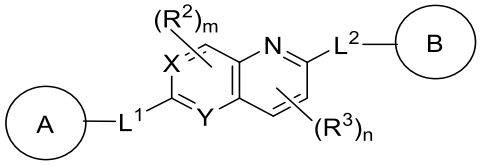
CLAIMS

1. A compound of Formula (I-a):



(I-a)

or a pharmaceutically acceptable salt, solvate, hydrate, tautomer, or stereoisomer thereof, wherein:

A is heteroaryl, optionally substituted with one or more R^1;

B is heterocyclyl optionally substituted with one or more R^1;

L^1 and L^2 are each independently absent;

X and Y are each N or $C(R^6)$, wherein one of X and Y is independently N;

each R^1 is independently hydrogen, C_1-C_6-alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-heteroalkyl, C_1-C_6-haloalkyl, cycloalkyl, heterocyclyl, heteroaryl, aryl, C_1-C_6 alkylene-aryl, C_2-C_6 alkenylene-aryl, C_1-C_6 alkylene-heteroaryl, halo, cyano, oxo, $–OR^A$, $–NR^BR^C$, $–NR^BC(O)R^D$, $–NO_2$, $–C(O)NR^BR^C$, $–C(O)R^D$, $–C(O)OR^D$, or $–S(O)_xR^D$, wherein each alkyl, alkylene, alkenyl, alkenylene, alkynyl, heteroalkyl, haloalkyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl is optionally substituted with one or more R^7; or

two R^1 groups, together with the atoms to which they are attached, form a 3-7-membered cycloalkyl, heterocyclyl, aryl, or heteroaryl, wherein each cycloalkyl, heterocyclyl, aryl, and heteroaryl is optionally substituted with one or more R^7;

each R^2 and R^3 is independently C_1-C_6-alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-heteroalkyl, C_1-C_6-haloalkyl, halo, cyano, $–OR^A$, $–NR^BR^C$, $–NR^BC(O)R^D$, $–NO_2$, $–C(O)NR^BR^C$, $–C(O)R^D$, $–C(O)OR^D$, or $–S(O)_xR^D$;

each R^6 is independently hydrogen, halo, cyano, C_1-C_6-alkyl, C_1-C_6-haloalkyl, or $–OR^A$;

each R^7 is independently C_1-C_6-alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-heteroalkyl, C_1-C_6-haloalkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, halo, cyano, oxo, $–OR^A$, $–NR^BR^C$, $–NR^BC(O)R^D$, $–NO_2$, $–C(O)NR^BR^C$, $–C(O)R^D$, $–C(O)OR^D$, or $–S(O)_xR^D$, wherein each of alkyl, alkenyl, alkynyl, heteroalkyl, haloalkyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl is optionally substituted with one or more R^8;

each R^A is independently hydrogen, C_1-C_6 alkyl, C_1-C_6 heteroalkyl, C_1-C_6 haloalkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, C_1-C_6 alkylene-aryl, C_1-C_6 alkylene-heteroaryl, –$C(O)R^D$, or –$S(O)_xR^D$, wherein each alkyl, alkylene, heteroalkyl, haloalkyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl is optionally substituted with one or more R^9;

each R^B and R^C is independently hydrogen, C_1-C_6 alkyl, C_1-C_6 heteroalkyl, C_1-C_6 haloalkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, C_1-C_6 alkylene-cycloalkyl, C_1-C_6 alkylene-heterocyclyl, –OR^A, wherein each alkyl, alkylene, heteroalkyl, haloalkyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl is optionally substituted with one or more R^9; or

R^B and R^C together with the atom to which they are attached form a 3-7-membered heterocyclyl ring optionally substituted with one or more R^9;

each R^D is independently hydrogen, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_1-C_6 heteroalkyl, C_1-C_6 haloalkyl, wherein each alkyl, alkenyl, alkynyl, heteroalkyl, and haloalkyl is optionally substituted with one or more R^9;

each R^8 is independently C_1-C_6 alkyl, C_1-C_6 heteroalkyl, C_1-C_6 haloalkyl, halo, cyano, oxo, or –OR^A;

each R^9 is C_1-C_6-alkyl, halo, cyano, oxo, or –OR^{A1};

each R^{A1} is hydrogen or C_1-C_6-alkyl;

n is 0, 1, or 2;

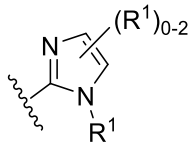
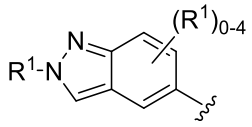
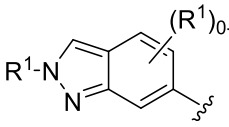
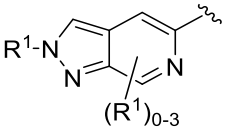
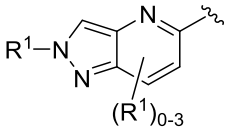
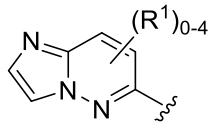
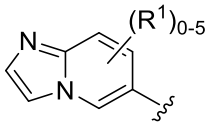
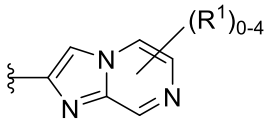
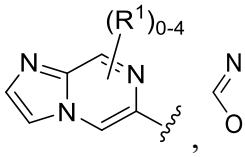
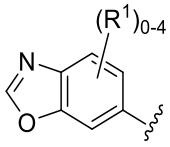
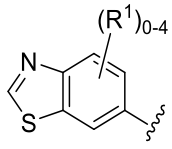
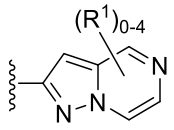
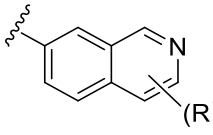
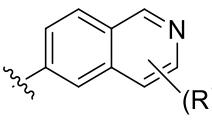
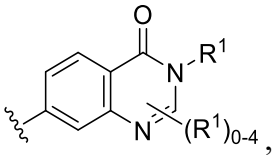
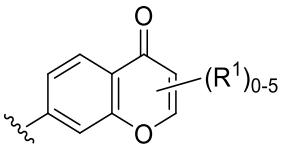
m is 0 or 1; and

x is 0, 1, or 2.

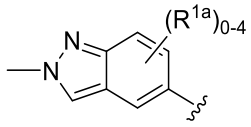
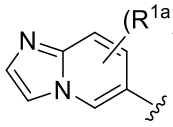
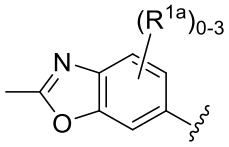
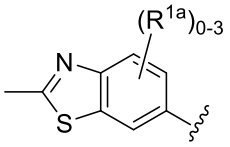
2. The compound of claim 1, wherein A is a monocyclic heteroaryl or bicyclic heteroaryl, each of which is optionally substituted with one or more R^1.

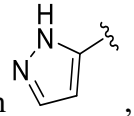
3. The compound of any one of the preceding claims, wherein A is a nitrogen-containing heteroaryl optionally substituted with one or more R^1.

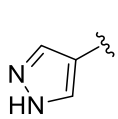
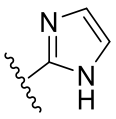
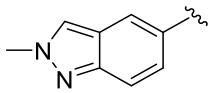
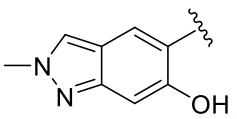
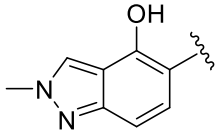
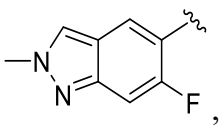
4. The compound of any one of the preceding claims, wherein A is selected from

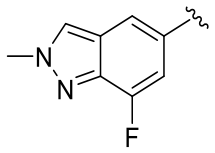
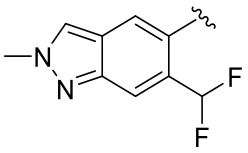
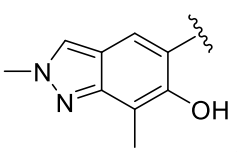
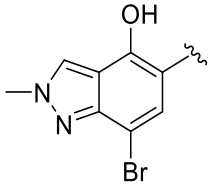
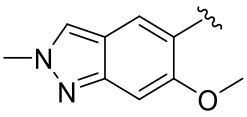

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and

wherein R^1 is as described in claim 1.

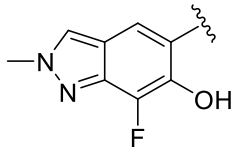
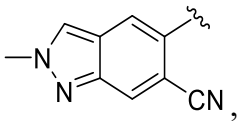
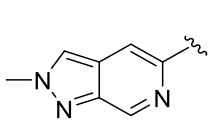
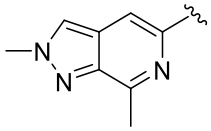
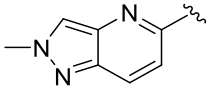
5. The compound of any one of the preceding claims, wherein A is selected from

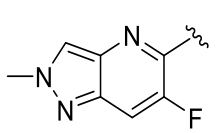
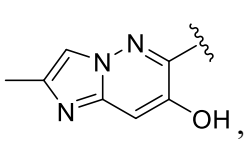
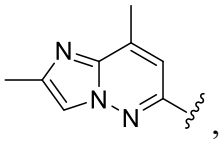
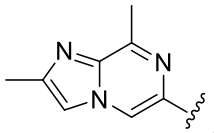
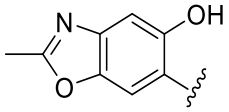

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and

, wherein each R^{1a} is independently C_1-C_6-alkyl, C_1-C_6-heteroalkyl, C_1-C_6-haloalkyl, halo, cyano, or $–OR^A$, and each alkyl, heteroalkyl, and haloalkyl is optionally substituted with one or more R^7.

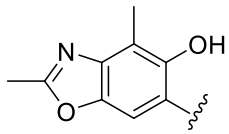
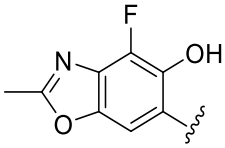
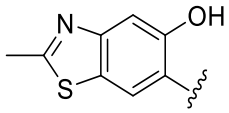
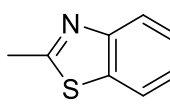
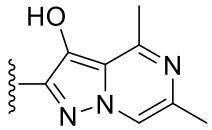
6. The compound of any one of the preceding claims, wherein A is selected from ,

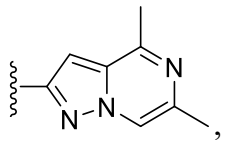
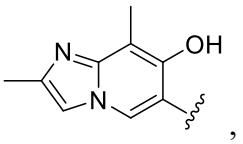
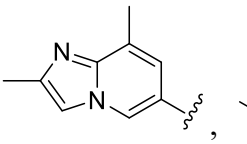
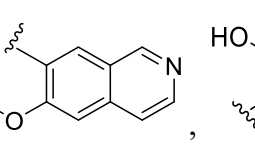
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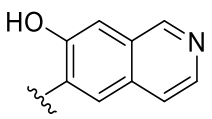
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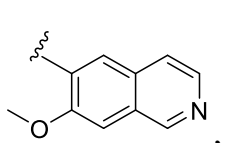
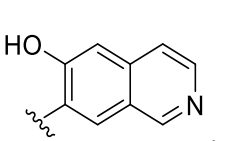
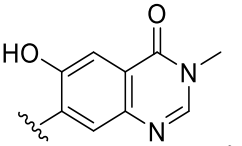
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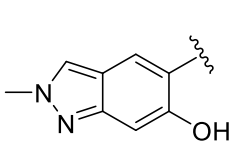
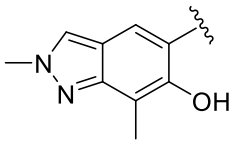
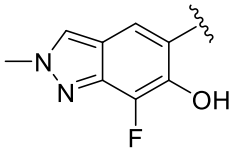
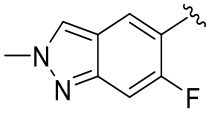
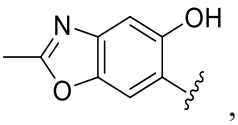
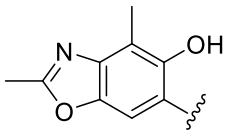
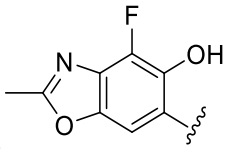
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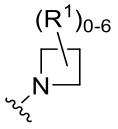
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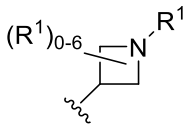
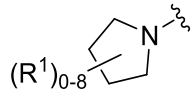
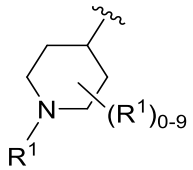
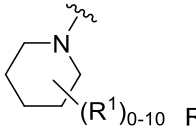
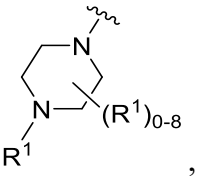
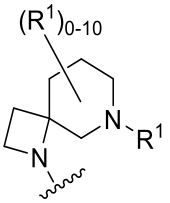
7. The compound of any one of the preceding claims, wherein A is selected from

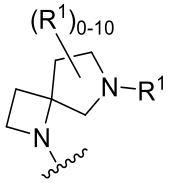
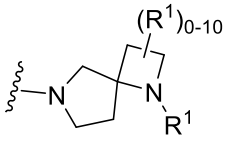
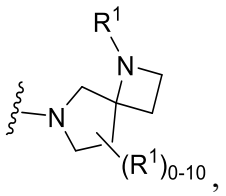
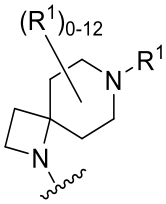
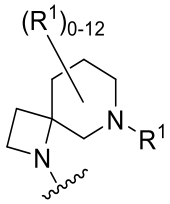
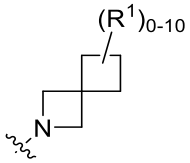
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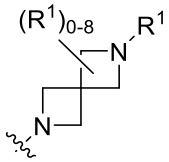
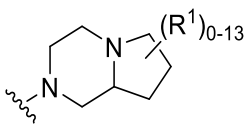
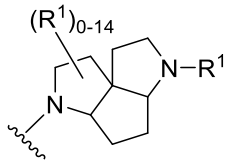
8. The compound of any one of the preceding claims, wherein B is a monocyclic heterocyclyl or bicyclic heterocyclyl, each of which is optionally substituted with one or more R^1.

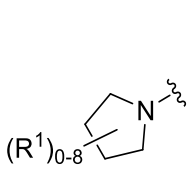
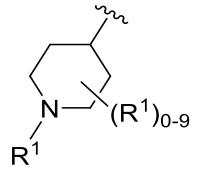
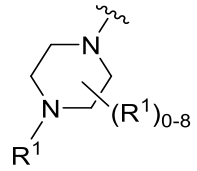
9. The compound of any one of the preceding claims, wherein B is a nitrogen-containing heterocyclyl optionally substituted with one or more R^1.

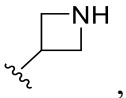
10. The compound of any one of the preceding claims, wherein B is selected from ,

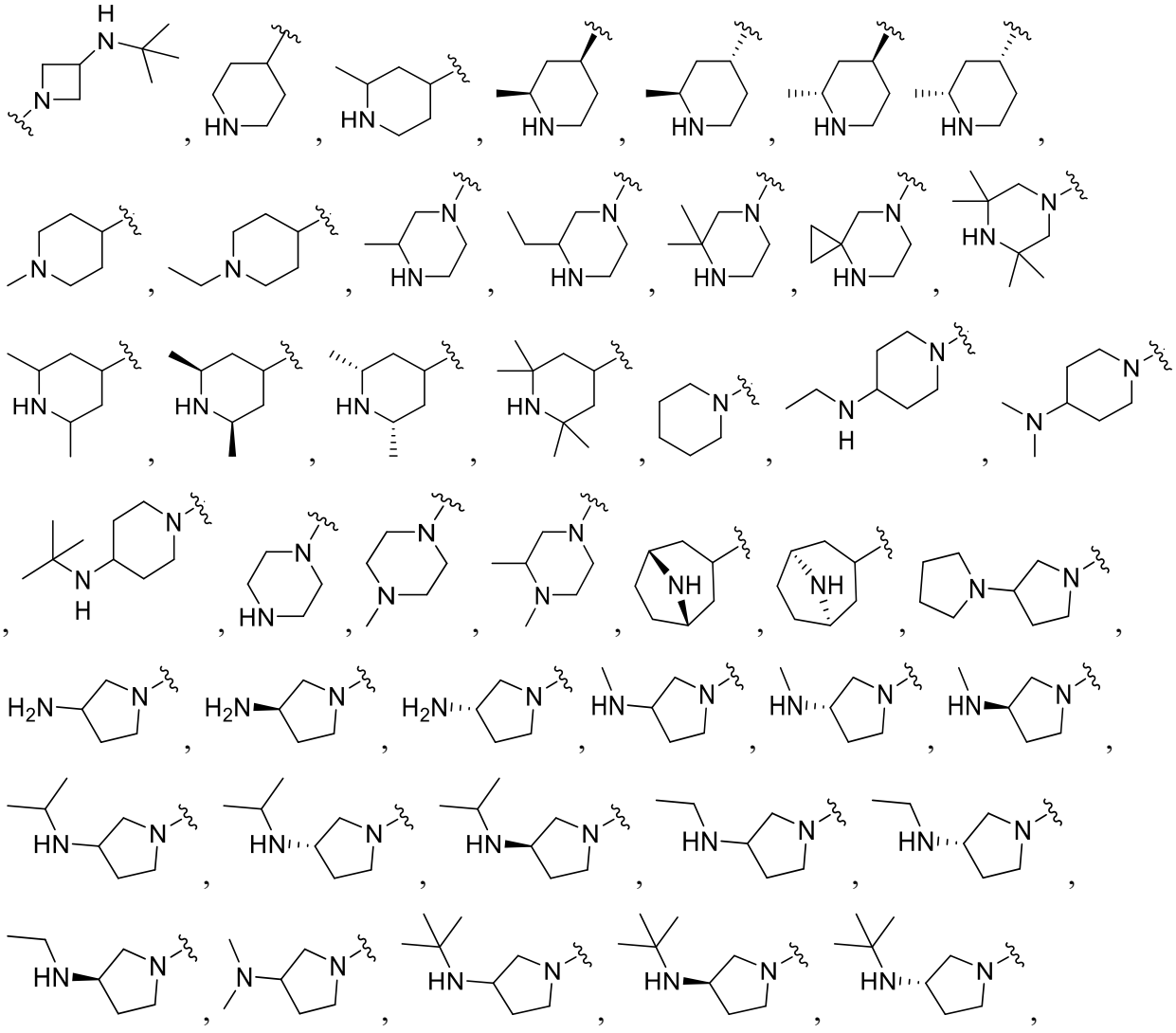
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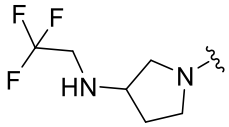
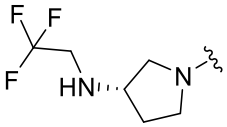
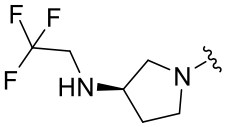
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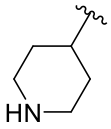
, , and  wherein R^1 is as described in claim 1.

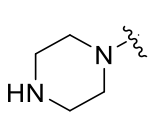
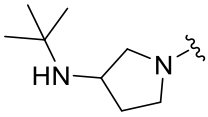
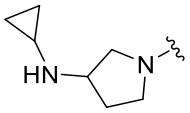
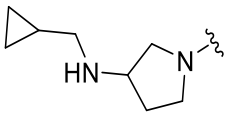
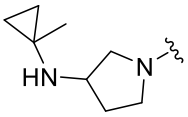
11. The compound of any one of the preceding claims, wherein B is selected from , , and , wherein R^1 is as described in claim 1.

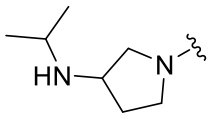
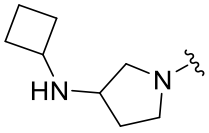
12. The compound of any one of the preceding claims, wherein B is selected from ,




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13. The compound of any one of the preceding claims, wherein B is selected from ,

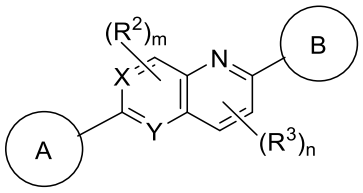
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, and .

14. The compound of any one of claims 1-13, wherein each of X and Y is independently N.

15. The compound of any one of the preceding claims, wherein one of R^2 and R^3 is independently halo.

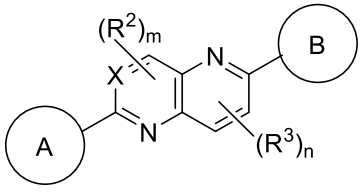
16. The compound of any one of the preceding claims, wherein the compound of Formula (I-a) is a compound of Formula (I-c):



(I-c)

or a pharmaceutically acceptable salt, solvate, hydrate, tautomer, or stereoisomer thereof, wherein A, B, X, Y, R^2, R^3, m, n, and subvariables thereof are as defined in claim 1.

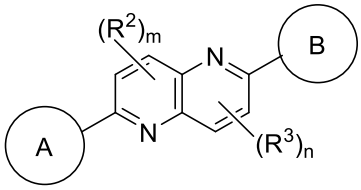
17. The compound of any one of the preceding claims, wherein the compound of Formula (I-a) is a compound of Formula (I-e):



(I-e),

or a pharmaceutically acceptable salt, solvate, hydrate, tautomer, or stereoisomer thereof, wherein A, B, X, R^2, R^3, m, n, and subvariables thereof are as defined in claim 1.

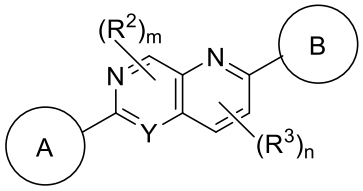
18. The compound of any one of the preceding claims, wherein the compound of Formula (I-a) is a compound of Formula (I-f):



(I-f),

or a pharmaceutically acceptable salt, solvate, hydrate, tautomer, or stereoisomer thereof, wherein m is 0, 1 or 2; and A, B, R^2, R^3, m, n, and subvariables thereof are as defined in claim 1.

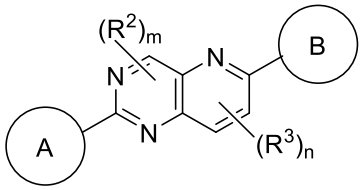
19. The compound of any one of claims 1-16, wherein the compound of Formula (I-a) is a compound of Formula (I-g):



(I-g),

or a pharmaceutically acceptable salt, solvate, hydrate, tautomer, or stereoisomer thereof, wherein A, B, Y, R^2, R^3, m, n, and subvariables thereof are as defined in claim 1.

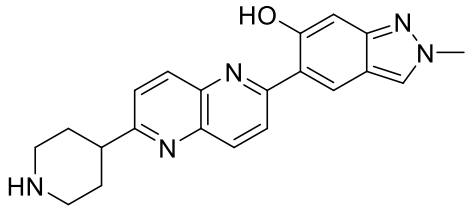
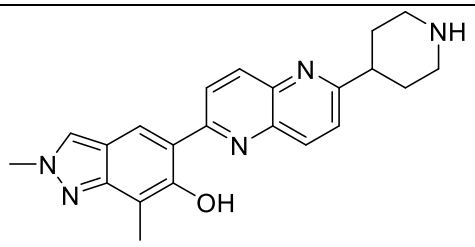
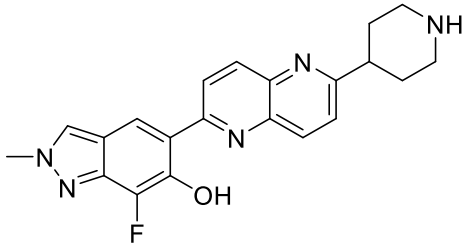
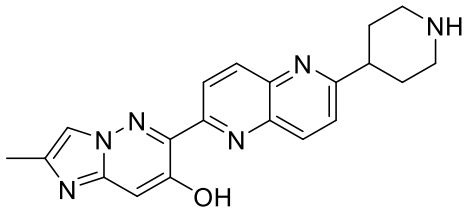
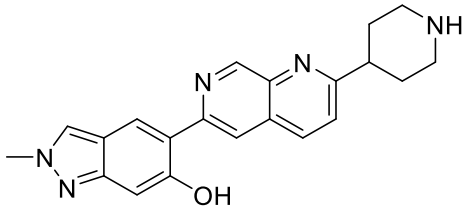
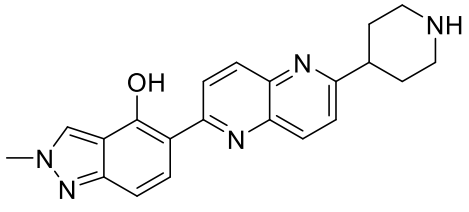
20. The compound of any one of the preceding claims, wherein the compound of Formula (I-a) is a compound of Formula (I-h):

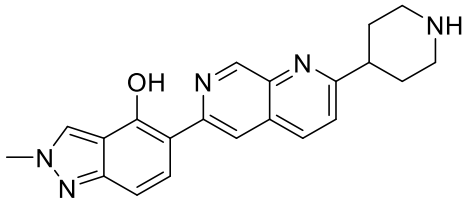
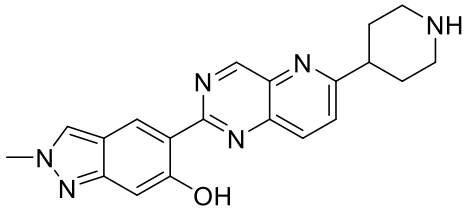
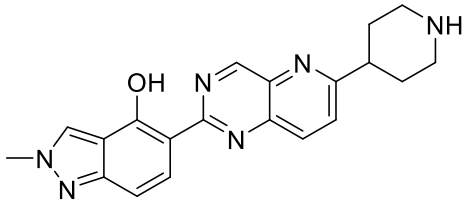
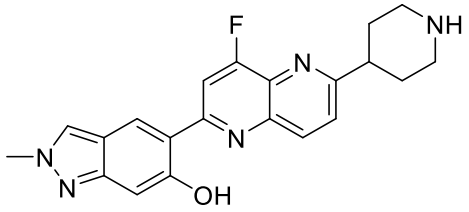
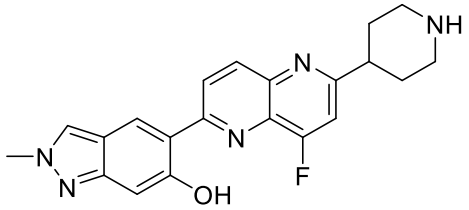
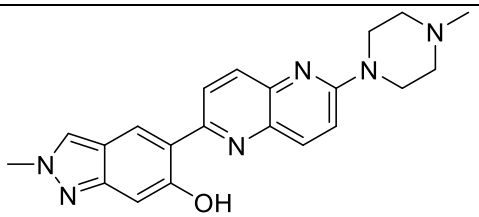
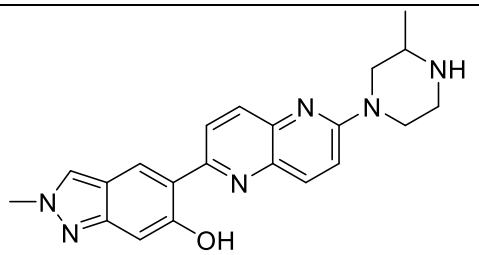


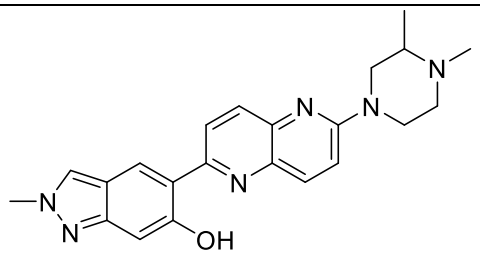
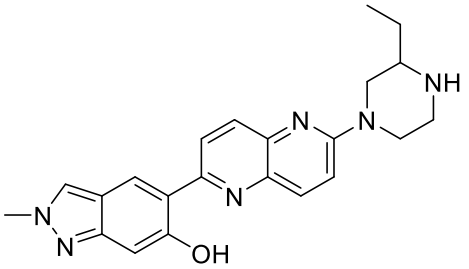
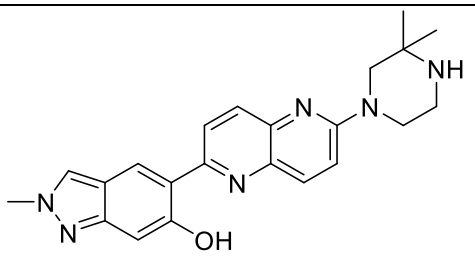
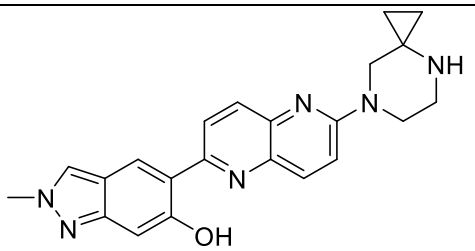
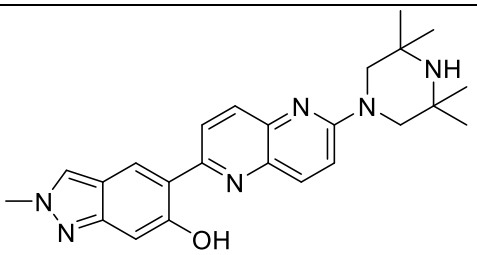
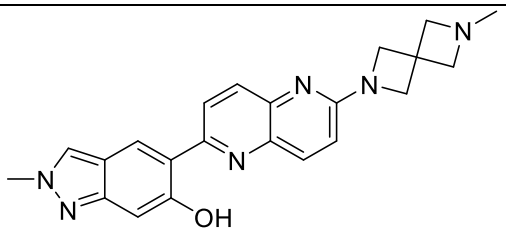
(I-h),

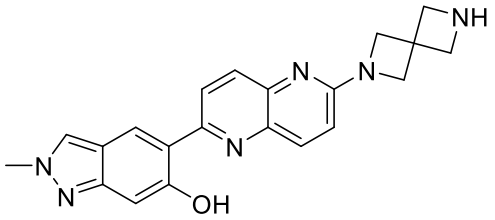
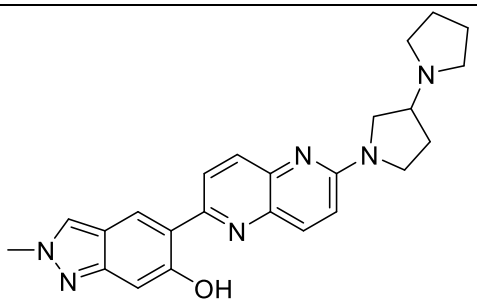
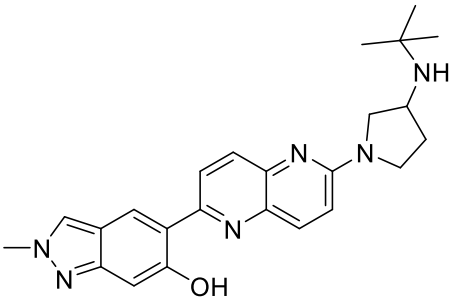
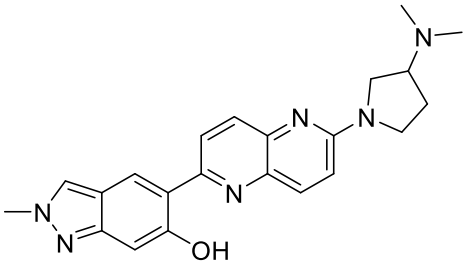
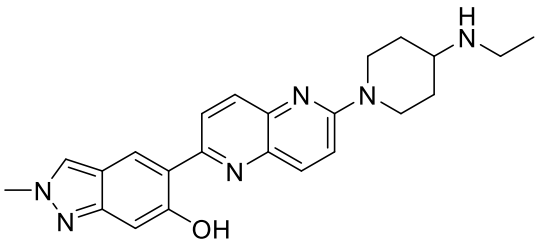
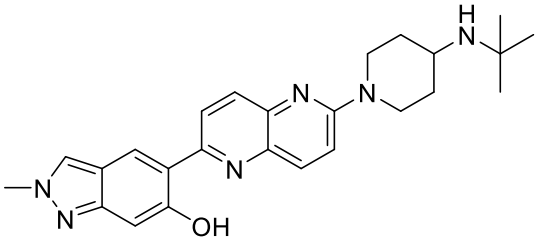
or a pharmaceutically acceptable salt, solvate, hydrate, tautomer, or stereoisomer thereof, wherein A, B, R^2, R^3, m, n, and subvariables thereof are as defined in claim 1.

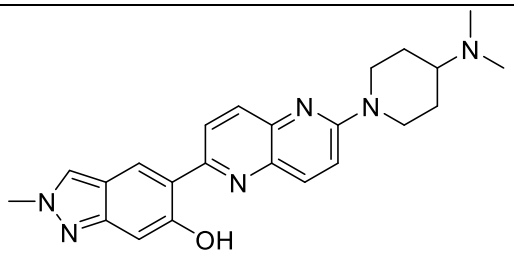
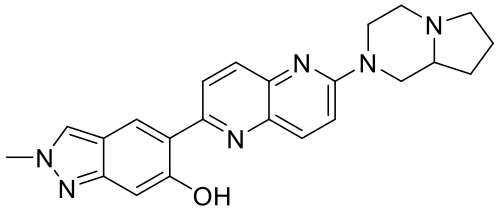
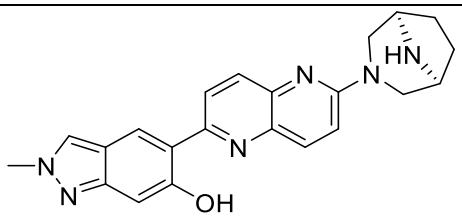
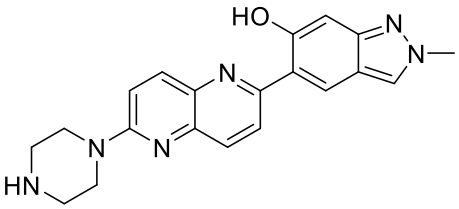
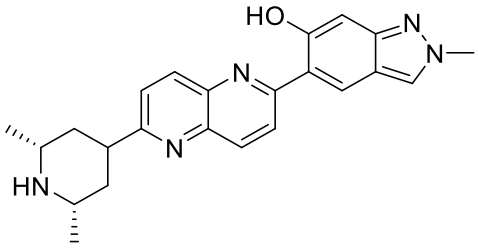
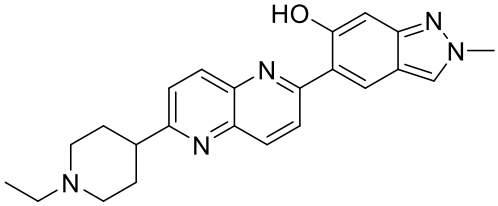
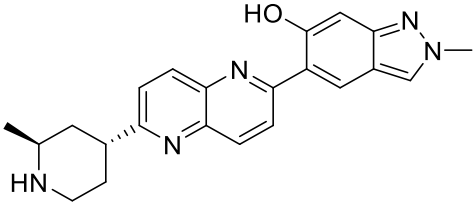
21. The compound of any one of the preceding claims, wherein the compound is selected from any one of the following compounds:

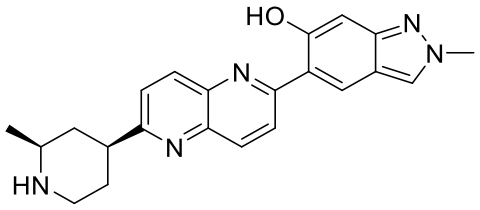
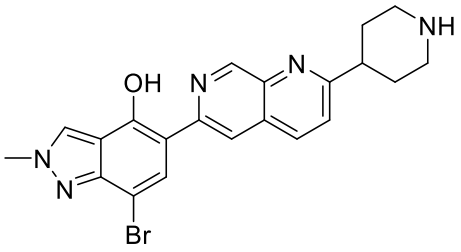
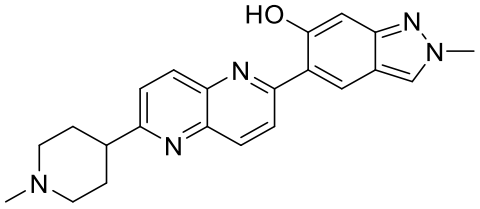
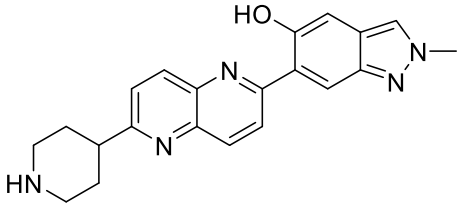
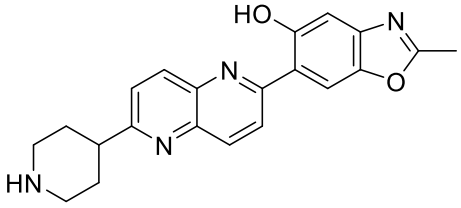
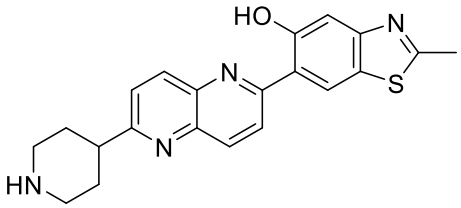
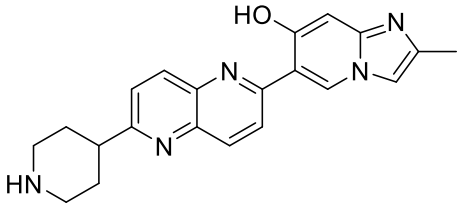
Compound No.	Structure
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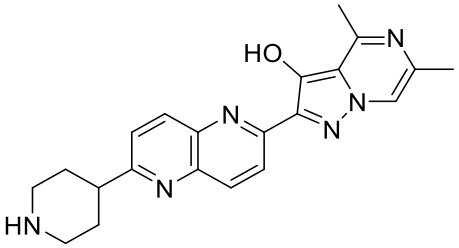
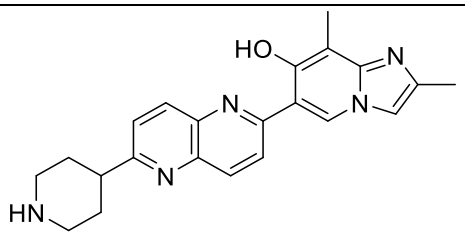
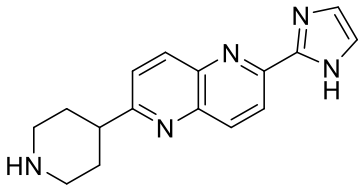
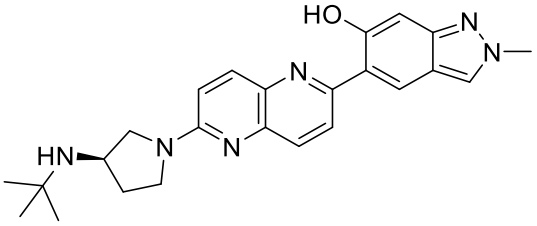
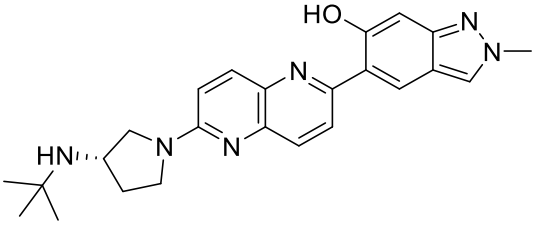
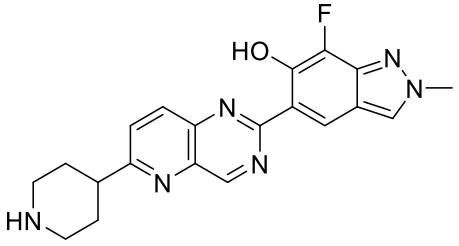
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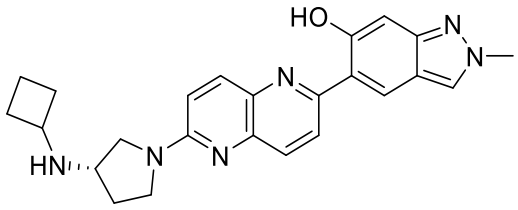
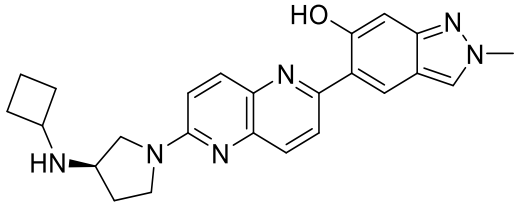
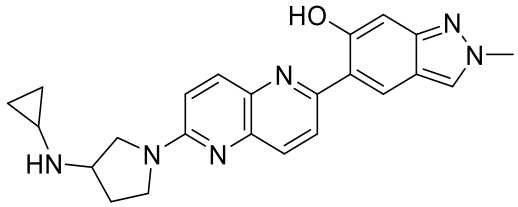
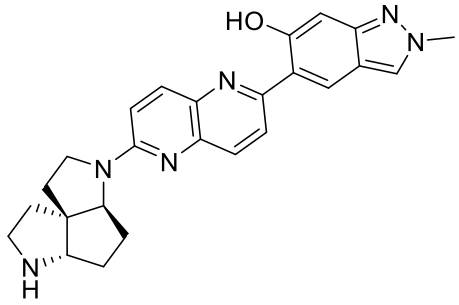
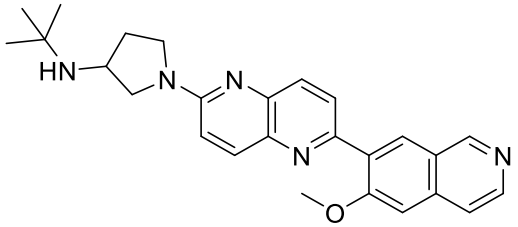
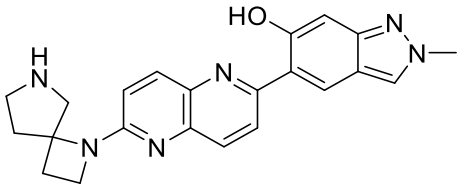
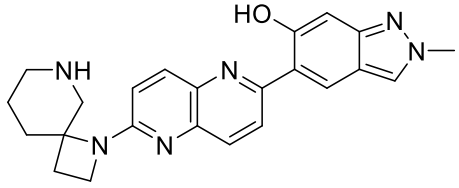
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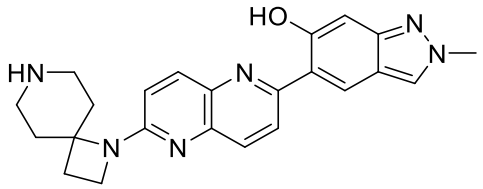
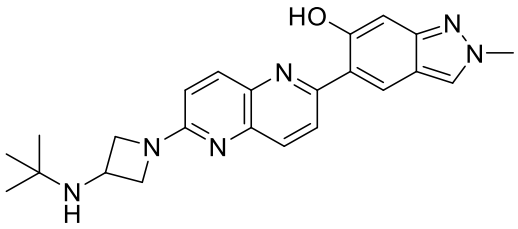
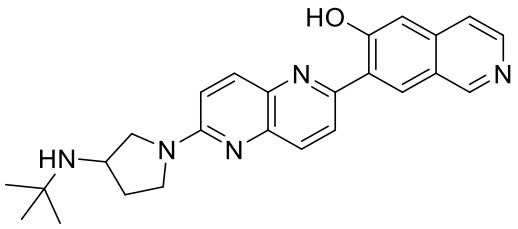
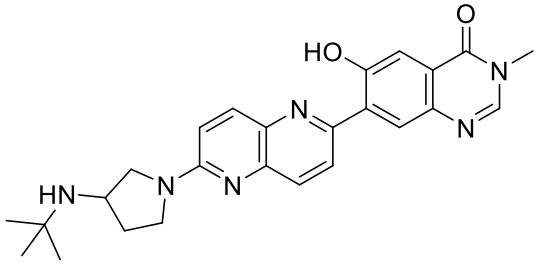
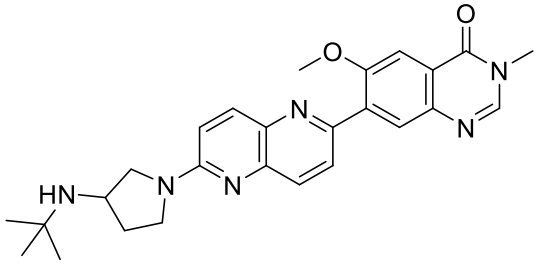
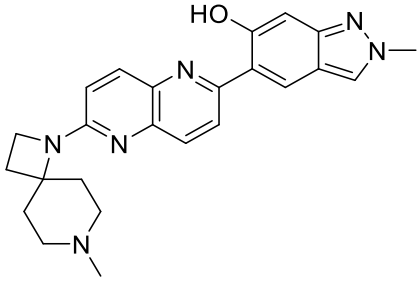
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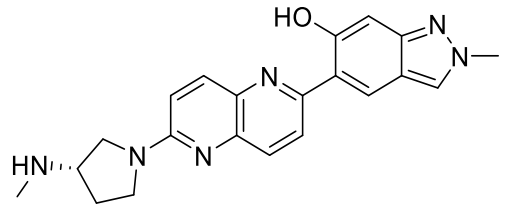
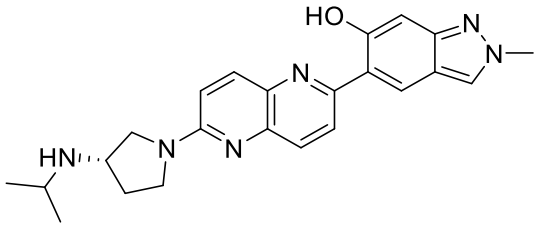
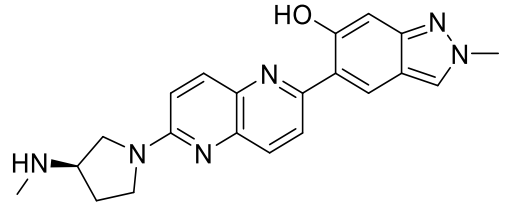
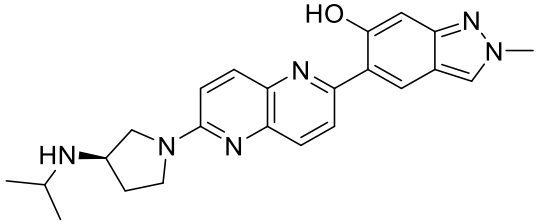
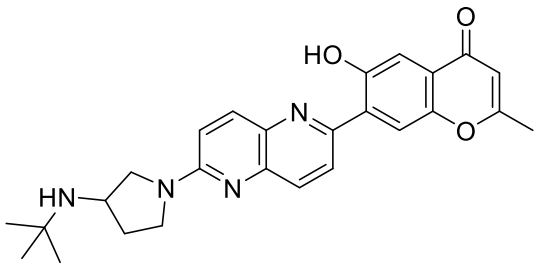
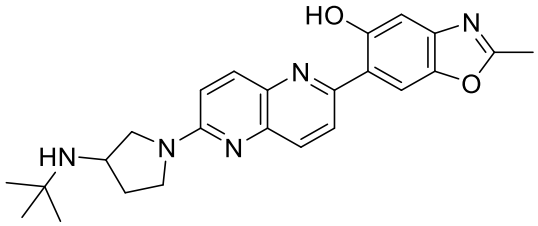
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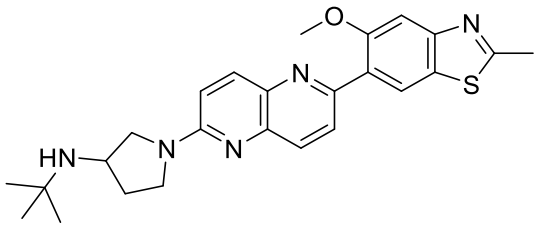
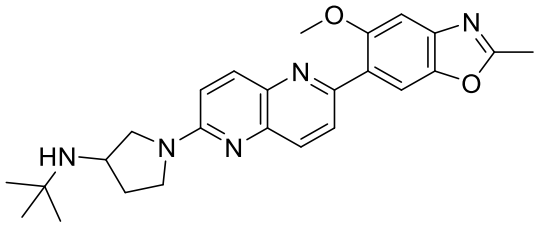
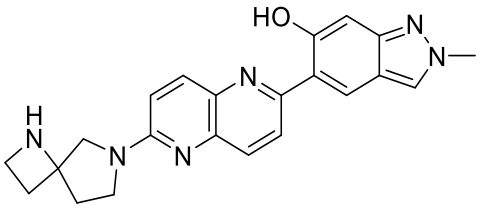
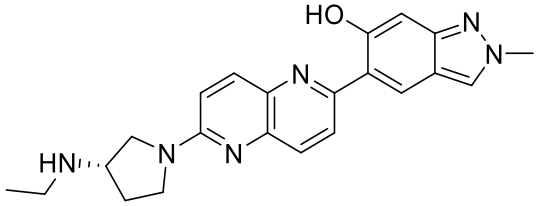
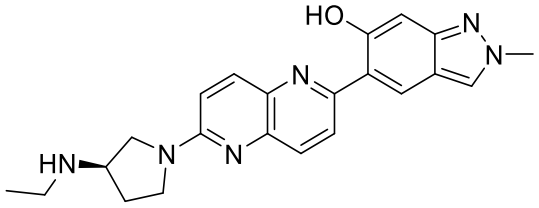
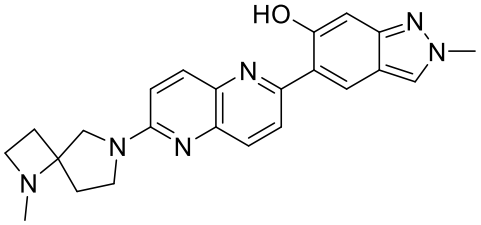
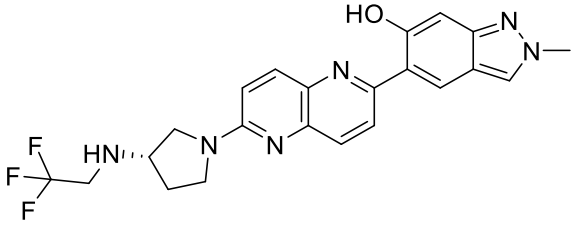
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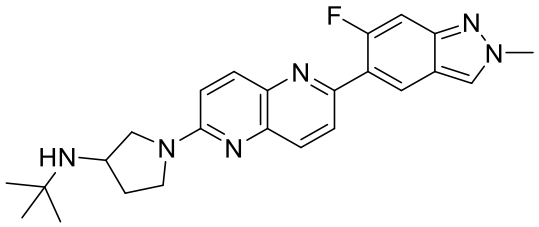
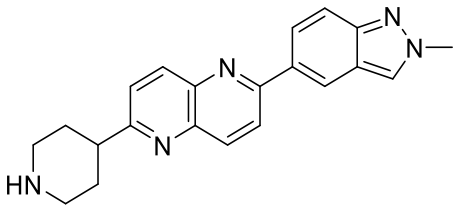
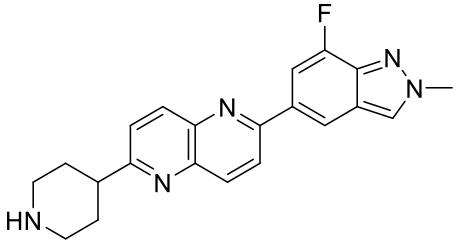
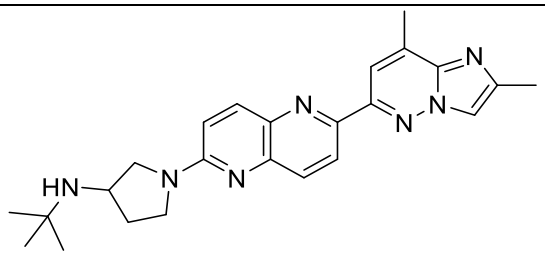
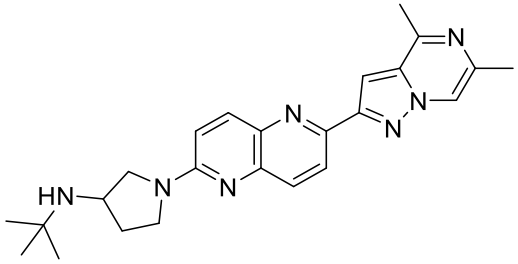
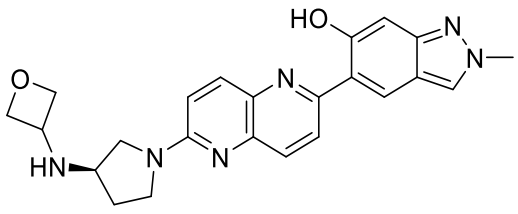
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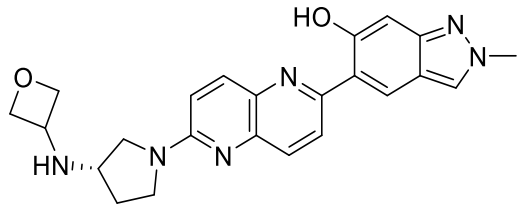
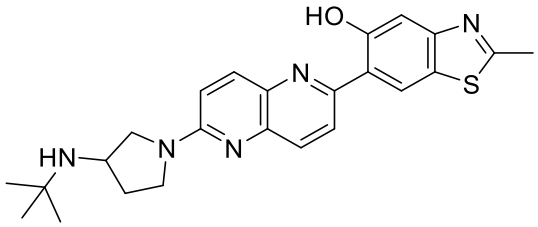
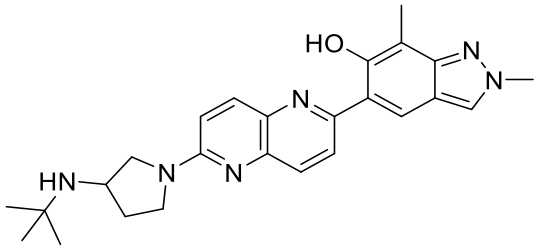
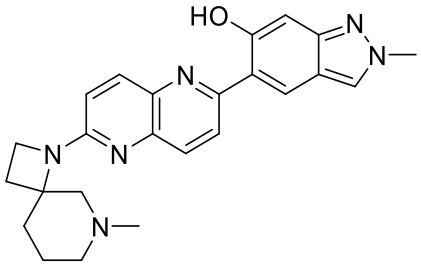
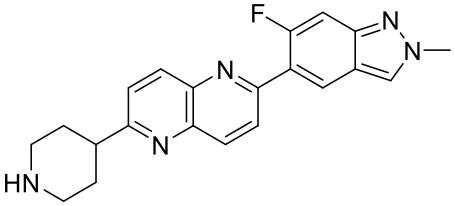
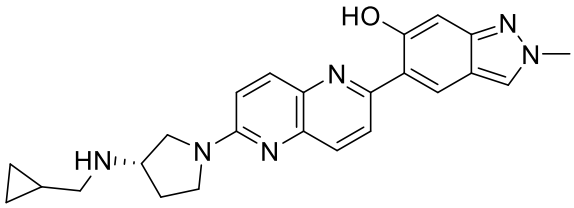
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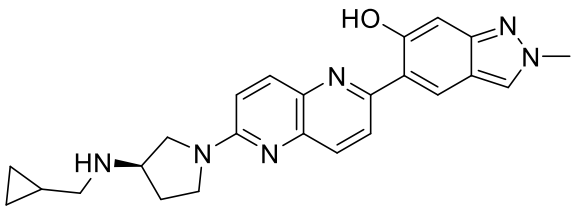
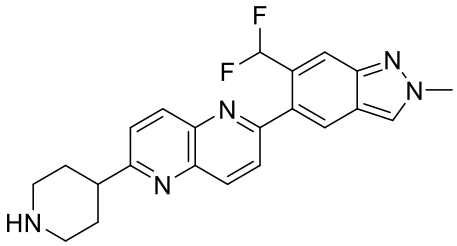
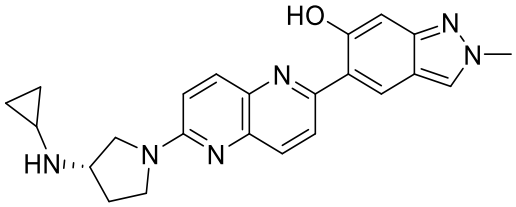
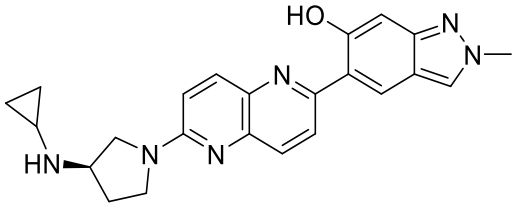
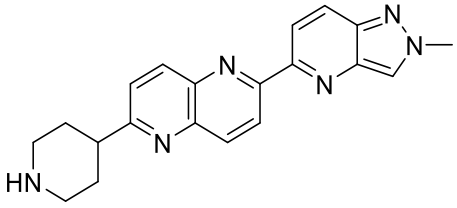
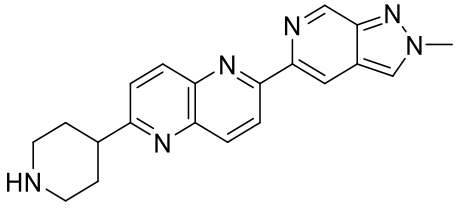
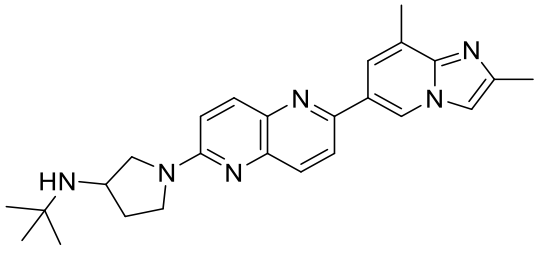
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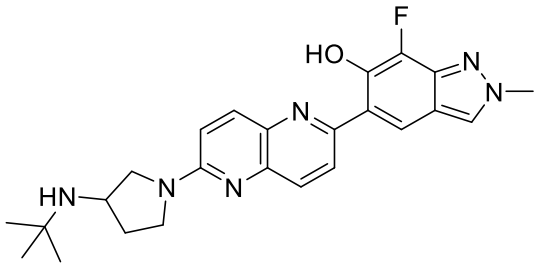
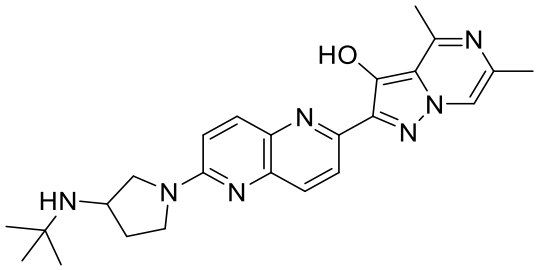
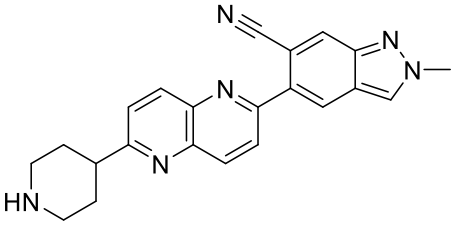
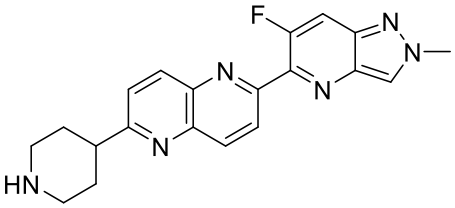
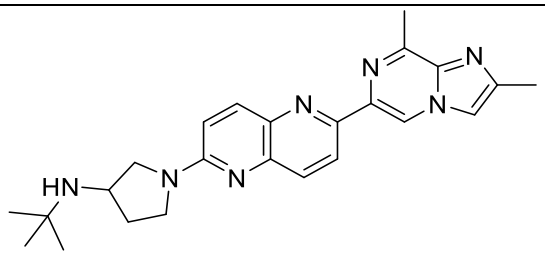
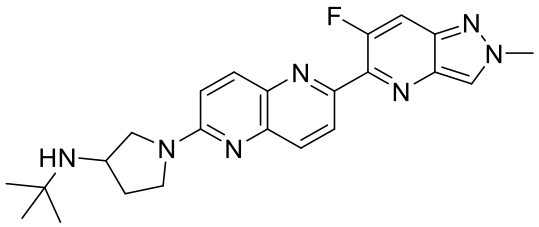
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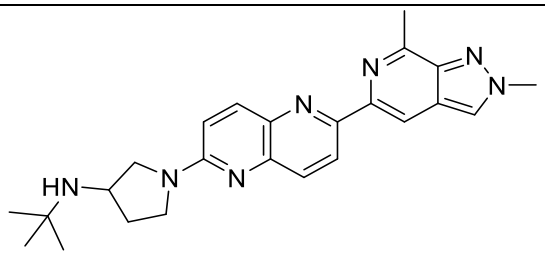
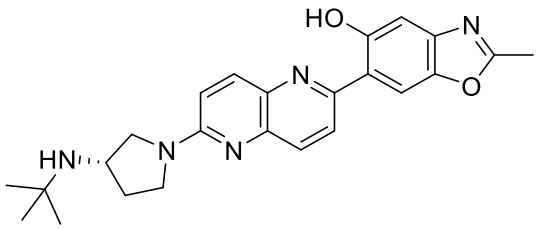
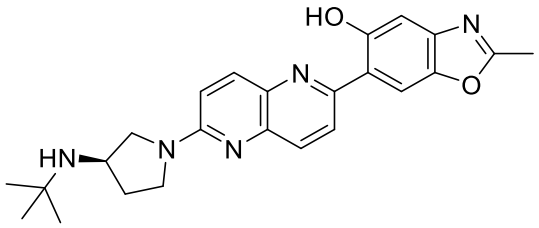
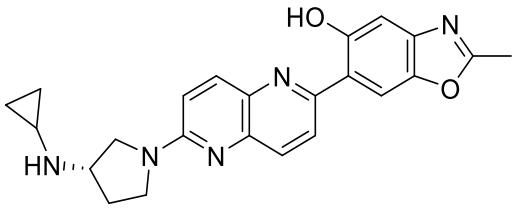
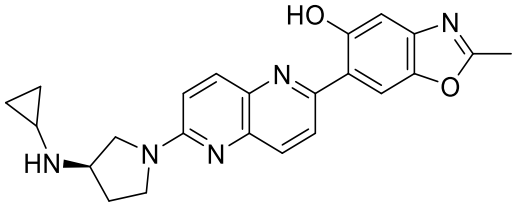
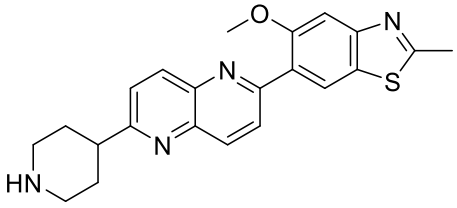
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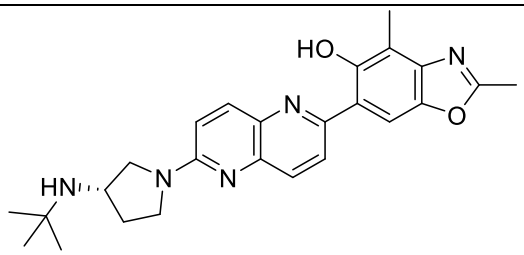
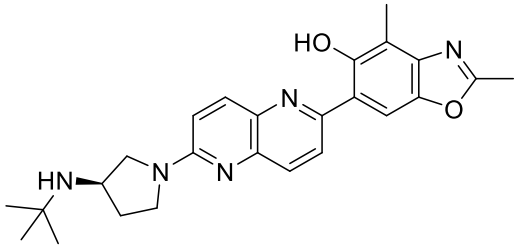
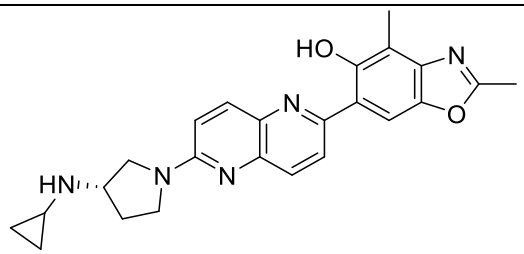
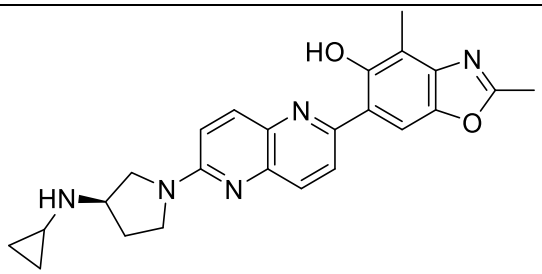
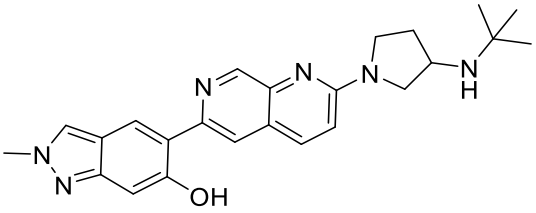
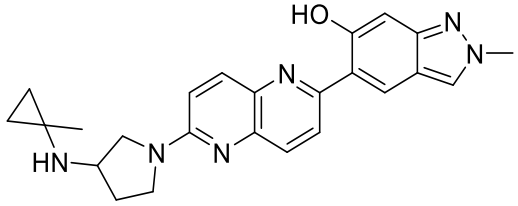
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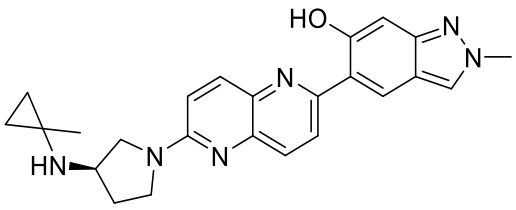
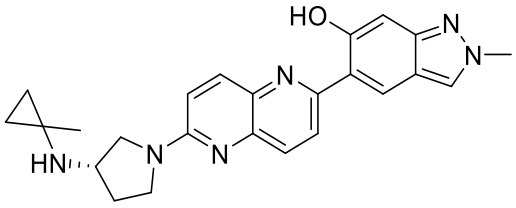
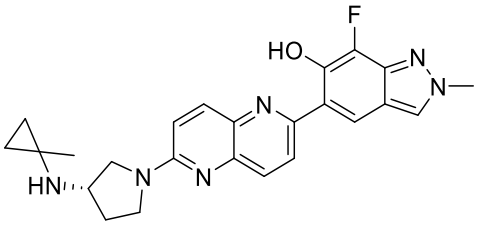
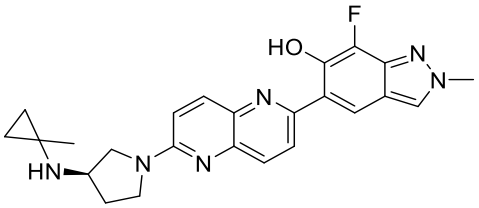
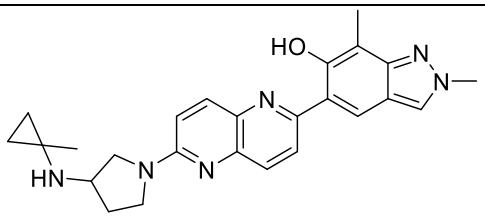
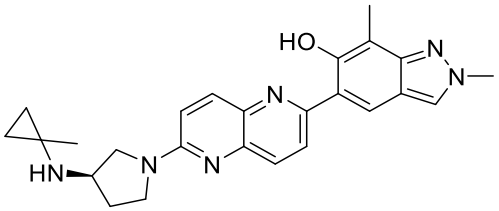
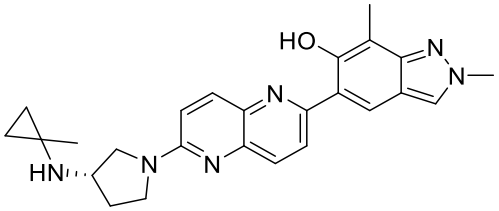
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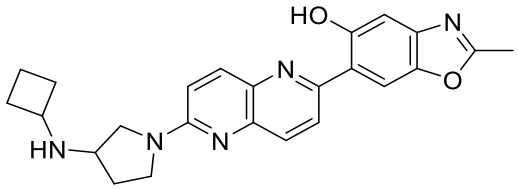
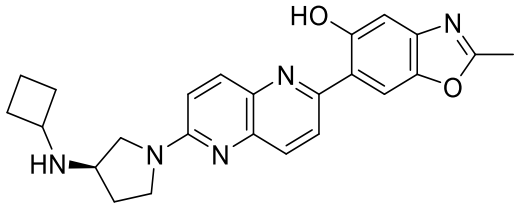
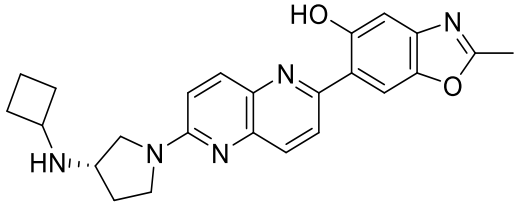
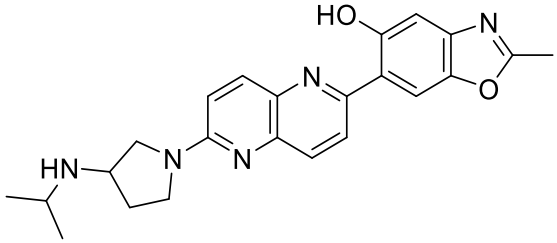
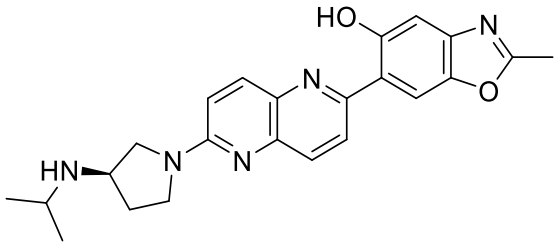
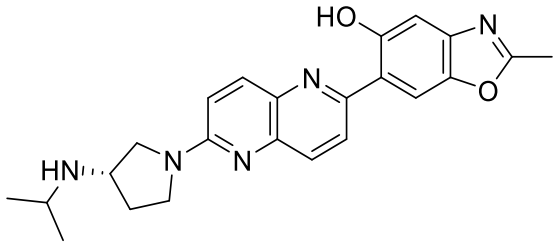
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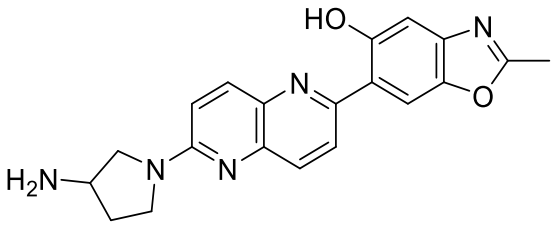
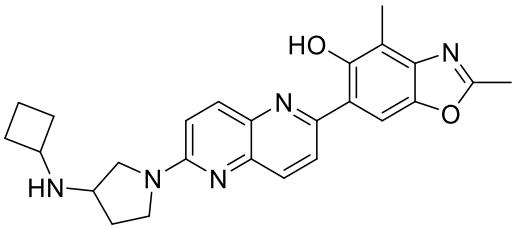
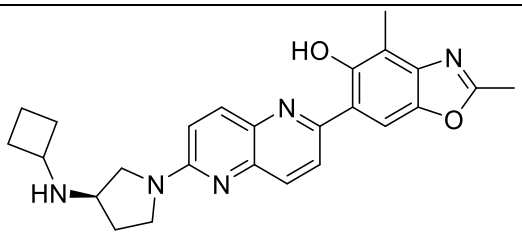
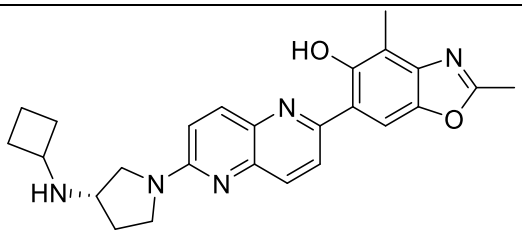
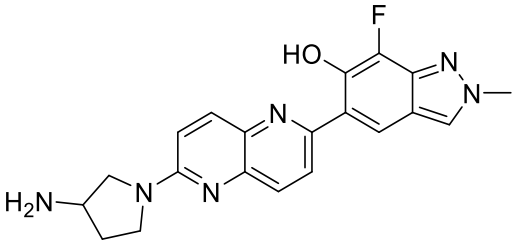
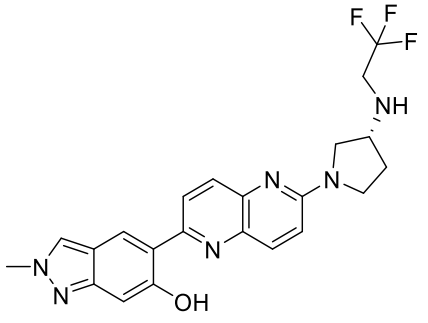
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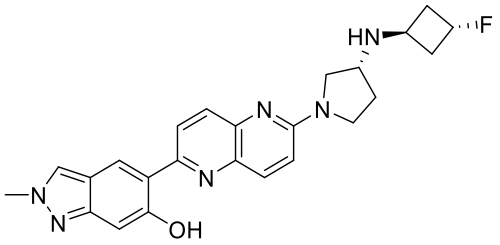
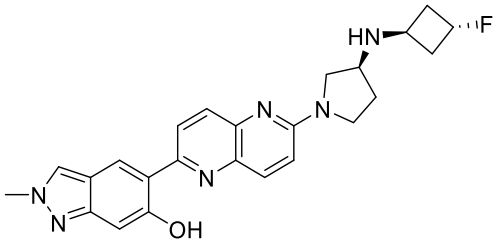
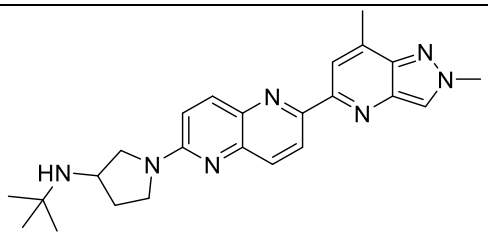
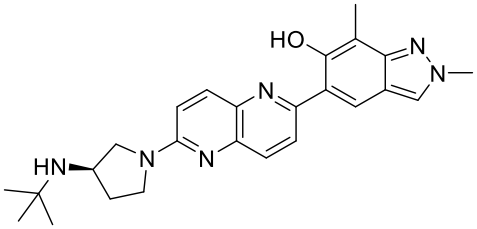
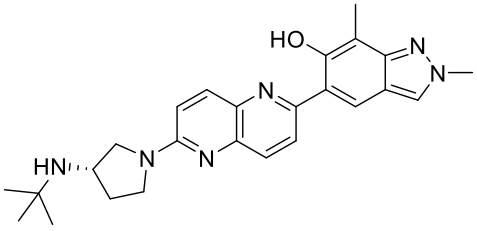
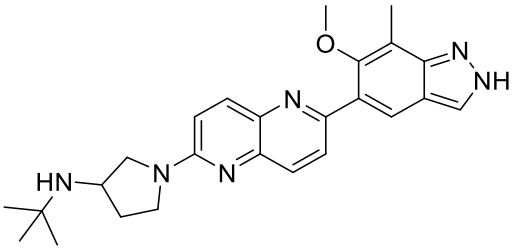
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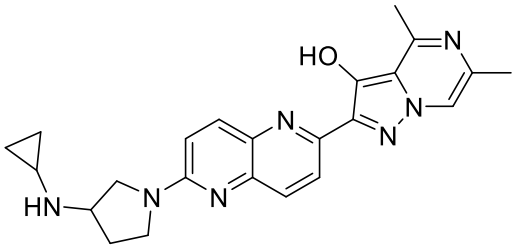
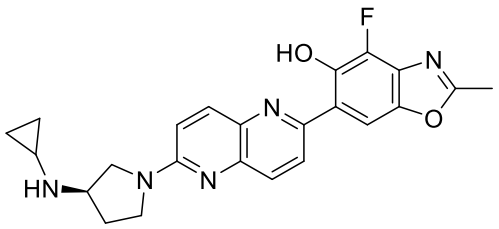
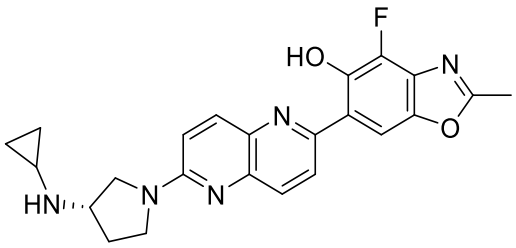
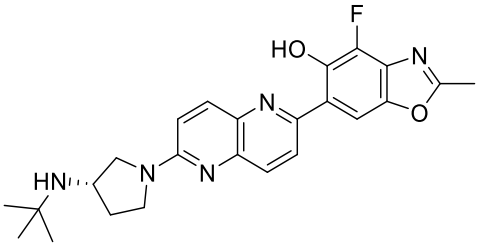
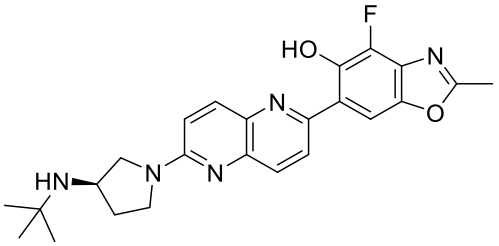
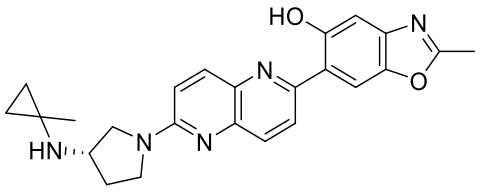
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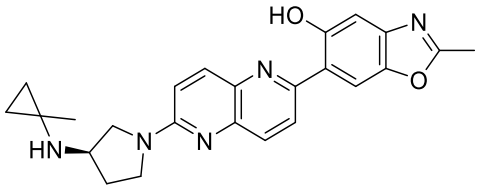
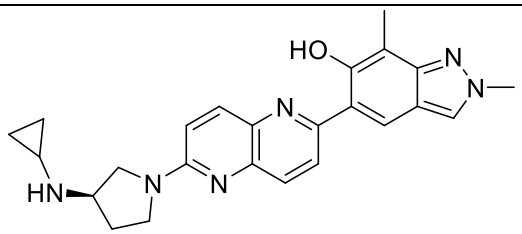
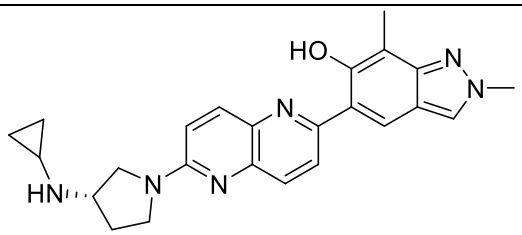
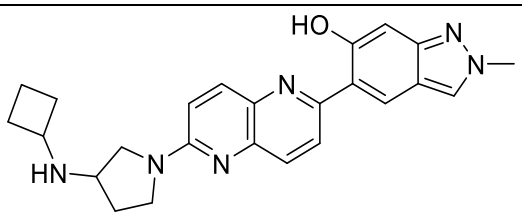
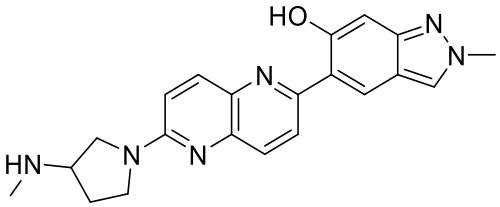
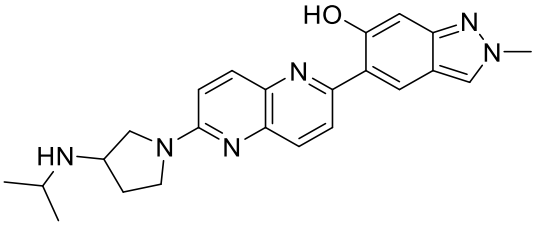
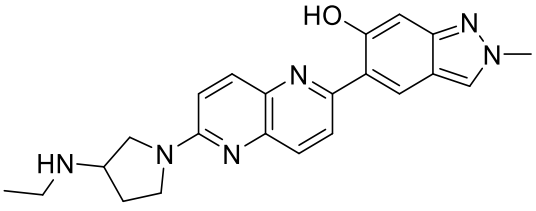
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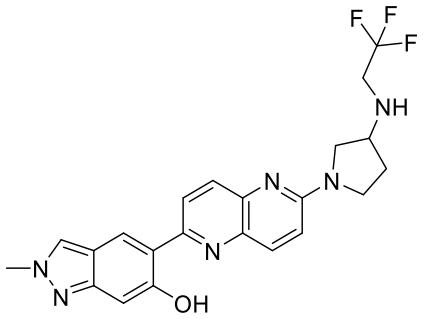
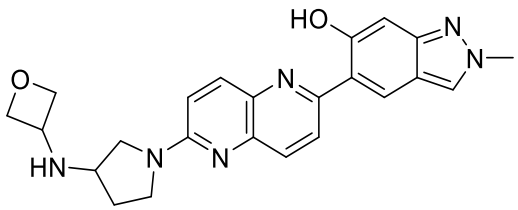
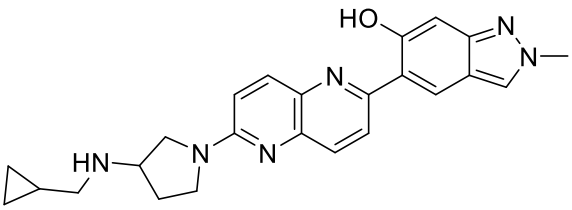
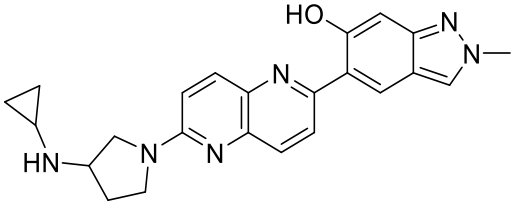
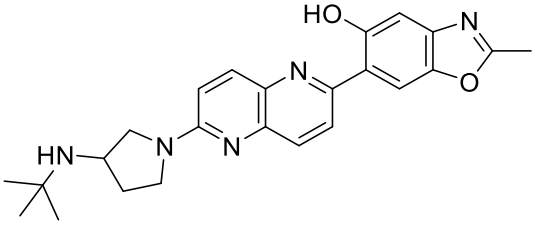
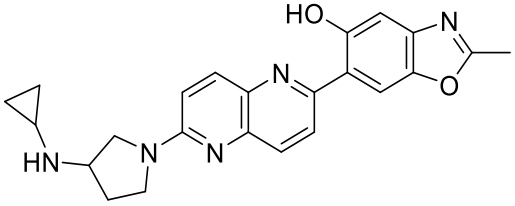
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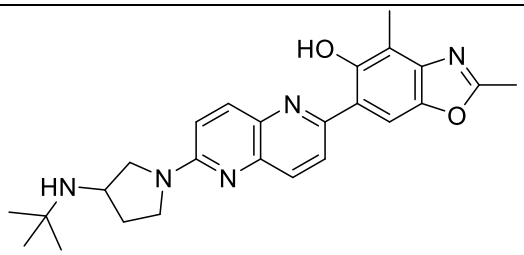
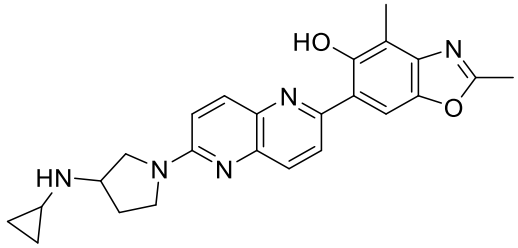
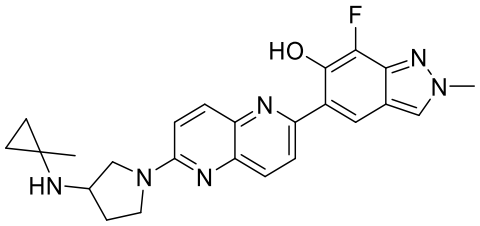
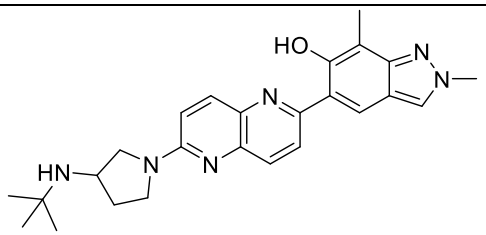
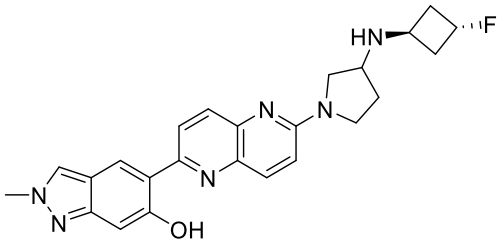
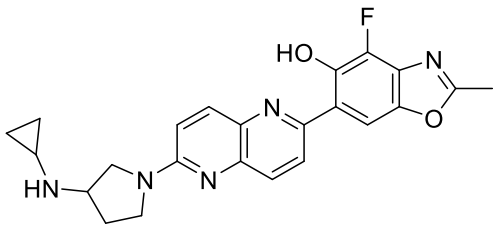
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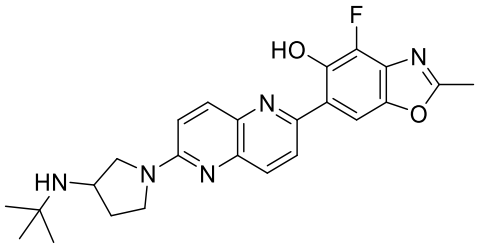
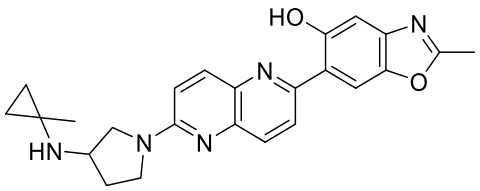
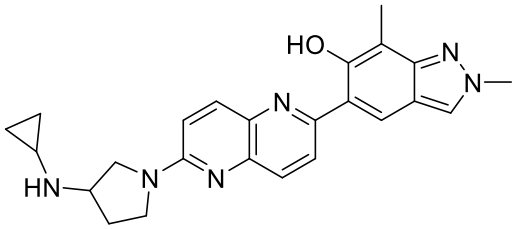
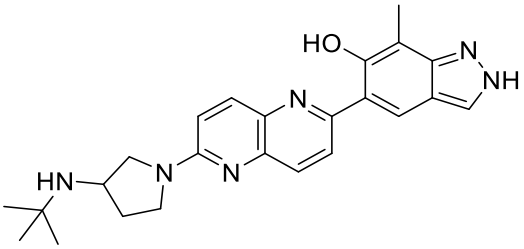
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or a pharmaceutically acceptable salt, solvate, hydrate, tautomer, or stereoisomer thereof.

22. A pharmaceutical composition comprising a compound of any one of claims 1-21 and a pharmaceutically acceptable excipient.

23. The compound of any one of claims 1-21 or the pharmaceutical composition of claim 22, wherein:

(i) the compound alters a target nucleic acid;

(ii) the compound binds to a target nucleic acid; and/or

(iii) the compound stabilizes a target nucleic acid.

24. The compound of any one of claims 1-21 or the pharmaceutical composition of claim 22, wherein:

(i) the compound increases splicing at splice site on a target nucleic acid, by about 0.5%, 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%, 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95%, or more; and/or

(ii) the compound decreases splicing at splice site on a target nucleic acid, by about 0.5%, 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%, 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95%, or more.

25. An *in vitro* method of modulating splicing of a nucleic acid comprising contacting the nucleic acid with a compound of Formula (I-a) as described in any one of claims 1-21 or a pharmaceutical composition of claim 22.

26. The *in vitro* method of claim 25, wherein:

(i) the compound increases splicing at splice site on a target nucleic acid, by about 0.5%, 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%, 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95%, or more; and/or

(ii) the compound decreases splicing at splice site on a target nucleic acid, by about 0.5%, 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%, 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95%, or more.

27. An *in vitro* method of forming a complex comprising a component of a spliceosome, a nucleic acid, and a compound of Formula (I-a):

comprising contacting the nucleic acid with a compound of Formula (I-a), according to any one of claims 1-21 or the pharmaceutical composition of claim 22.

28. The *in vitro* method of claim 27, wherein the component of a spliceosome is recruited to the nucleic acid in the presence of the compound of Formula (I-a).

29. An *in vitro* method of altering the conformation of a nucleic acid comprising contacting the nucleic acid with a compound of Formula (I-a), according to any one of claims 1-21 or the pharmaceutical composition of claim 22.

30. The *in vitro* method of claim 29, wherein:

(i) the altering comprises forming a bulge in the nucleic acid;

(ii) the altering comprises stabilizing a bulge in the nucleic acid; and/or

(iii) the altering comprises reducing a bulge in the nucleic acid.

31. The *in vitro* method of any one of claims 29-30, wherein the nucleic acid comprises a splice site.

32. A composition for use in treating a disease or disorder in a subject comprising a compound of Formula (I-a), according to any one of claims 1-21 or the pharmaceutical composition of claim 22.

33. Use of a compound of Formula (I-a), according to any one of claims 1-21 or the pharmaceutical composition of claim 22 in the manufacture of a medicament for treating a disease or disorder.

34. The use of claim 33, wherein the disease or disorder comprises a proliferative disease.

35. The use of claim 33, wherein the disease or disorder comprises a neurological disease or disorder, autoimmune disease or disorder, immunodeficiency disease or disorder, lysosomal storage disease or disorder, cardiovascular disease or disorder, metabolic disease or disorder, respiratory disease or disorder, renal disease or disorder, or infectious disease.