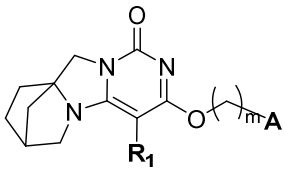
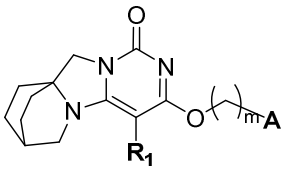
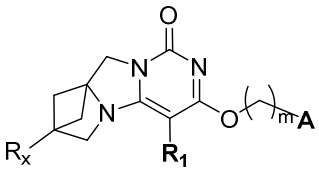
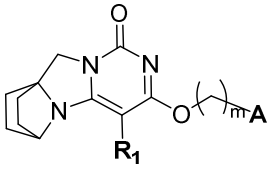
provided that R9 is -O-pyrazolyl when both R7 and R8 are F.

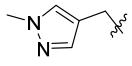
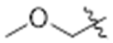
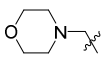
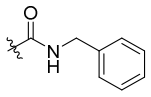
18. The compound according to any one of claims 1 to 15, wherein A is

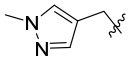
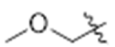
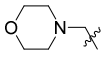
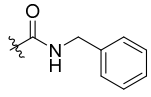


, R_7 and R_8 are each independently H, F or cyano; R_9 is -O-W; and W is pyridyl, pyrimidinyl, pyrazolyl or phenyl, which can be optionally substituted with one or more substituents independently selected from the following substituents: halogen, cyano, CF_3, $-OCF_3$, CHF_2 and CH_3.

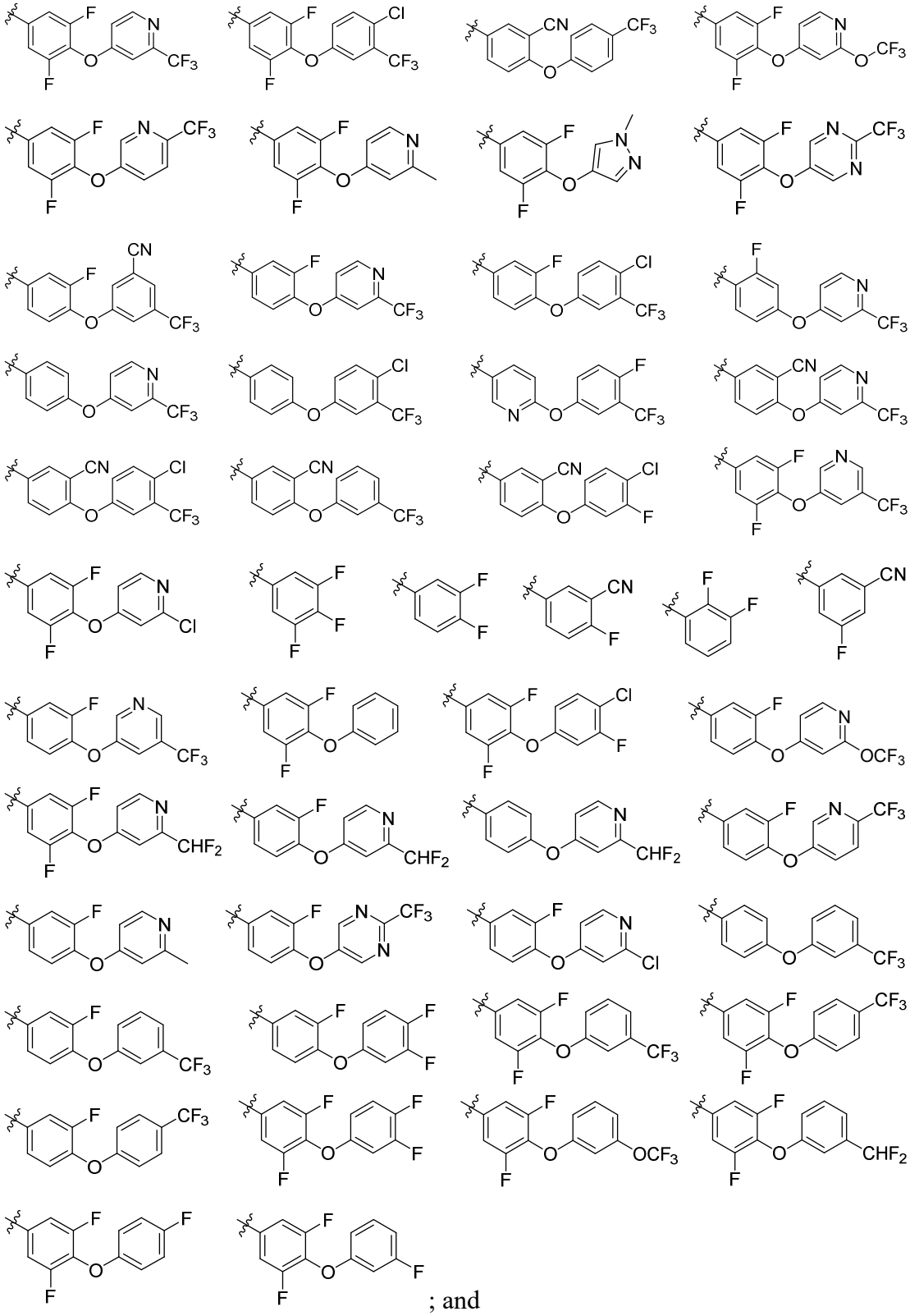
19. The compound according to any one of claims 1, 3, 5 to 15, which is the following compound

Wherein, R_1 is H, halogen, cyano, C_{1-6} alkyl, C_{1-3} haloalkyl or C_{1-6} alkoxy; R_c is C_{1-6} alkyl, 3- to 8-membered heterocyclyl, C_{1-3} haloalkyl, benzoyl, C_{3-8} cycloalkyl, benzyl or ; R_x is H, cyano, halogen, C_{1-3} haloalkyl, amino, , ,  or .

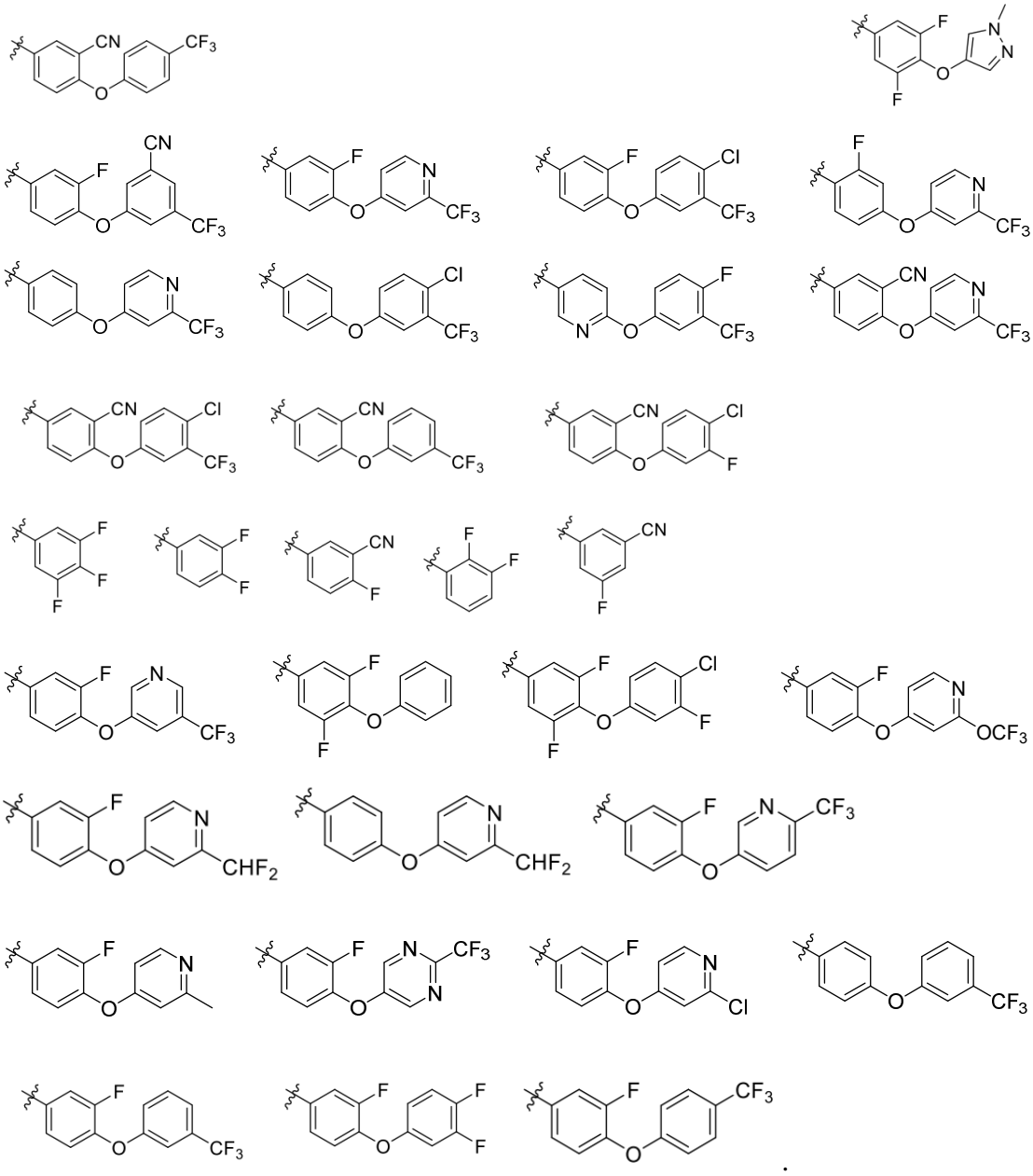
20. The compound according to claim 19, wherein R_1 is H, fluorine, chlorine, cyano, methyl, ethyl, isopropyl, trifluoromethyl or methoxy; R_c is methyl, oxetanyl, trifluoroethyl, benzoyl, cyclobutyl, benzyl or ; R_x is H, cyano, fluorine, difluoromethyl, amino, , ,  or .

21. The compound according to any one of claims 1 to 15 and 19 to 20, wherein when n=0 or 1, A is selected from the group consisting of:

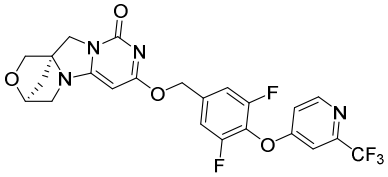
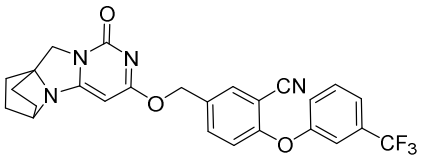


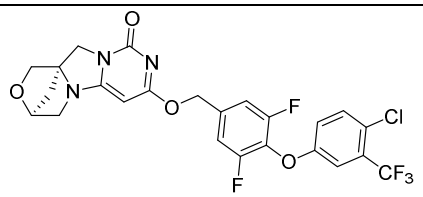
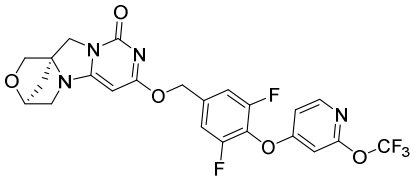
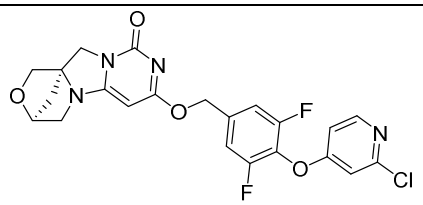
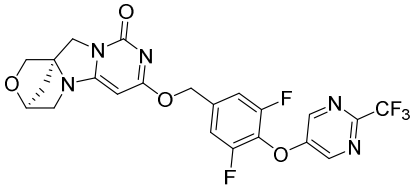
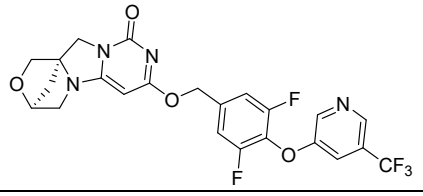
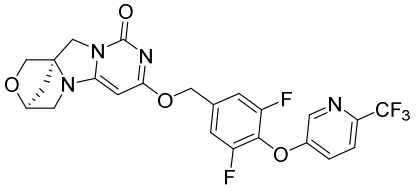
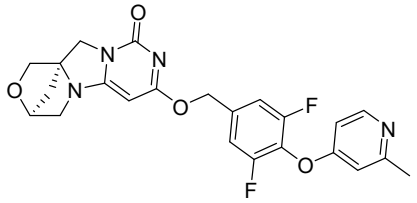
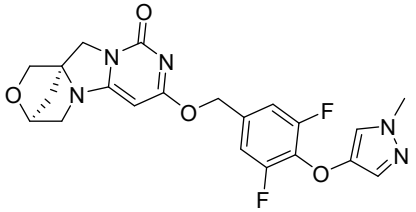
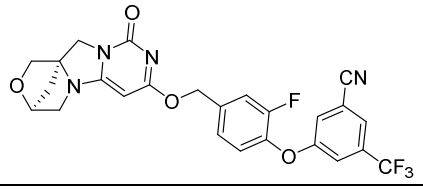
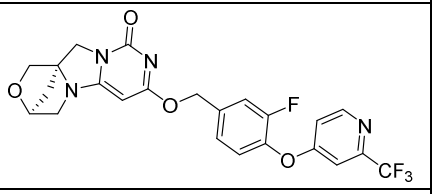
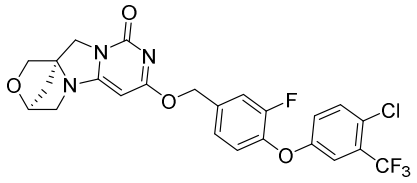
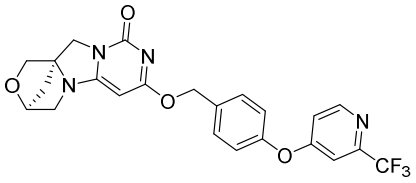
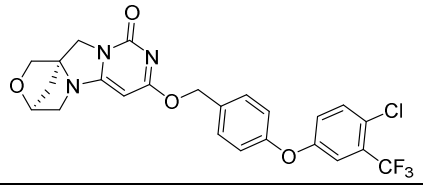
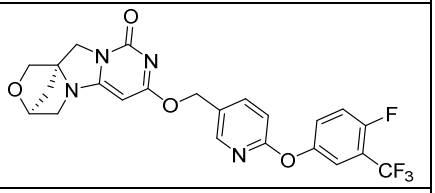
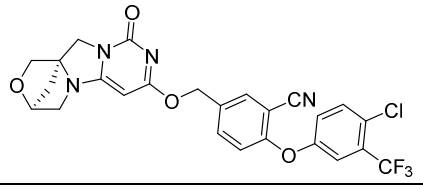
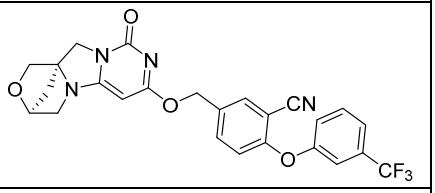
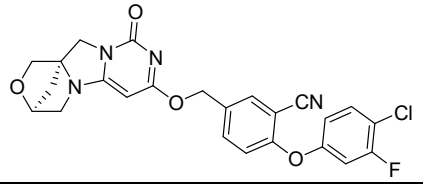
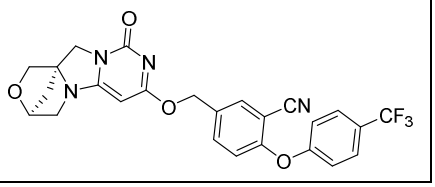
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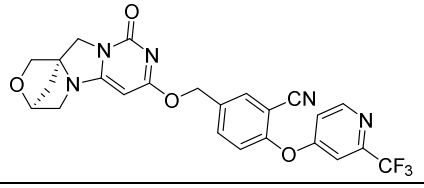
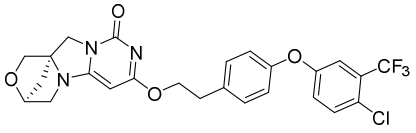
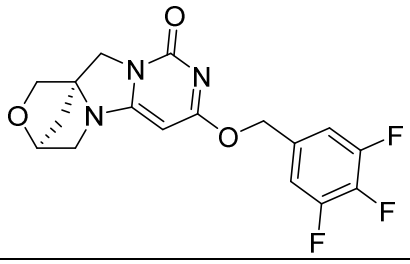
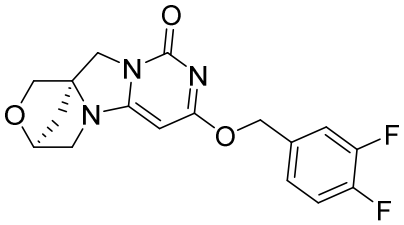
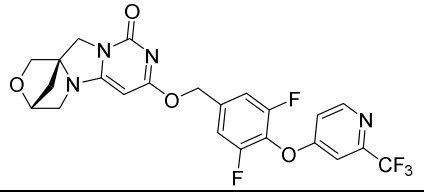
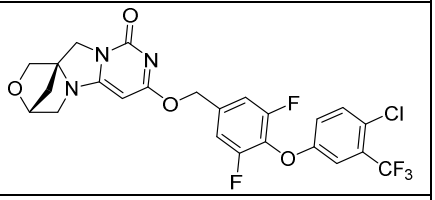
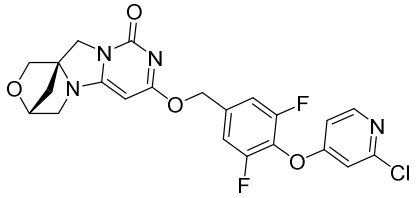
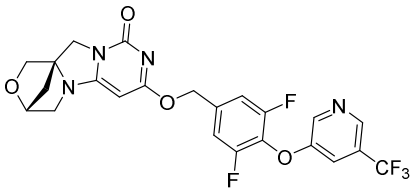
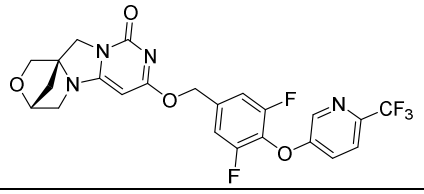
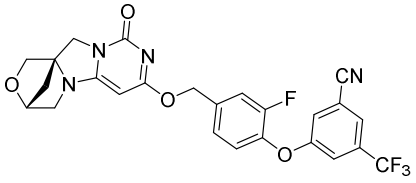
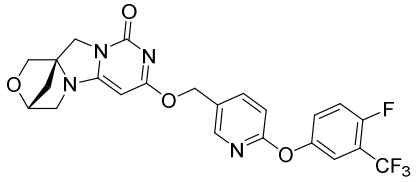
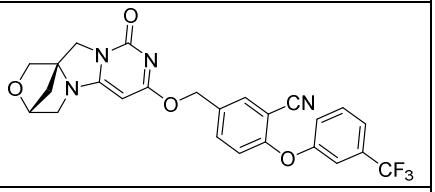
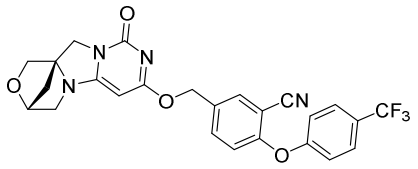
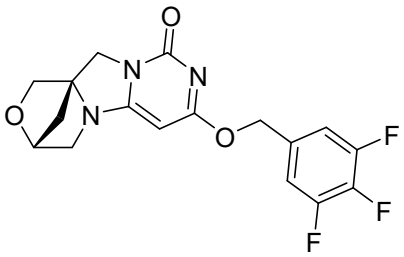
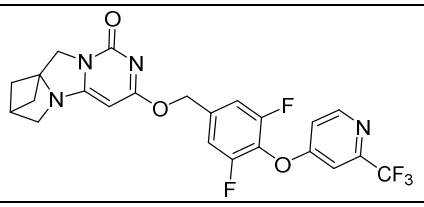
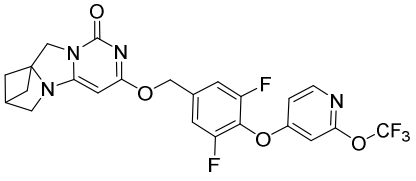
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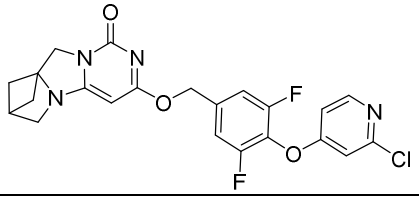
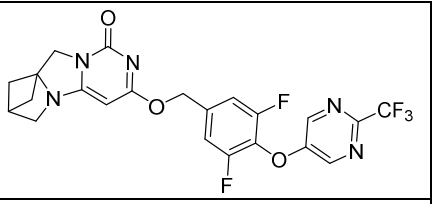
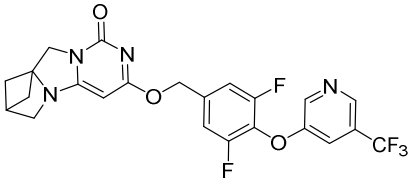
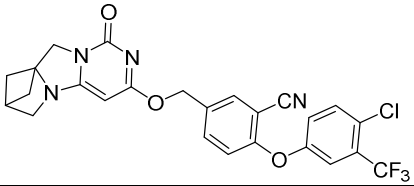
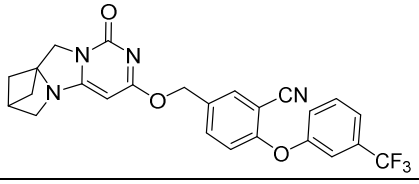
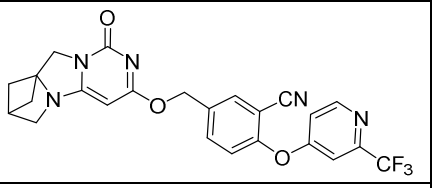
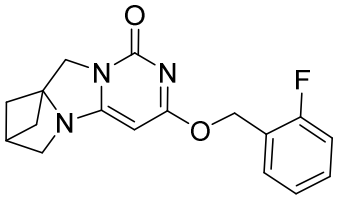
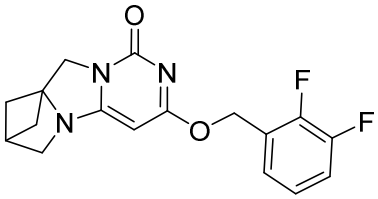
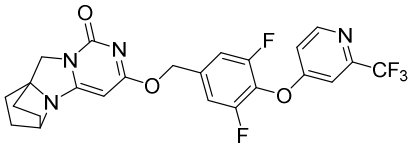
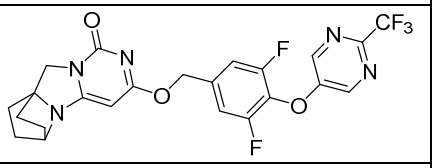
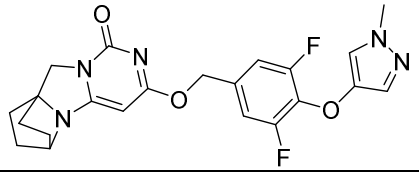
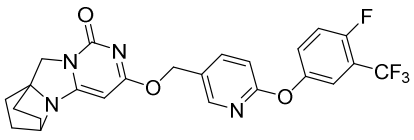
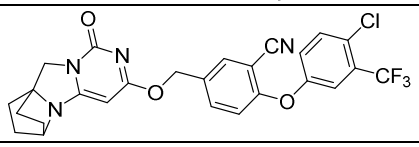
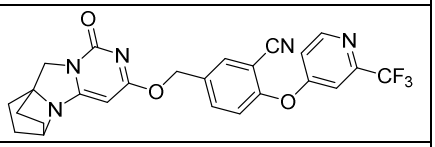
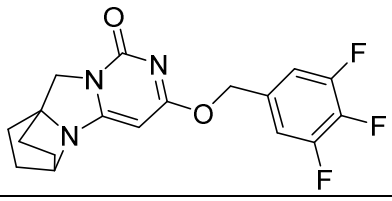
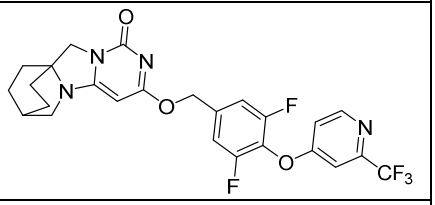
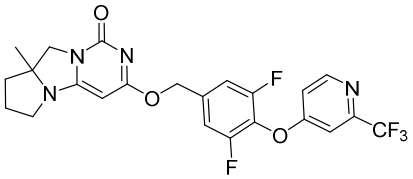
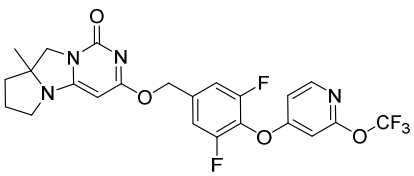


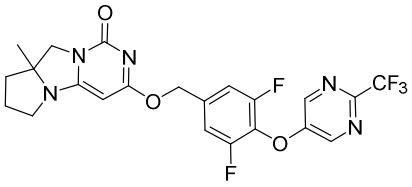
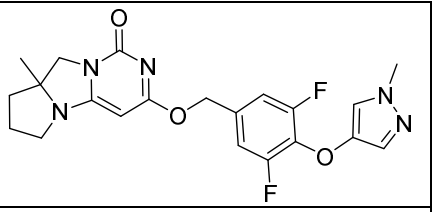
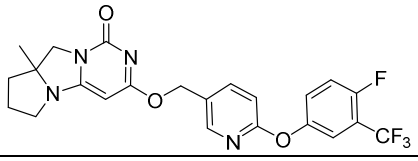
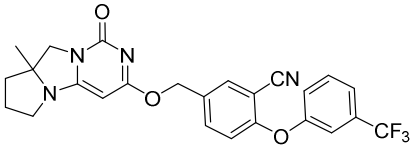
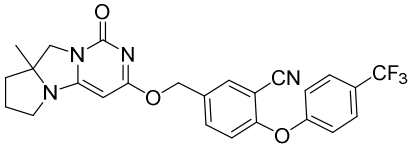
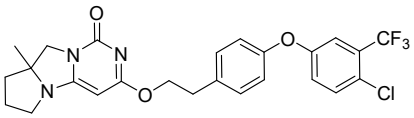
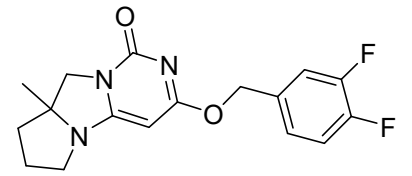
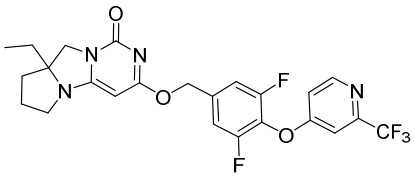
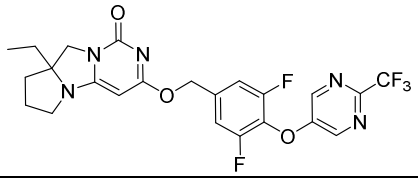
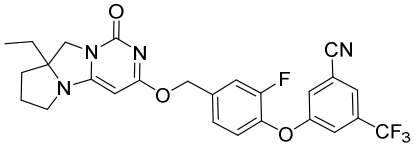
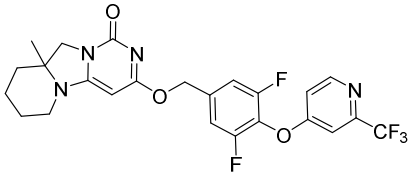
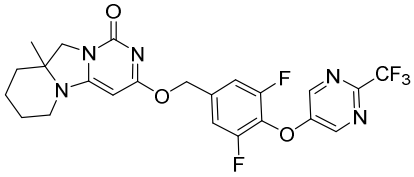
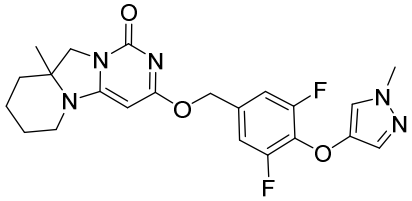
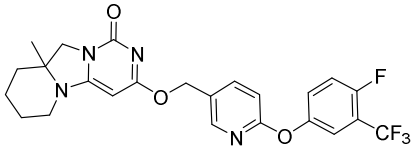
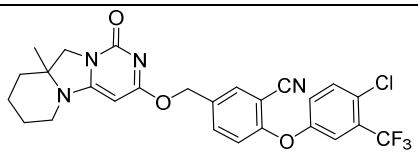
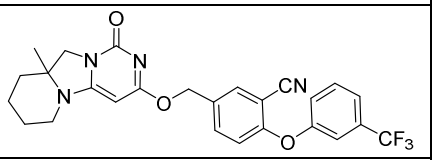
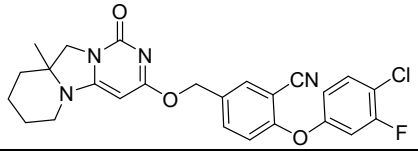
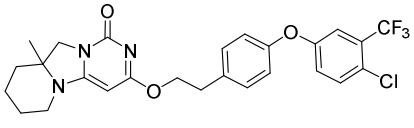
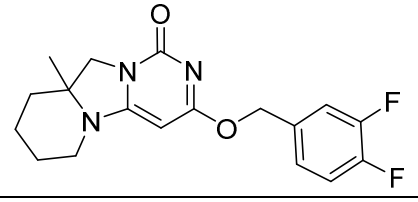
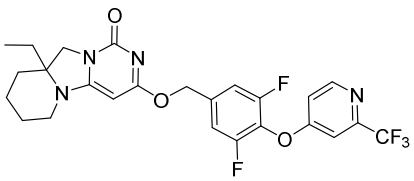
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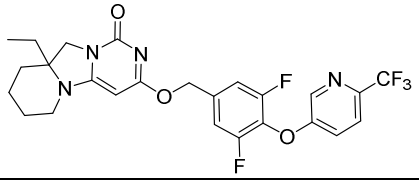
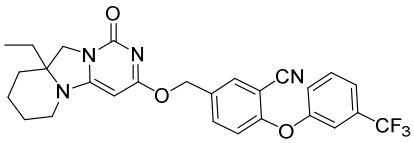
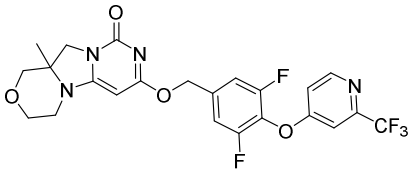
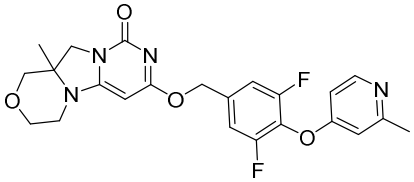
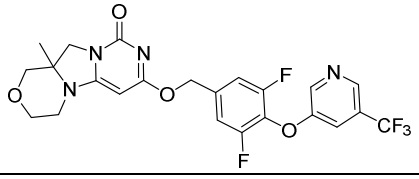
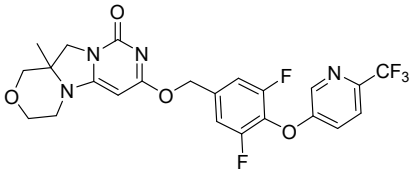
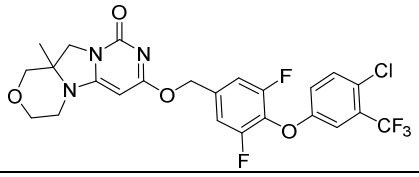
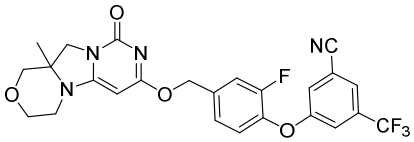
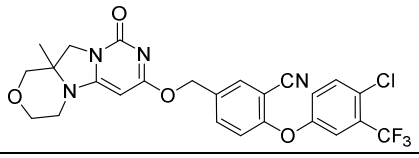
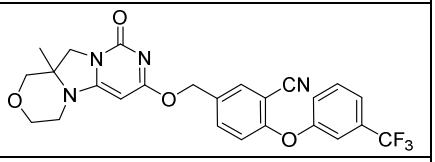
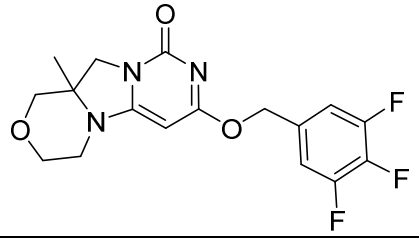
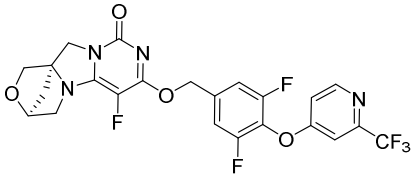
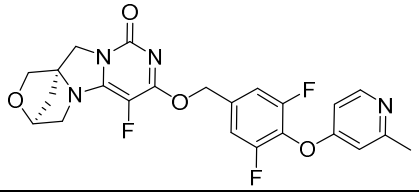
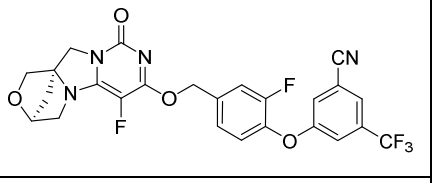
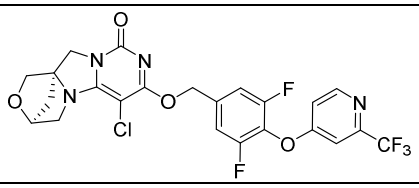
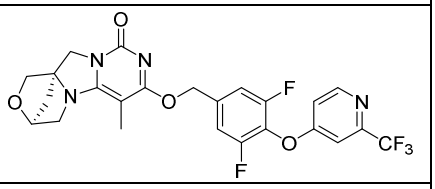
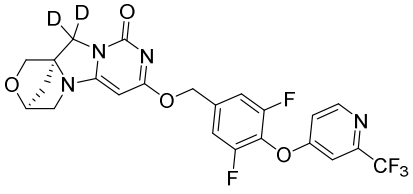
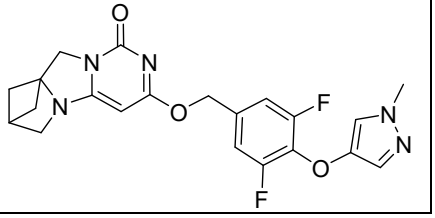
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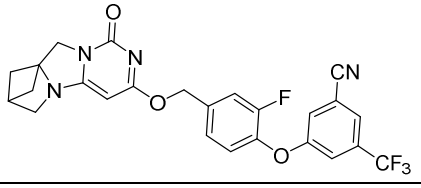
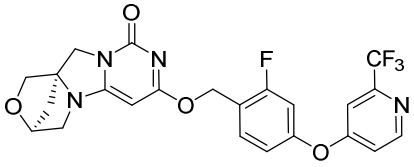
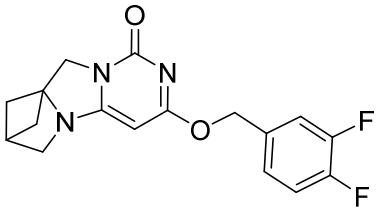
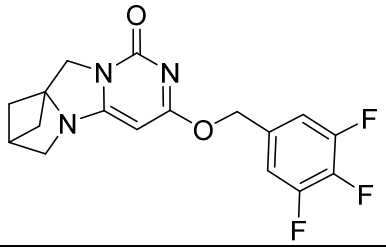
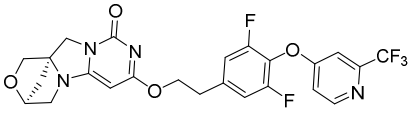
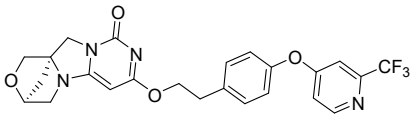
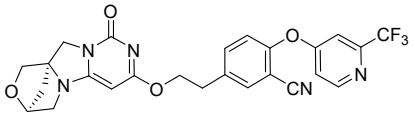
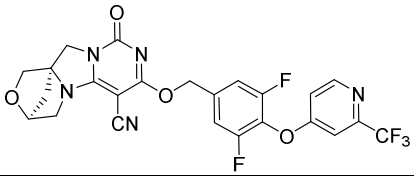
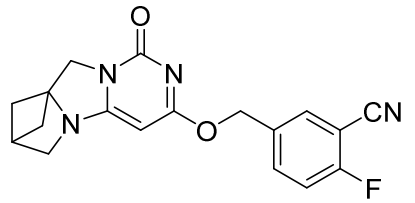
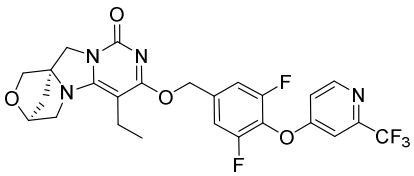
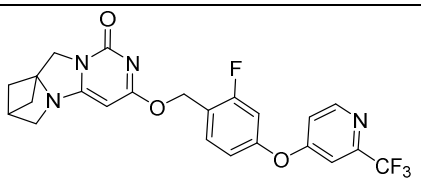
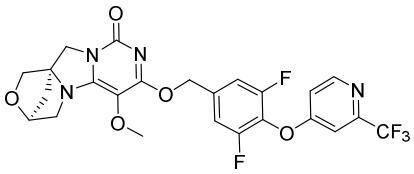
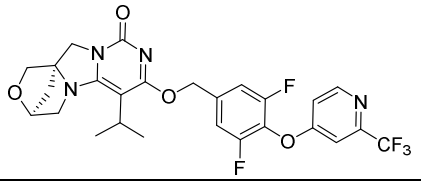
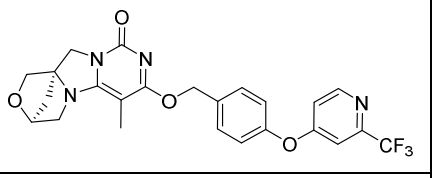
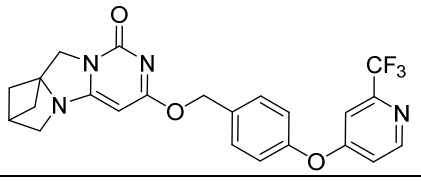
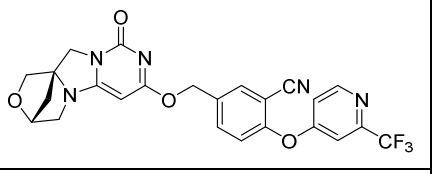
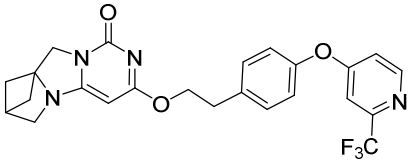
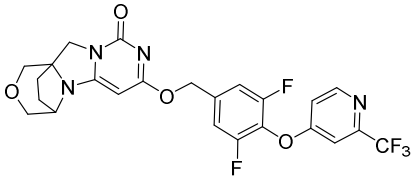
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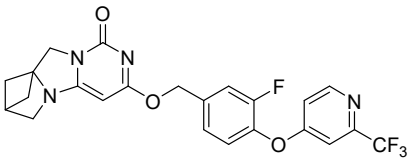
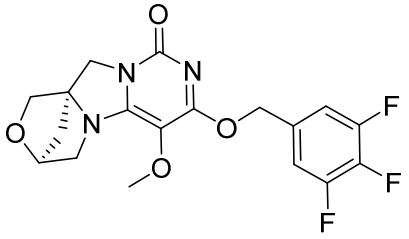
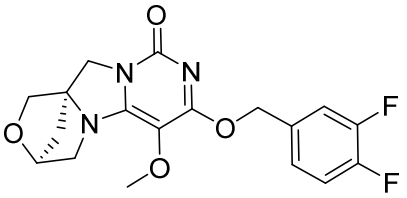
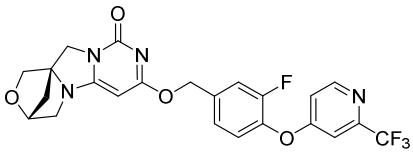
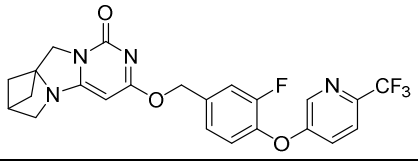
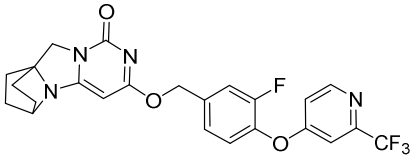
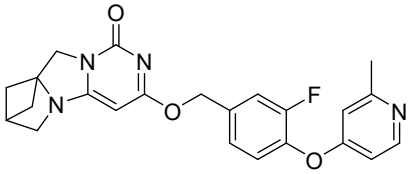
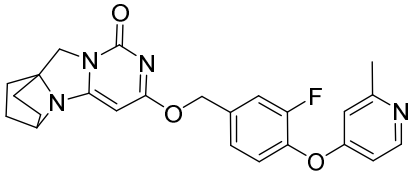
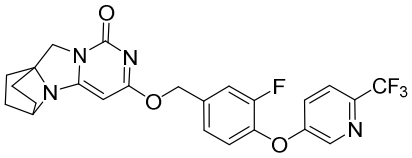
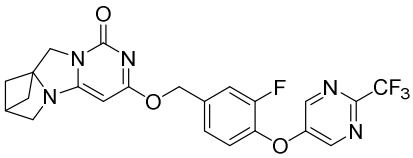
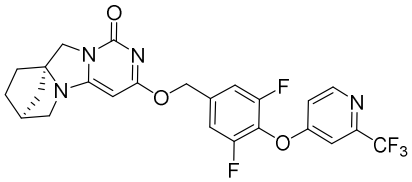
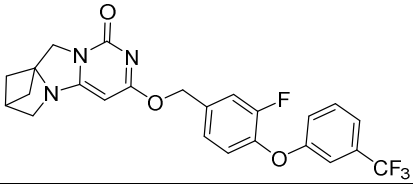
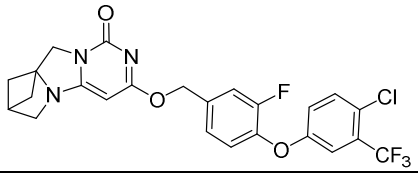
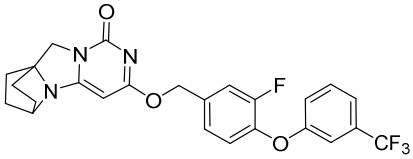
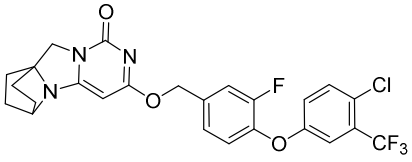
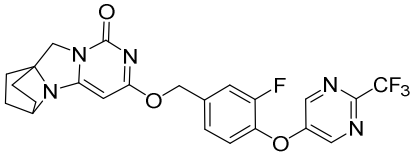
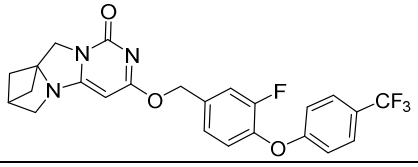
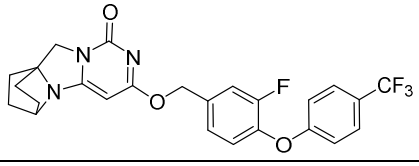
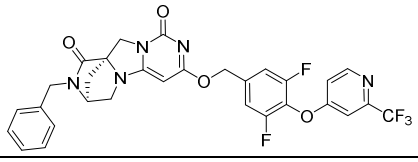
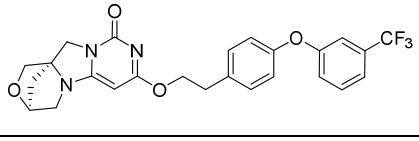
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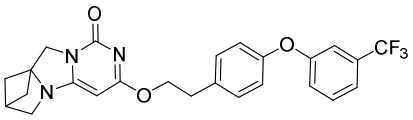
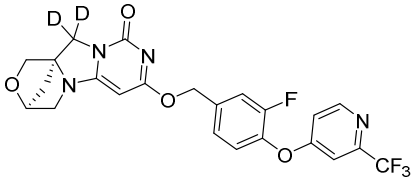
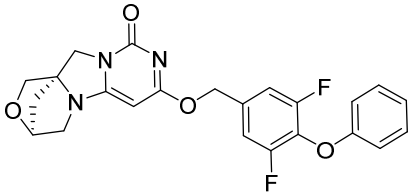
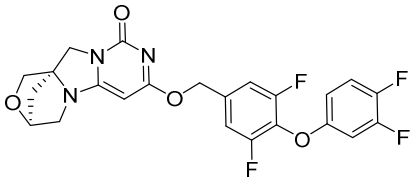
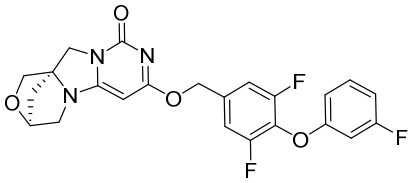
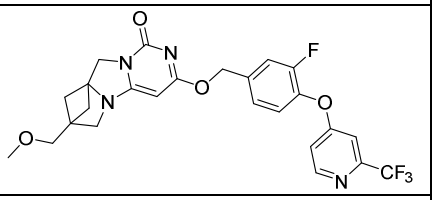
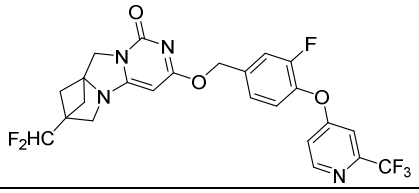
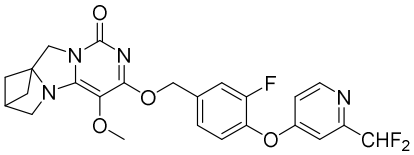
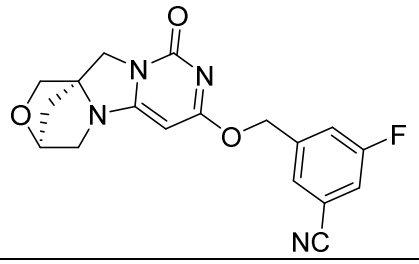
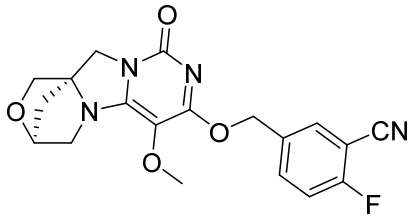
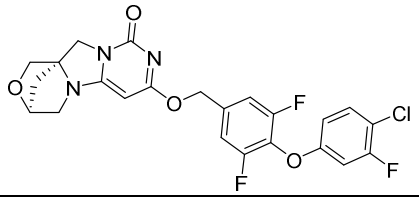
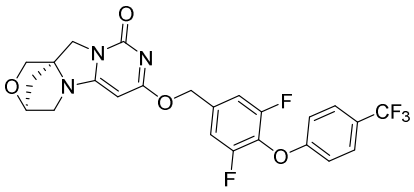
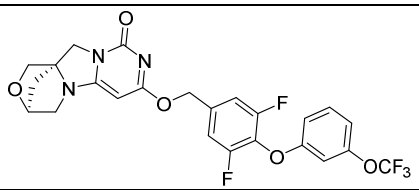
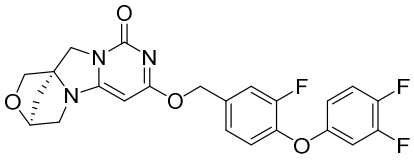
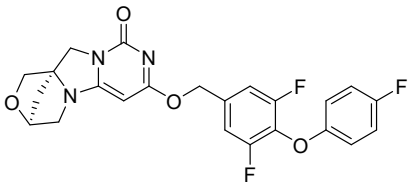
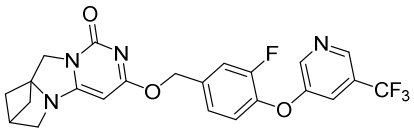
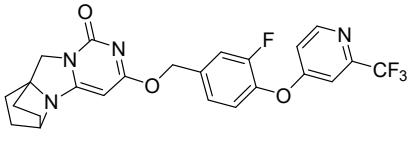
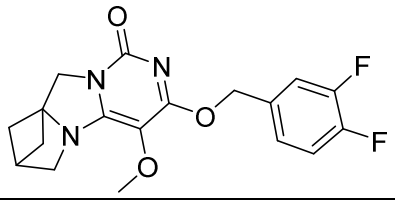
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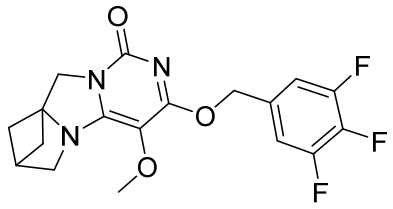
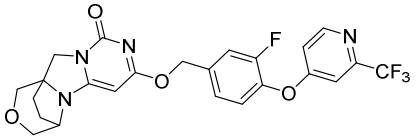
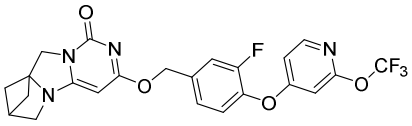
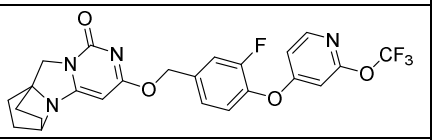
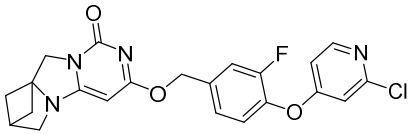
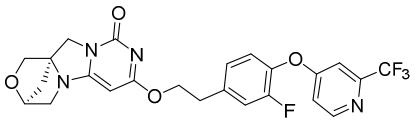
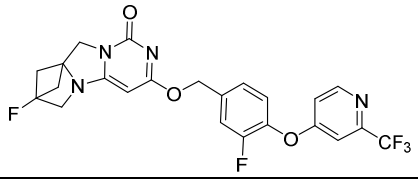
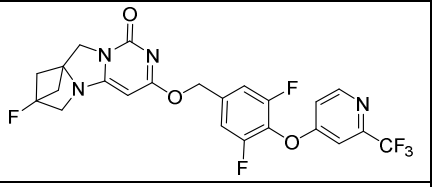
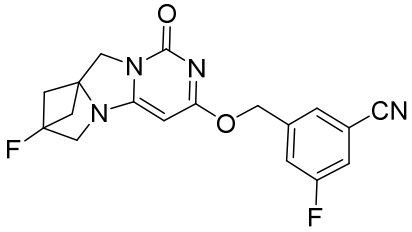
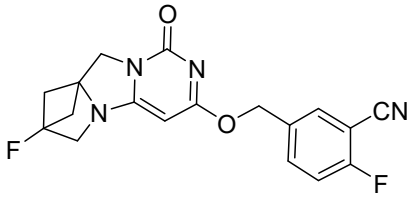
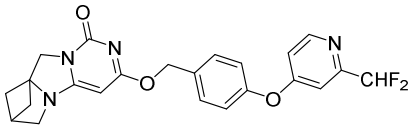
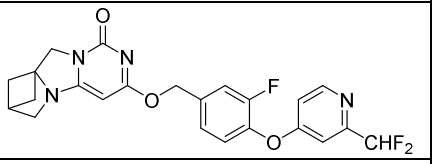
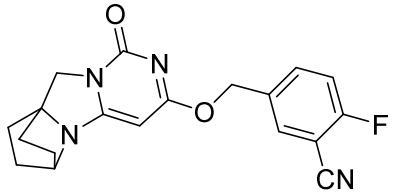
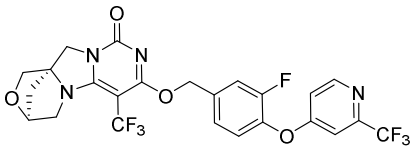
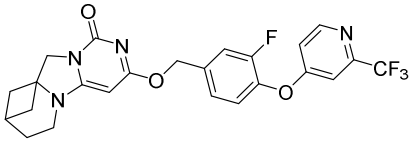
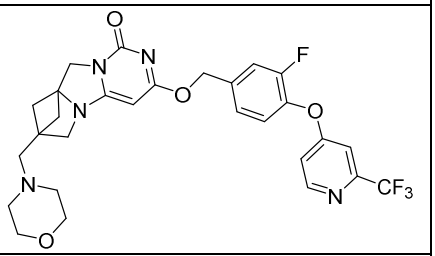
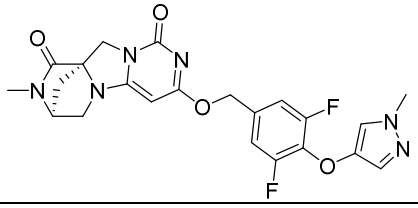
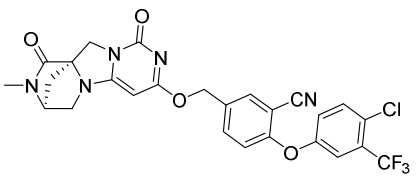
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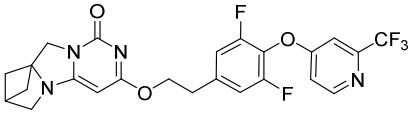
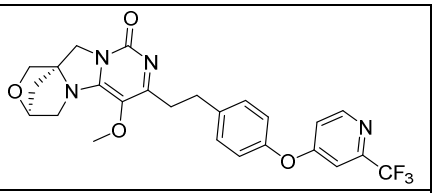
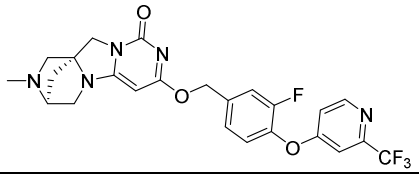
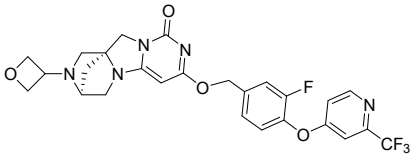
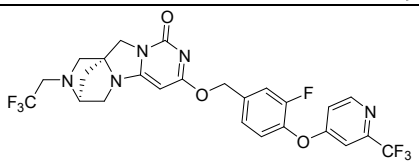
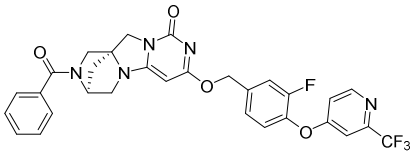
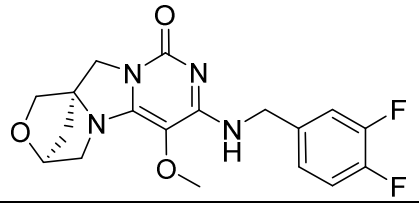
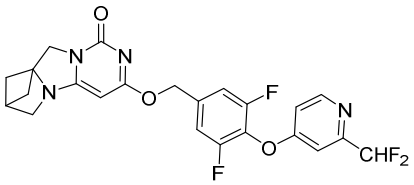
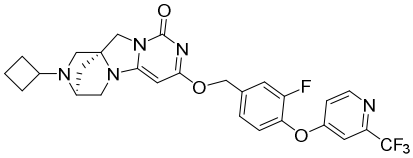
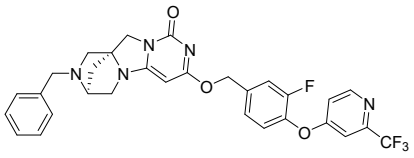
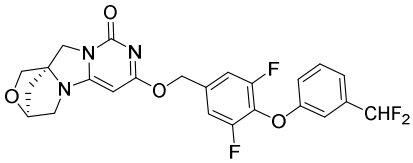
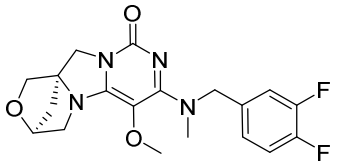
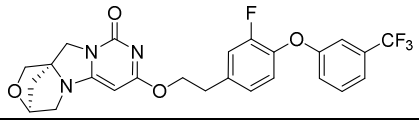
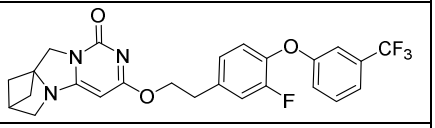
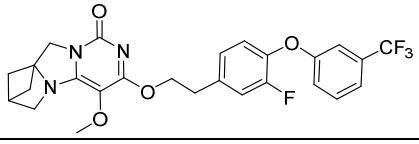
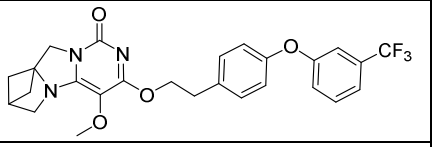
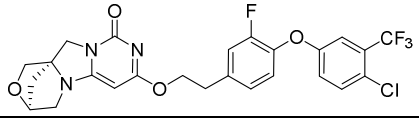
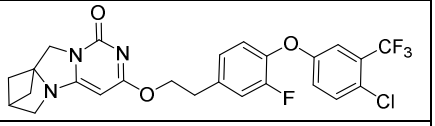
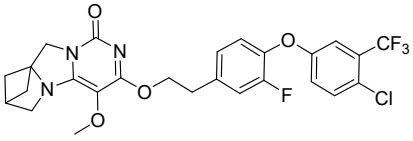
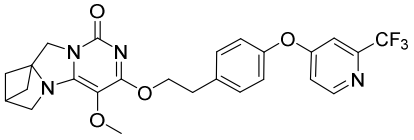
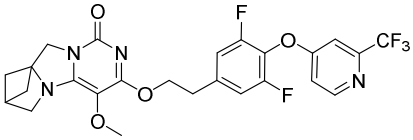
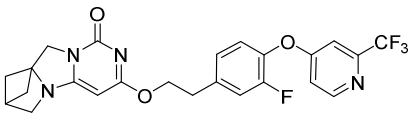
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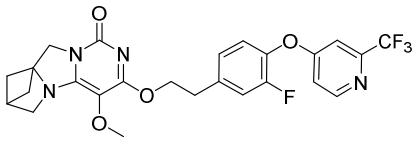
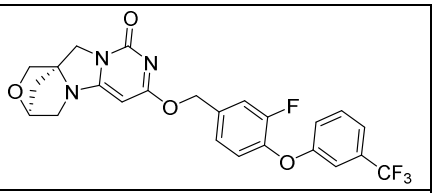
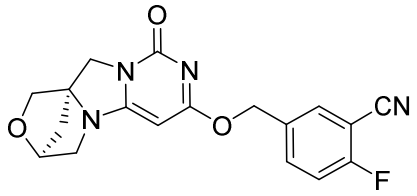
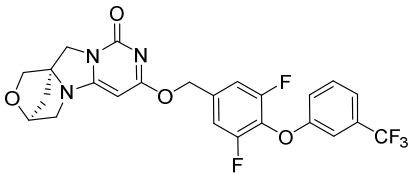
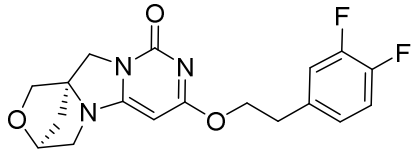
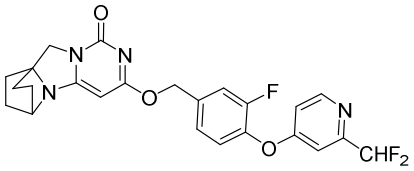
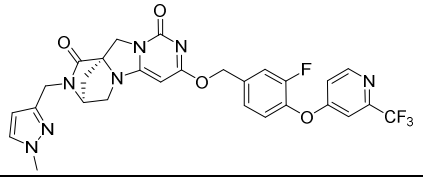
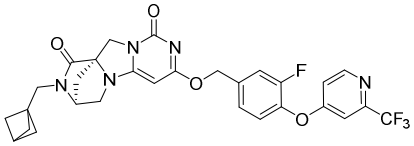
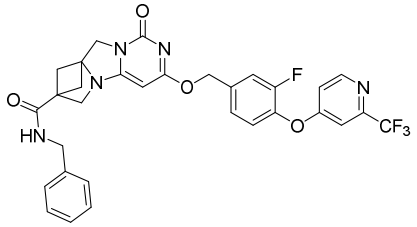
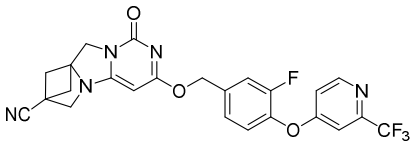
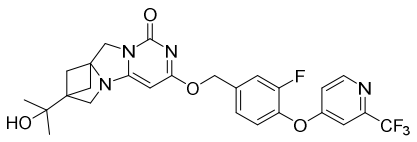
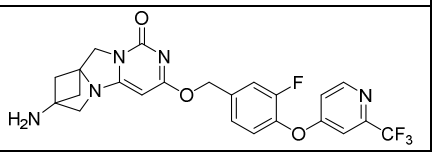
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23. A pharmaceutical composition, comprising the compound, cis-trans isomer thereof, enantiomer thereof, diastereomer thereof, racemate thereof, solvate thereof, hydrate thereof or pharmaceutically acceptable salt thereof thereof according to any one of claims 1 to 22, and a pharmaceutically acceptable excipient.

24. Use of the compound according to any one of claims 1 to 22 or the pharmaceutical composition according to claim 23 in the manufacture of a medicament for the treatment or prevention of the following diseases: diabetic complication, neuroinflammation-related disease or atherosclerosis.

27. The use according to claim 24, wherein the diabetic complication is diabetic retinopathy/diabetic macular edema, diabetic nephropathy, diabetic neuropathy, diabetic peripheral neuropathy pain or diabetic foot.

28. The use according to claim 24, wherein the neuroinflammation-related disease is Alzheimer's disease, multiple sclerosis, amyotrophic lateral sclerosis, or Parkinson's disease.