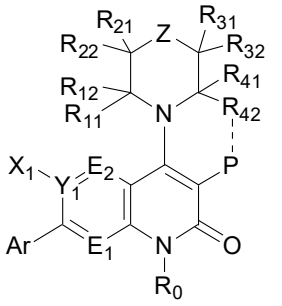
CLAIMS

1. A compound of Formula (I), or a pharmaceutically acceptable salt, a stereoisomer or a solvate thereof,



I

wherein,

Z is N-C(O)-CR_3=CR_1R_2;

R_1 and R_2 are each independently hydrogen, halogen, -C_{1-3} alkyl, or -halogenated C_{1-3} alkyl;

R_3 is hydrogen, halogen or -C_{1-3} alkyl;

R_{11} and R_{12} are either identical or different and are each independently hydrogen, halogen, -C_{1-3} alkyl, -halogenated C_{1-3} alkyl, -C_{1-3} alkyl-hydroxyl, -C_{1-3} alkyl-cyano, or -C_{1-3} alkyl-C_{1-6} alkoxy;

R_{21} and R_{22} are either identical or different and are each independently hydrogen, halogen, -C_{1-3} alkyl, -halogenated C_{1-3} alkyl, -C_{1-3} alkyl-hydroxyl, -C_{1-3} alkyl-cyano, or -C_{1-3} alkyl-C_{1-6} alkoxy;

R_{31} and R_{32} are either identical or different and are each independently hydrogen, halogen, -C_{1-3} alkyl, -halogenated C_{1-3} alkyl, -C_{1-3} alkyl-hydroxyl, -C_{1-3} alkyl-cyano, or -C_{1-3} alkyl-C_{1-6} alkoxy;

R_{41} is hydrogen;

the dashed line in  is a single bond, P is O, NH or NR^m; R^m is -C_{1-6} alkyl, -halogenated C_{1-6} alkyl, -C_{1-6} alkyl-hydroxyl, -C_{1-6} alkyl-cyano, -C_{1-6} alkyl-C_{1-6} alkoxy, -C_{1-6} alkyl-halogenated C_{1-6} alkoxy, -C_{1-6} alkyl-C_{3-6} cycloalkyl, or -C_{1-6} alkyl-3- to 6-membered heterocycloalkyl; R_{42} is -(C=O)-, -C_{1-3} alkyl-, -C_{1-3} alkyl (hydroxy)-, -C_{1-3} alkyl (C_{1-6} alkyl)-, or -C_{1-3} alkyl (halogenated C_{1-6} alkyl)-;

when Y_1 is C, X_1 is hydrogen, halogen, hydroxyl, amino, nitro, C_{1-6} alkyl, C_{3-6} cycloalkyl, -O- C_{1-6} alkyl, -O- C_{3-6} cycloalkyl;

E_1 is N or CR_5, wherein R_5 is hydrogen, halogen, or -C_{1-6} alkyl;

E_2 is CR_6, wherein R_6 is hydrogen, halogen, or -C_{1-6} alkyl;

Ar is C_{6-10} aryl, 5- or 6-membered monocyclic heteroaryl or 8- to 10-membered bicyclic heteroaryl, wherein the 5- or 6-membered monocyclic heteroaryl has 1, 2 or 3 heteroatoms selected from N, and O as ring atoms; the 8- to 10-membered bicyclic heteroaryl has 1, 2, or 3 heteroatoms selected from N, and O, as ring atoms; and the C_{6-10} aryl, the 5- or 6-membered monocyclic heteroaryl or the 8- to 10-membered bicyclic heteroaryl is unsubstituted or substituted by 1, 2, 3, or 4 groups each independently selected from R_{s1};

R_{s1} is halogen, cyano, hydroxyl, -C_{1-6} alkyl, -C_{1-6} alkoxy, -halogenated C_{1-6} alkyl, -halogenated C_{1-6} alkoxy, -C_{3-6} cycloalkyl, -NR^cR^d, -$C(O)NR^eR^f$, -C_{1-4} alkyl-hydroxyl, -C_{1-4} alkyl-cyano, -C_{1-4} alkyl-NR^eR^f;

R_0 is 3- to 6-membered heterocycloalkyl, C_{6-10} aryl, 5- or 6-membered monocyclic heteroaryl, 8- to 10-membered bicyclic heteroaryl, -C_{1-3} alkyl-C_{6-10} aryl, -C_{1-3} alkyl-5- or 6-membered monocyclic heteroaryl wherein the 3- to 6-membered heterocycloalkyl, the 5- or 6-membered monocyclic heteroaryl or the 8- to 10-membered bicyclic heteroaryl has 1, 2 or 3 heteroatoms selected from N, O, and S as ring atoms; the C_{6-10} aryl, the 5- or 6-membered monocyclic heteroaryl, and the 8- to 10-membered bicyclic heteroaryl are unsubstituted or each substituted by 1, 2, 3, or 4 groups each independently selected from R_{s3};

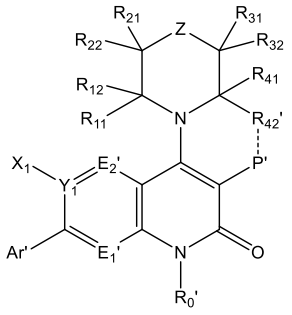
R_{s3} is halogen, cyano, hydroxyl, -C_{1-6} alkyl, -C_{1-6} alkoxy, -halogenated C_{1-6} alkyl, -halogenated C_{1-6} alkoxy, -C_{3-6} cycloalkyl, 3- to 6-membered heterocycloalkyl, -NR^hR^i, -$C(O)NR^eR^f$, -C_{1-3} alkyl-hydroxyl, or-C_{1-3} alkyl-cyano, wherein the 3- to 6-membered heterocycloalkyl has 1, 2 or 3 heteroatoms selected from N, O, and S as ring atoms; and the C_{1-6} alkyl, the -C_{1-6} alkoxy, the -C_{1-3} alkyl-, the -C_{3-6} cycloalkyl and the 3- to 6-membered heterocycloalkyl are each optionally substituted by 1, 2 or 3 substituents each independently selected from halogen, methyl, ethyl, propyl, isopropyl, trifluoromethyl, amino, $N(CH_3)_2$, and hydroxyl;

R^e,and R^f, are each independently hydrogen or C_{1-3} alkyl; and

R^c, R^d, R^h, and R^i are each independently hydrogen, -C_{1-3} alkyl, -$C(O)C_{1-3}$ alkyl, or -CO_2C_{1-3} alkyl.

2. A compound of Formula (IA), or a tautomer, a cis-trans isomer, a mesomer, a

racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof:



IA

wherein:

Z is N-C(O)-CR_3=CR_1R_2;

R_1 and R_2 are each independently hydrogen, halogen, -C_{1-3} alkyl, or halogenated C_{1-3} alkyl;

R_3 is hydrogen, halogen, or -C_{1-3} alkyl;

R_{11} and R_{12} are either identical or different and are each independently hydrogen, halogen, -C_{1-3} alkyl, -halogenated C_{1-3} alkyl, -C_{1-3} alkyl-hydroxyl, -C_{1-3} alkyl-cyano, or -C_{1-3} alkyl-C_{1-6} alkoxy;

R_{21} and R_{22} are either identical or different and are each independently hydrogen, halogen, -C_{1-3} alkyl, -halogenated C_{1-3} alkyl, -C_{1-3} alkyl-hydroxyl, -C_{1-3} alkyl-cyano, or -C_{1-3} alkyl-C_{1-6} alkoxy;

R_{31} and R_{32} are either identical or different and are each independently hydrogen, halogen, -C_{1-3} alkyl, -halogenated C_{1-3} alkyl, -C_{1-3} alkyl-hydroxyl, -C_{1-3} alkyl-cyano, or -C_{1-3} alkyl-C_{1-6} alkoxy;

R_{41} is hydrogen;

the dashed line in  is a single bond, P' is O, NH, or $NR^{m'}$; $R^{m'}$ is -C_{1-6} deuteroalkyl, -C_{1-6} alkyl, -halogenated C_{1-6} alkyl, -C_{1-6} alkyl-hydroxyl, -C_{1-6} alkyl-cyano, -C_{1-6} alkyl-C_{1-6} alkoxy, -C_{1-6} alkyl-halogenated C_{1-6} alkoxy, -C_{1-6} alkyl-C_{3-6} cycloalkyl, or -C_{1-6} alkyl-3- to 6-membered heterocycloalkyl; R_{42}' is -C_{1-3} alkyl-(C=O)-, -(C=O)-, -C_{1-3} alkyl-, -C_{1-3} alkyl (hydroxy)-, -C_{1-3} alkyl (C_{1-6} alkyl)-, or -C_{1-3} alkyl (halogenated C_{1-6} alkyl)-;

Y_1 is C, X_1 is hydrogen, halogen, hydroxyl, amino, nitro, C_{1-6} alkyl, C_{3-6} cycloalkyl, -O- C_{1-6} alkyl, -O- C_{3-6}cycloalkyl;

E_1' is N or CR_5', wherein R_5' is hydrogen, halogen, or -C_{1-6} alkyl;

E_2' is CR_6', wherein R_6' is hydrogen, halogen, or -C_{1-6} alkyl,

Ar' is C_{6-10} aryl, 5- or 6-membered monocyclic heteroaryl, 8- to 10-membered bicyclic heteroaryl, or pyridonyl, wherein the 5- or 6-membered monocyclic heteroaryl has 1, 2, or 3 heteroatoms selected from N, and O as ring atoms; the 8- to 10-membered bicyclic heteroaryl has 1, 2, and 3 heteroatoms selected from N, and O, as ring atoms; and the C_{6-10} aryl, the 5- or 6-membered monocyclic heteroaryl, the 8- to 10-membered bicyclic heteroaryl, and the pyridonyl are unsubstituted or each substituted by 1, 2, 3, or 4 groups each independently selected from R_{s1};

R_{s1} is halogen, cyano, hydroxyl, -C_{1-6} alkyl, -C_{1-6} alkoxy, -halogenated C_{1-6} alkyl, -halogenated C_{1-6} alkoxy, -C_{3-6} cycloalkyl, -NR^cR^d, -$C(O)NR^eR^f$ -C_{1-4} alkyl-hydroxyl, -C_{1-4} alkyl-cyano, or -C_{1-4} alkyl-NR^eR^f;

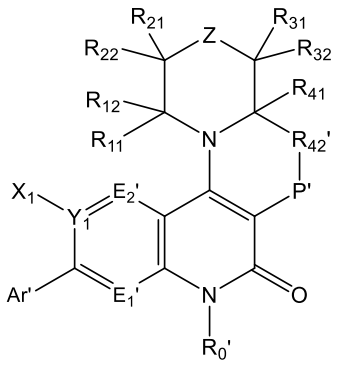
R_0' is 3- to 6-membered heterocycloalkyl, C_{6-10} aryl, 5- or 6-membered monocyclic heteroaryl, 8- to 10-membered bicyclic heteroaryl, -C_{1-3} alkyl-C_{6-10} aryl, -C_{1-3} alkyl-5- or 6-membered monocyclic heteroaryl, or pyridonyl, wherein the 3- to 6-membered heterocycloalkyl, the 5- or 6-membered monocyclic heteroaryl or the 8- to 10-membered bicyclic heteroaryl has 1, 2 or 3 heteroatoms selected from N, O, and S as ring atoms; the 3- to 6-membered heterocycloalkyl,the C_{6-10} aryl, the 5- or 6-membered monocyclic heteroaryl, the 8- to 10-membered bicyclic heteroaryl, and the pyridonyl are unsubstituted or each substituted by 1, 2, 3, or 4 groups each independently selected from R_{s3};

R_{s3} is halogen, cyano, hydroxyl, -C_{1-6} alkyl, -C_{1-6} alkoxy, -halogenated C_{1-6} alkyl, -halogenated C_{1-6} alkoxy, -C_{3-6} cycloalkyl, 3- to 6-membered heterocycloalkyl, -NR^hR^i, -$C(O)NR^eR^f$, -C_{1-3} alkyl-hydroxyl, or -C_{1-3} alkyl-cyano, wherein the 3- to 6-membered heterocycloalkyl has 1, 2 or 3 heteroatoms selected from N, O, and S as ring atoms; and the C_{1-6} alkyl, the -C_{1-6} alkoxy, the -C_{1-3} alkyl-, the -C_{3-6} cycloalkyl and the 3- to 6-membered heterocycloalkyl are each optionally substituted by 1, 2, or 3 substituents each independently selected from halogen, methyl, ethyl, propyl, isopropyl, trifluoromethyl, amino, $N(CH_3)_2$, and hydroxyl;

R^e, and R^f are each independently hydrogen or C_{1-3} alkyl; and

R^c, R^d, R^h, and R^i are each independently hydrogen, -C_{1-3} alkyl, -$C(O)C_{1-3}$ alkyl, or -CO_2C_{1-3} alkyl.

3. The compound according to claim 2, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, wherein the compound of Formula (IA) is a compound of Formula (IB):

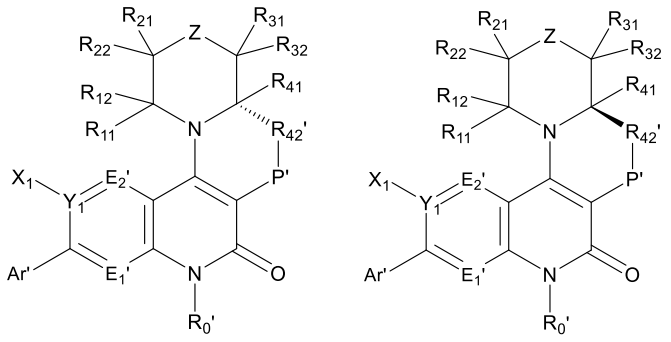


IB

in Formula IB, P' is O, NH or $NR^{m'}$; $R^{m'}$ is-C_{1-6} deuteroalkyl, -C_{1-6} alkyl, -halogenated C_{1-6} alkyl, -C_{1-6} alkyl-hydroxyl, -C_{1-6} alkyl-cyano, -C_{1-6} alkyl-C_{1-6} alkoxy, -C_{1-6}alkyl-halogenated C_{1-6} alkoxy, -C_{1-6} alkyl-C_{3-6} cycloalkyl, or -C_{1-6} alkyl-3- to 6-membered heterocycloalkyl; R_{42}' is -C_{1-3} alkyl-(C=O)-, -(C=O)-, -C_{1-3} alkyl-, -C_{1-3} alkyl (hydroxy)-, -C_{1-3} alkyl (C_{1-6} alkyl)-, or -C_{1-3} alkyl (halogenated C_{1-6} alkyl)-; and R_{11}, R_{12}, R_{21}, R_{22}, R_{31}, R_{32}, R_{41}, Z, R_0', Ar', E_1', E_2', X_1, and Y_1 are as defined in claim 2.

4. The compound according to claim 3, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, wherein the compound of Formula (IB) is a compound of Formula (IB-1) or a

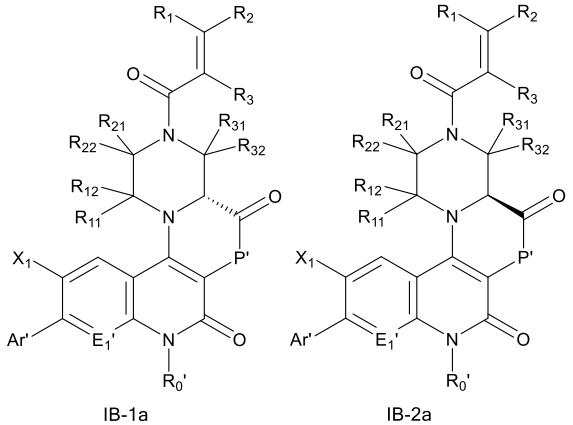
compound of Formula (IB-2):



,

in Formula (IB-1) and Formula (IB-2), R_{21}, R_{22}, R_{11}, R_{12}, R_{31}, R_{32}, R_{41}, R_{42}', Z, P', R_0', Ar', E_1', E_2', X_1, and Y_1 are as defined in claim 3.

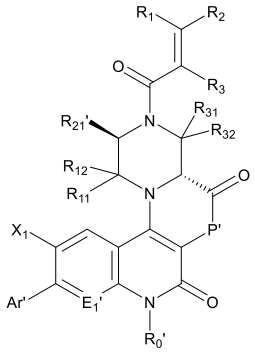
5. The compound according to claim 3, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, wherein the compound of Formula (IB) is a compound of Formula (IB-1a) or a compound of Formula (IB-2a):



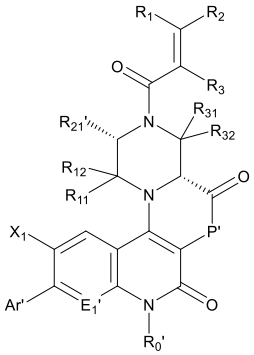
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wherein R_1, R_2, R_3, R_{21}, R_{22}, R_{12}, R_{11}, R_{31}, R_{32}, P', R_0', Ar', E_1', and X_1 are as defined in claim 3.

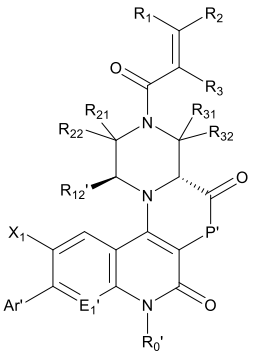
6. The compound according to claim 5, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, wherein the compound of Formula (IB-1a) is a compound of Formula (IB-1aa), a compound of Formula (IB-1ab), a compound of Formula (IB-1ac), or a compound of Formula (IB-1ad):



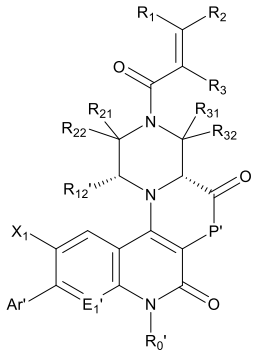
IB-1aa



IB-1ab



IB-1ac



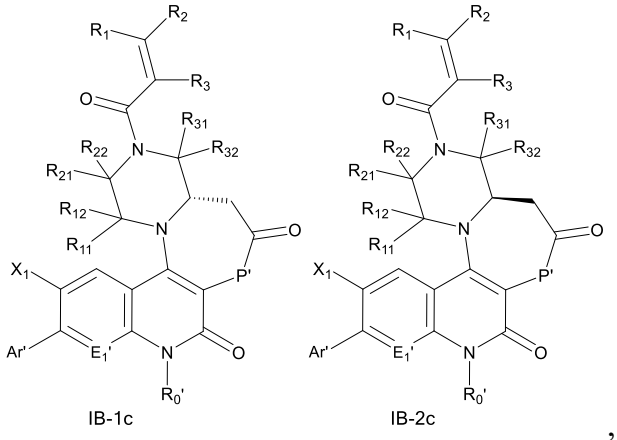
IB-1ad ,

in Formula (IB-1aa) and Formula (IB-1ab), R_{21}' is independently halogen, -C_{1-3} alkyl, -halogenated C_{1-3} alkyl, -C_{1-3} alkyl-hydroxyl, -C_{1-3} alkyl-cyano, or -C_{1-3} alkyl-C_{1-6} alkoxy; and R_1, R_2, R_3, R_{12}, R_{11}, R_{31}, R_{32}, P', R_0', Ar', E_1', and X_1 are as defined in claim 3;

in Formula (IB-1ac) and Formula (IB-1ad), R_{12} ' is independently halogen, -C_{1-3}

alkyl, -halogenated C_{1-3} alkyl, -C_{1-3} alkyl-hydroxyl, -C_{1-3} alkyl-cyano, or -C_{1-3} alkyl-C_{1-6} alkoxy; and R_1, R_2, R_3, R_{21}, R_{22}, R_{31}, R_{32}, P', R_0', Ar', E_1', and X_1 are as defined in claim 3.

7. The compound according to claim 3, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt, a solvate thereof, wherein the compound of Formula (IB) is a compound of Formula (IB-1c) or a compound of Formula (IB-2c):

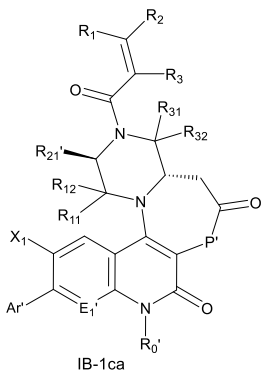


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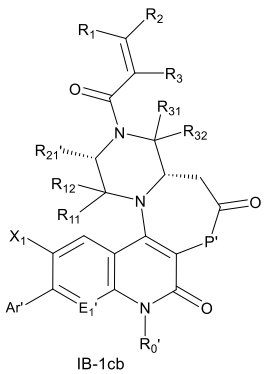
wherein R_1, R_2, R_3, R_{21}, R_{22}, R_{12}, R_{11}, R_{31}, R_{32}, P', R_0', Ar', E_1', and X_1 are as defined in claim 3.

8. The compound according to claim 7, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof,

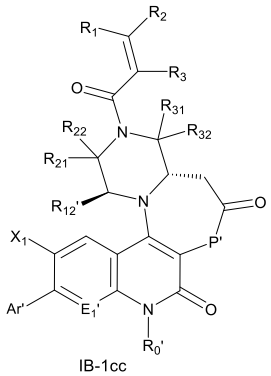
wherein the compound of Formula (IB-1c) is a compound of Formula (IB-1ca), a compound of Formula (IB-1cb), a compound of Formula (IB-1cc), or a compound of Formula (IB-1cd):



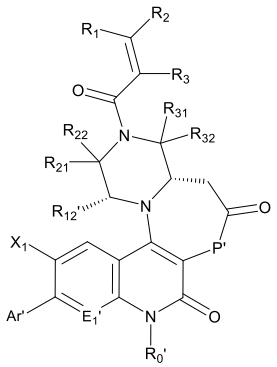
IB-1ca



IB-1cb



IB-1cc



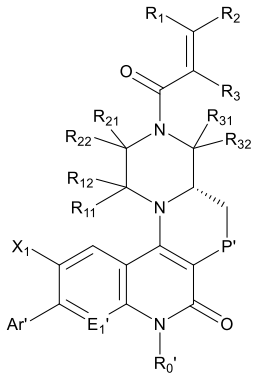
IB-1cd

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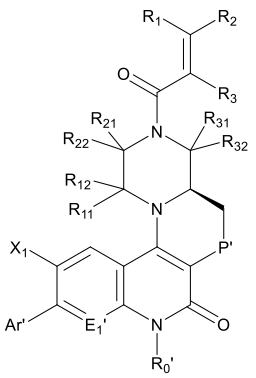
in Formula (IB-1ca) and Formula (IB-1cb), R_{21}' is independently halogen, -C_{1-3}alkyl, -halogenated C_{1-3} alkyl, -C_{1-3} alkyl-hydroxyl, -C_{1-3} alkyl-cyano, or -C_{1-3} alkyl-C_{1-6} alkoxy; and R_1, R_2, R_3, R_{12}, R_{11}, R_{31}, R_{32}, P', R_0', Ar', E_1', and X_1 are as defined in claim 3;

in Formula (IB-1cc) and Formula (IB-1cd), R_{12}' is independently halogen, -C_{1-3} alkyl, -halogenated C_{1-3} alkyl, -C_{1-3} alkyl-hydroxyl, -C_{1-3} alkyl-cyano, or -C_{1-3} alkyl-C_{1-6} alkoxy; and R_1, R_2, R_3, R_{21}, R_{22}, R_{31}, R_{32}, P', R_0', Ar', E_1', and X_1 are as defined in claim 3.

9. The compound according to claim 3, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, wherein the compound of Formula (IB) is a compound of Formula (IB-1b) or a compound of Formula (IB-2b):



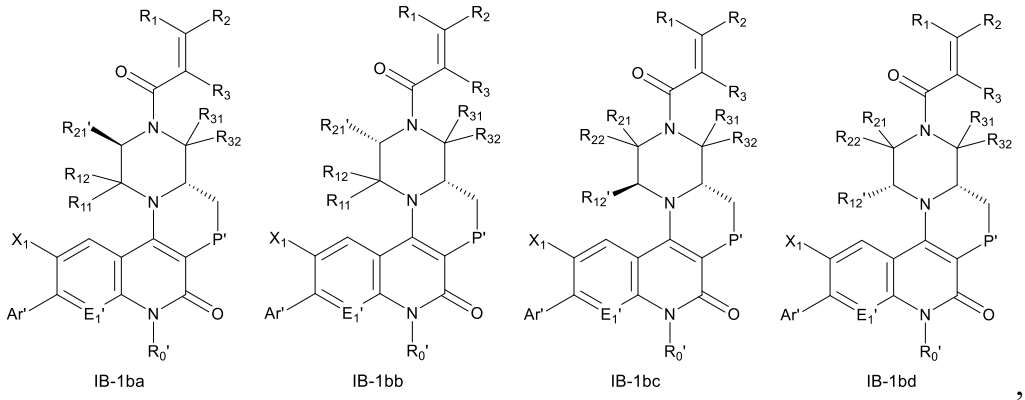
IB-1b



IB-2b ,

wherein R_1, R_2, R_3, R_{21}, R_{22}, R_{12}, R_{11}, R_{31}, R_{32}, P', R_0', Ar', E_1', and X_1 are as defined in claim 3.

10. The compound according to claim 9, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, wherein the compound of Formula (IB-1b) is a compound of Formula (IB-1ba), a compound of Formula (IB-1bb), a compound of Formula (IB-1bc), or a compound of Formula (IB-1bd):

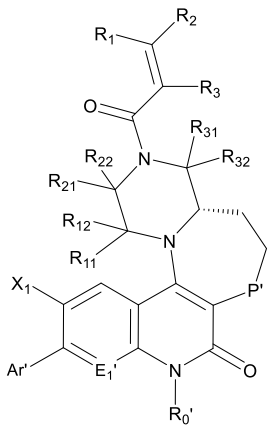


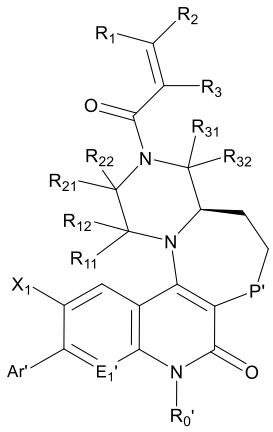
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in Formula (IB-1ba) and Formula (IB-1bb), R_{21}' is independently halogen, -C_{1-3} alkyl, -halogenated C_{1-3} alkyl, -C_{1-3} alkyl-hydroxyl, -C_{1-3} alkyl-cyano, or -C_{1-3} alkyl-C_{1-6} alkoxy; and R_1, R_2, R_3, R_{12}, R_{11}, R_{31}, R_{32}, P', R_0', Ar', E_1', and X_1 are as defined in claim 3;

in Formula (IB-1bc) and Formula (IB-1bd), R_{12}' is independently halogen, -C_{1-3} alkyl, -halogenated C_{1-3} alkyl, -C_{1-3} alkyl-hydroxyl, -C_{1-3} alkyl-cyano, or -C_{1-3} alkyl-C_{1-6} alkoxy; and R_1, R_2, R_3, R_{21}, R_{22}, R_{31}, R_{32}, P', R_0', Ar', E_1', and X_1 are as defined in claim 3.

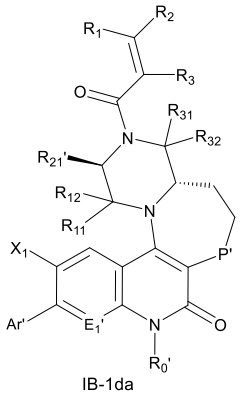
11. The compound according to claim 3, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, wherein the compound of Formula (IB) is a compound of Formula (IB-1d) or a compound of Formula (IB-2d):

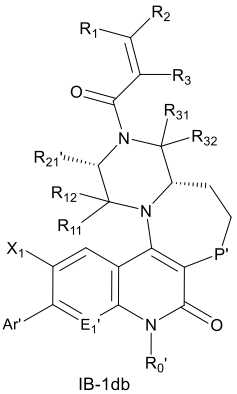

IB-1d

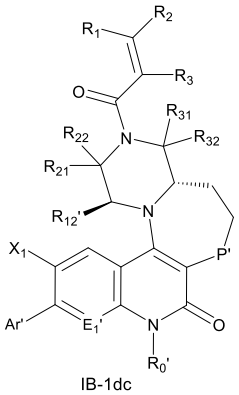

IB-2d ,

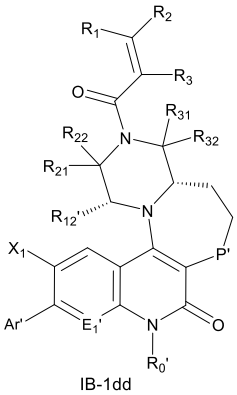
wherein R_1, R_2, R_3, R_{21}, R_{22}, R_{12}, R_{11}, R_{31}, R_{32}, P', R_0', Ar', E_1', and X_1 are as defined in claim 3.

12. The compound according to claim 11, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, wherein the compound of Formula (IB-1d) is a compound of Formula (IB-1da), a compound of Formula (IB-1db), a compound of Formula (IB-1dc), or a compound of Formula (IB-1dd):


IB-1da


IB-1db


IB-1dc


IB-1dd ,

in Formula (IB-1da) and Formula (IB-1db), R_{21}' is independently halogen, -C_{1-3}

alkyl, -halogenated C_{1-3} alkyl, -C_{1-3} alkyl-hydroxyl, -C_{1-3} alkyl-cyano, or -C_{1-3} alkyl-C_{1-6} alkoxy; and R_1, R_2, R_3, R_{12}, R_{11}, R_{31}, R_{32}, P', R_0', Ar', E_1', and X_1 are as defined in claim 3;

in Formula (IB-1dc) and Formula (IB-1dd), R_{12}' is independently halogen, -C_{1-3} alkyl, -halogenated C_{1-3} alkyl, -C_{1-3} alkyl-hydroxyl, -C_{1-3} alkyl-cyano, or -C_{1-3} alkyl-C_{1-6} alkoxy; and R_1, R_2, R_3, R_{21}, R_{22}, R_{31}, R_{32}, P', R_0', Ar', E_1', and X_1 are as defined in claim 3.

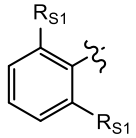
13. The compound according to claim 6, 8, 10, or 12, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt, a solvate thereof, wherein R_{21}' and R_{12}' are each independently -C_{1-3} alkyl, -C_{1-3} alkyl-hydroxyl, -C_{1-3} alkyl-cyano, or -C_{1-3} alkyl-C_{1-6} alkoxy.

14. The compound according to claim 2, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, wherein X_1 is hydrogen, halogen, C_{1-6} alkyl, C_{3-6} cycloalkyl, or -O- C_{1-6} alkyl.

15. The compound according to claim 2, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a

mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, wherein Ar' is phenyl, 5- or 6-membered monocyclic heteroaryl, or pyridonyl; and the phenyl, the 5- or 6-membered monocyclic heteroaryl, and the pyridonyl are unsubstituted or each substituted by 1, 2, 3, or 4 groups each independently selected from halogen, cyano, hydroxyl, -C_{1-6} alkyl, -C_{1-6} alkoxy, -NR^cR^d, -C_{1-4} alkyl-NR^eR^f, wherein R^e and R^f are each independently hydrogen or C_{1-3} alkyl; and R^c and R^d are each independently hydrogen, -C_{1-3} alkyl, -$C(O)C_{1-3}$ alkyl, or -CO_2C_{1-3} alkyl.

16. The compound according to claim 2, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, wherein Ar' has a structure selected from:



, wherein R_{s1} is as defined in claim 2.

17. The compound according to claim 2, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, wherein R_0' is phenyl, 5- or 6-membered monocyclic heteroaryl, or pyridonyl, wherein the 5- or 6-membered monocyclic heteroaryl has 1, 2 or 3 heteroatoms

selected from N, O, and S as ring atoms; and the phenyl, the 5- or 6-membered monocyclic heteroaryl, and the pyridonyl are unsubstituted or each substituted by 1, 2, 3, or 4 groups each independently selected from R_{s3}.

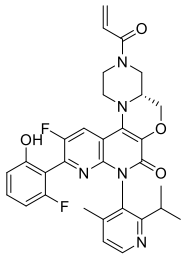
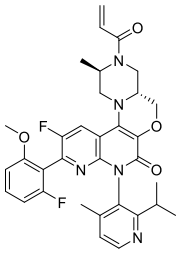
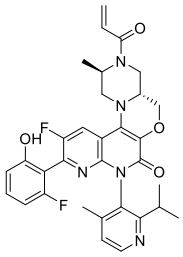
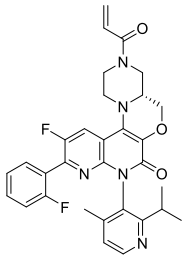
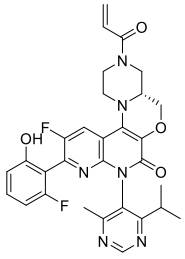
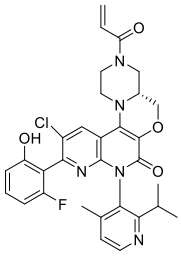
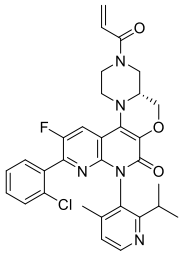
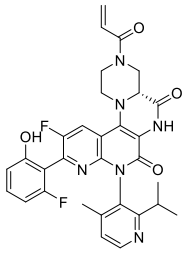
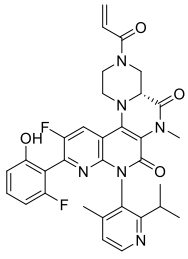
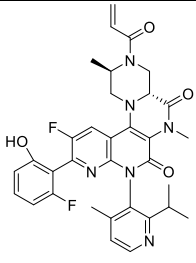
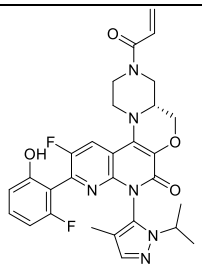
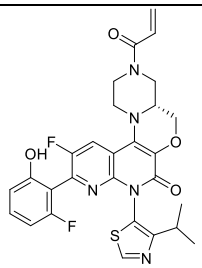
18. The compound according to claim 2, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, wherein R_1 and R_2 are each independently hydrogen, halogen, methyl, ethyl, n-propyl, isopropyl, monochloromethyl, dichloromethyl, trichloromethyl, monochloroethyl, 1,2-dichloroethyl, trichloroethyl, monobromoethyl, monofluoromethyl, difluoromethyl, trifluoromethyl, monofluoroethyl, difluoroethyl, trifluoroethyl.

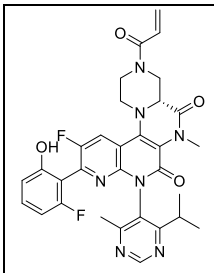
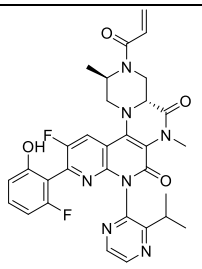
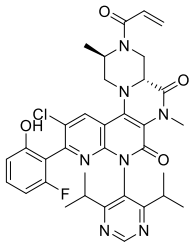
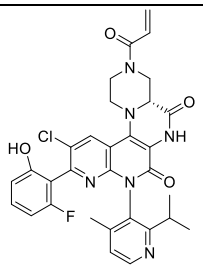
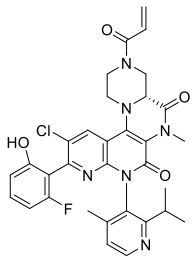
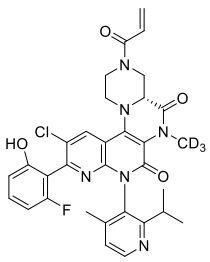
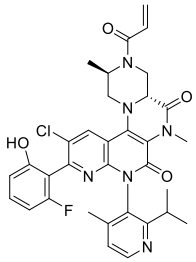
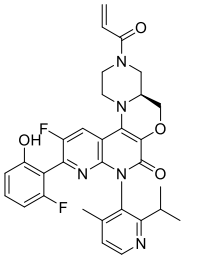
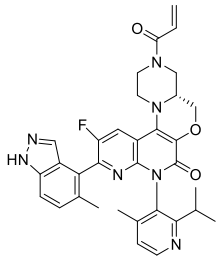
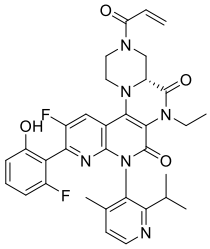
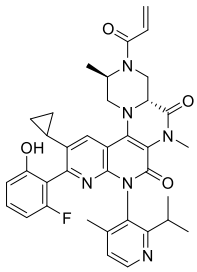
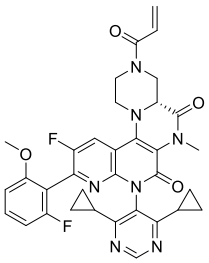
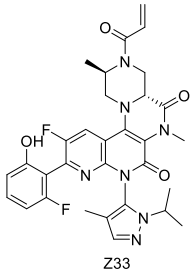
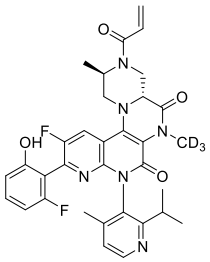
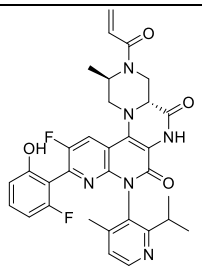
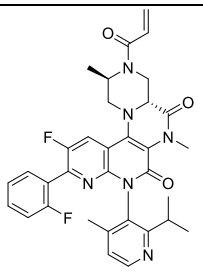
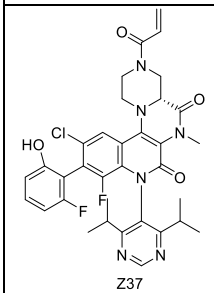
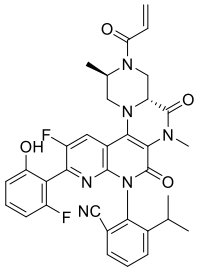
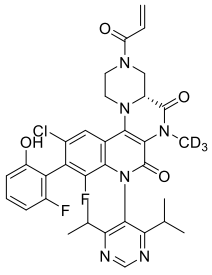
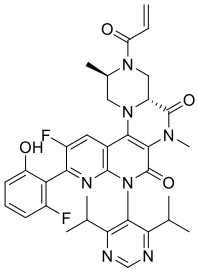
19. The compound according to claim 2, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, wherein R_3 is hydrogen, or halogen.

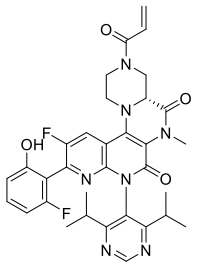
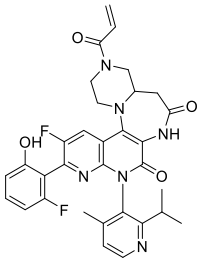
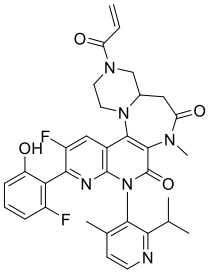
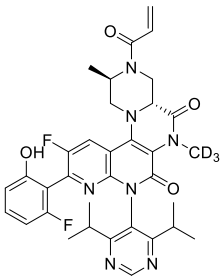
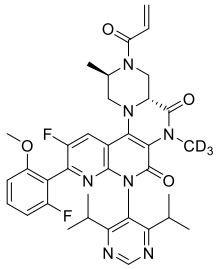
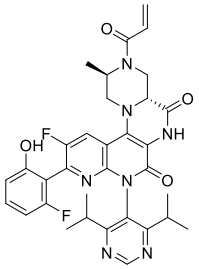
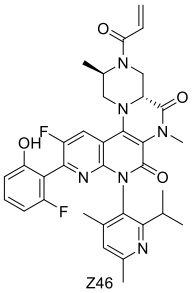
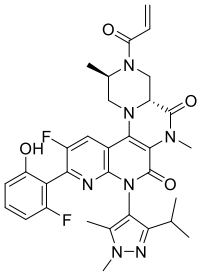
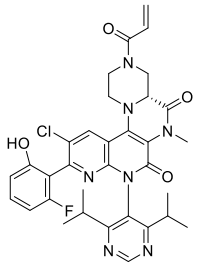
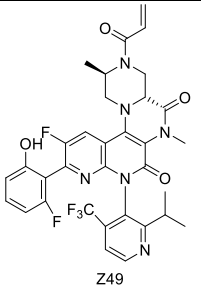
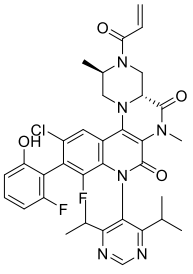
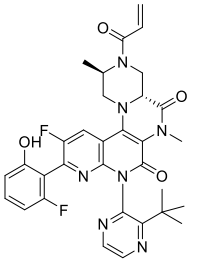
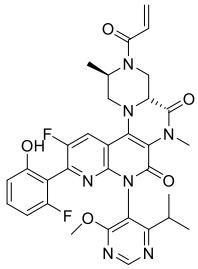
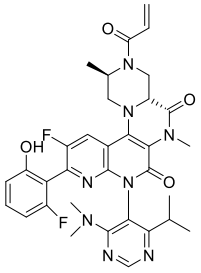
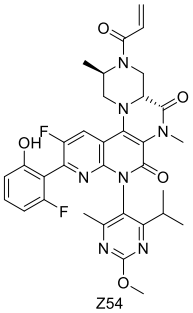
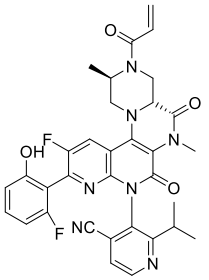
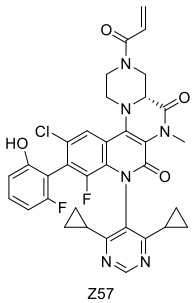
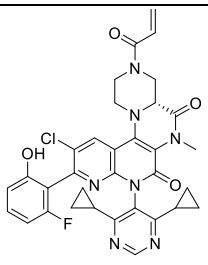
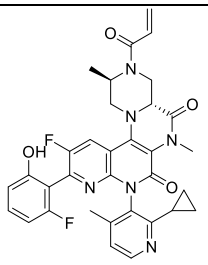
20. The compound according to claim 2 or 4, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, wherein P' is O, NH or $NR^{m'}$; $R^{m'}$ is -C_{1-6} deuteroalkyl or -C_{1-6} alkyl; R_{42}' is

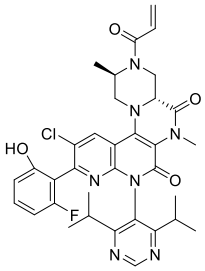
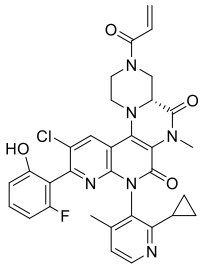
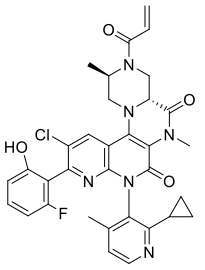
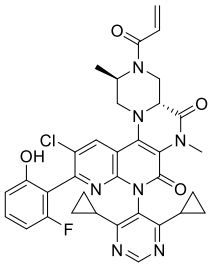
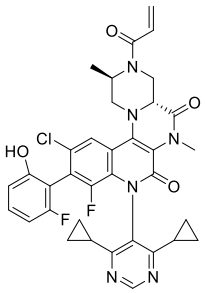
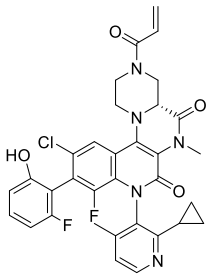
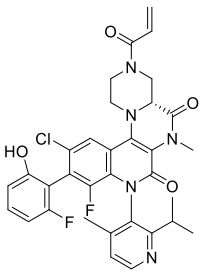
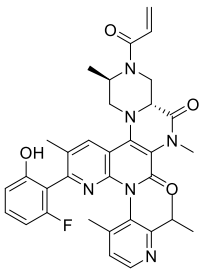
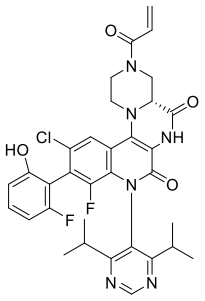
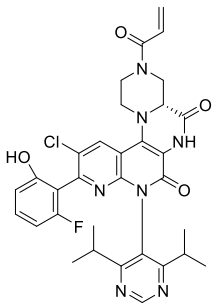
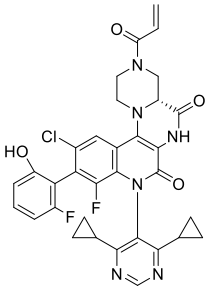
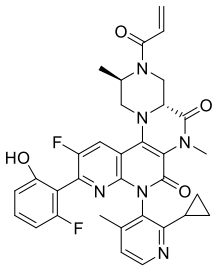
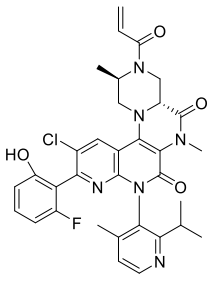
-C_{1-3} alkyl-(C=O)-, -(C=O)-, or -C_{1-3} alkyl-.

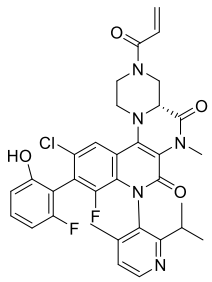
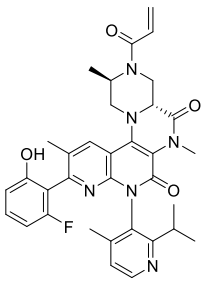
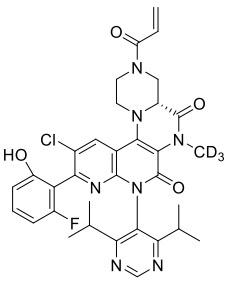
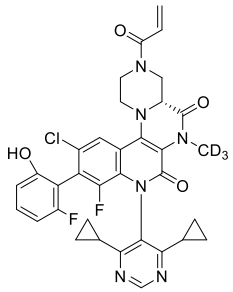
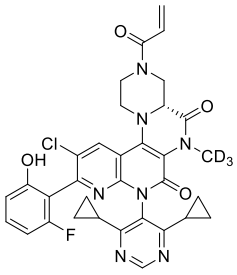
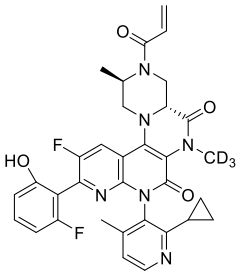
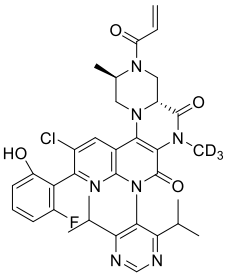
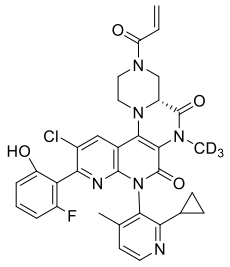
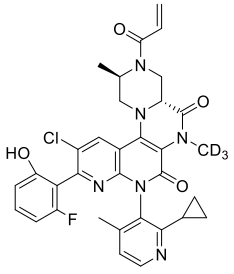
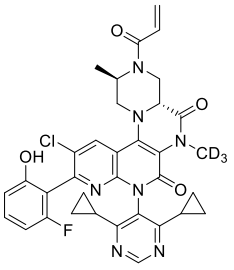
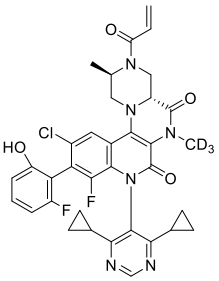
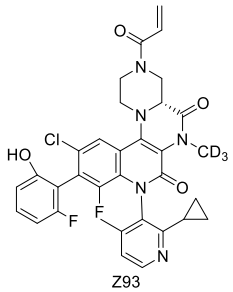
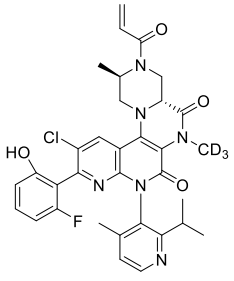
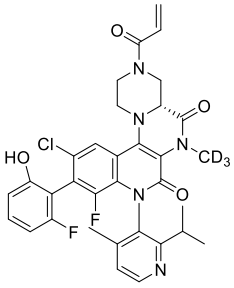
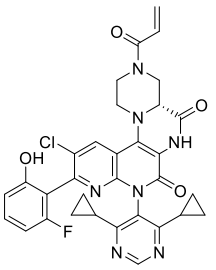
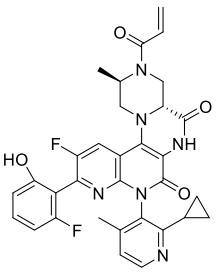
21. A compound, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt, a solvate thereof, wherein the compound is selected from the following:

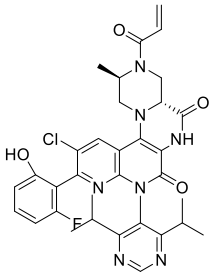
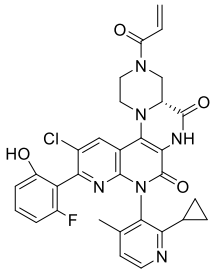
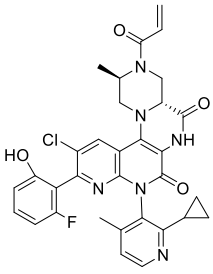
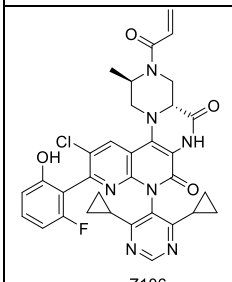
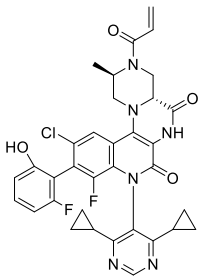
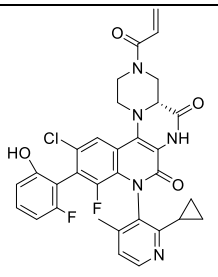
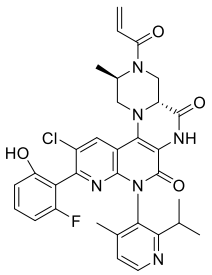
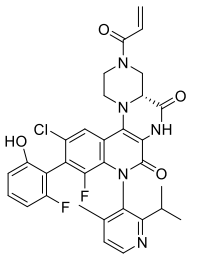
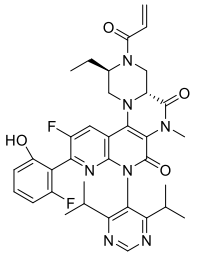
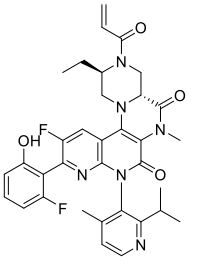
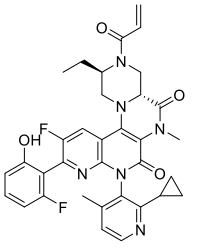
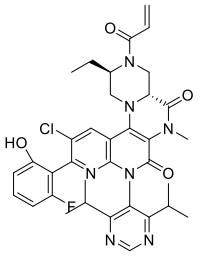
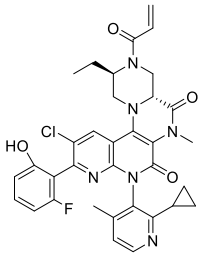
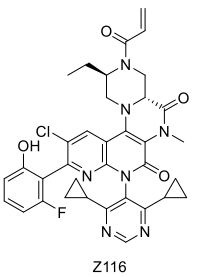
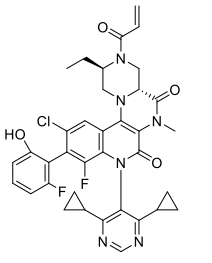
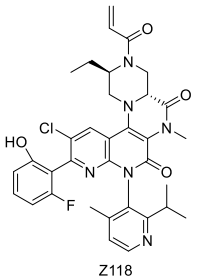
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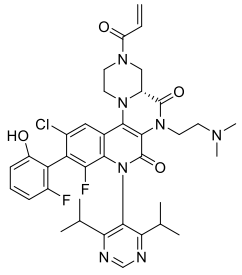
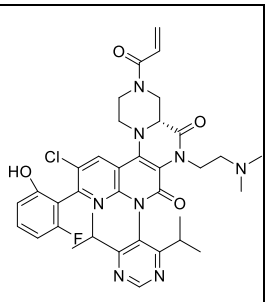
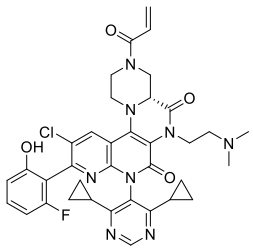
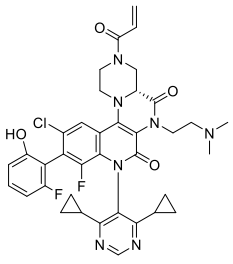
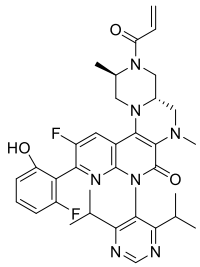
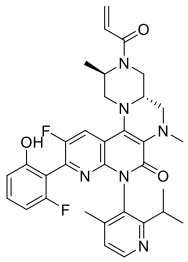
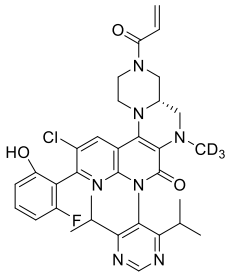
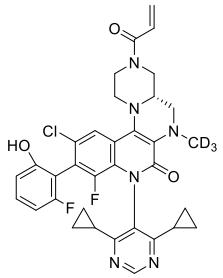
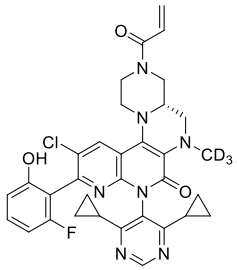
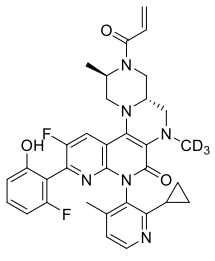
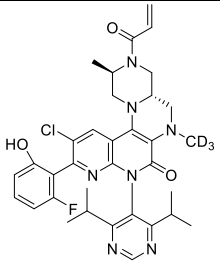
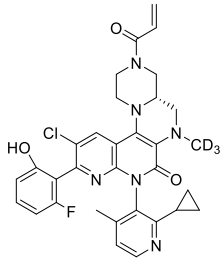
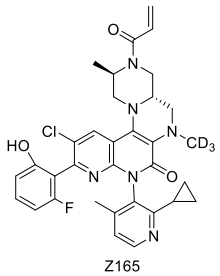
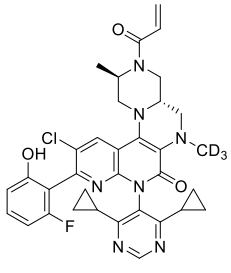
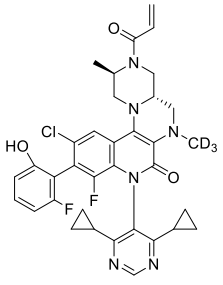
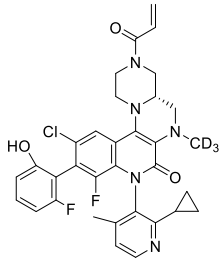
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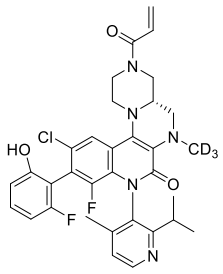
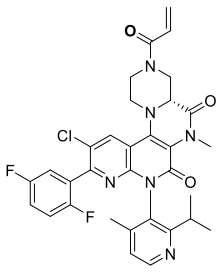
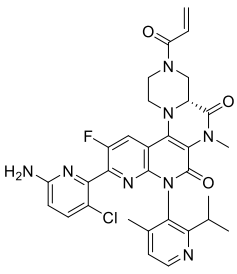
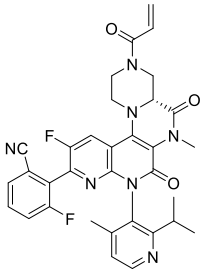
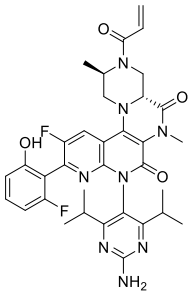
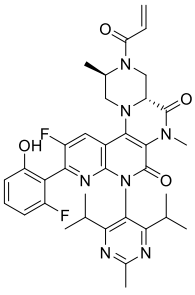
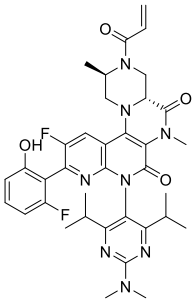
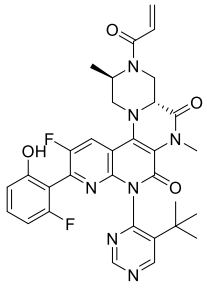
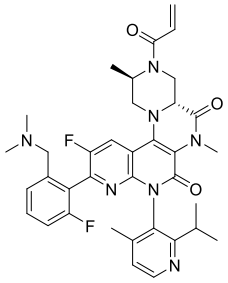
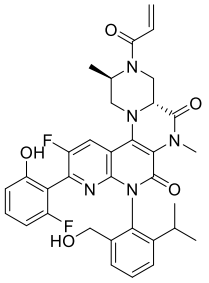
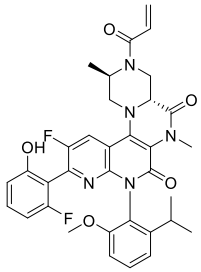
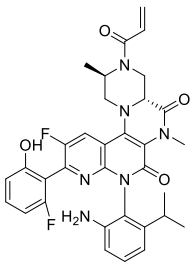
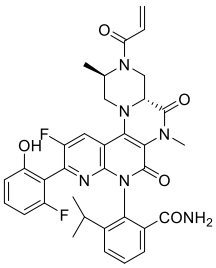
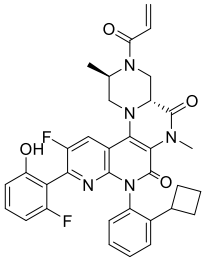
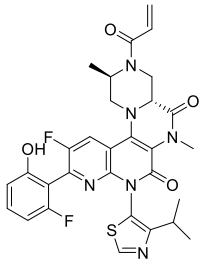
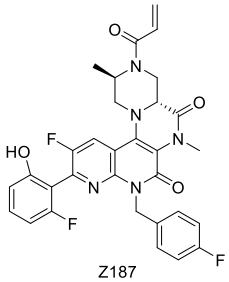
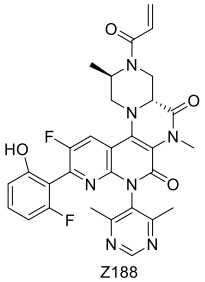
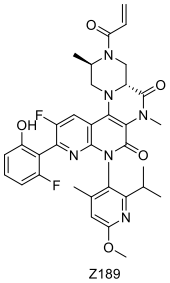
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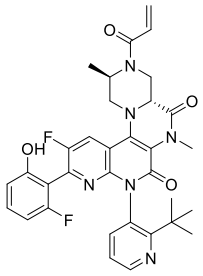
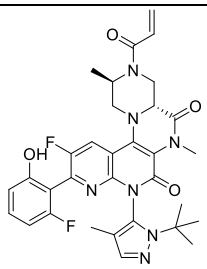
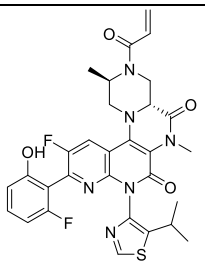
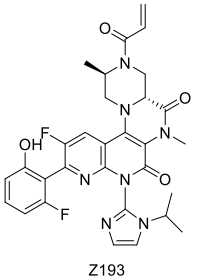
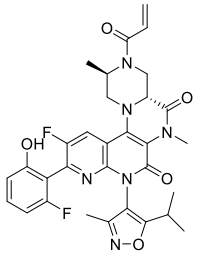
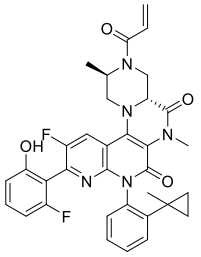
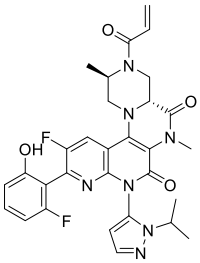
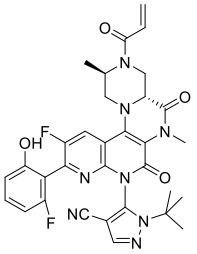
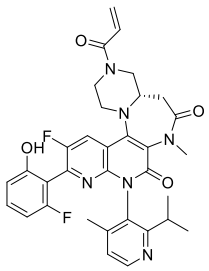
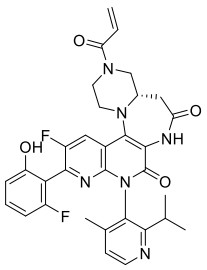
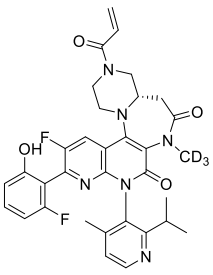
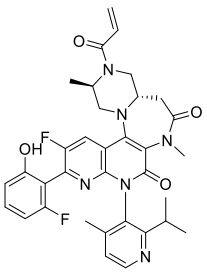
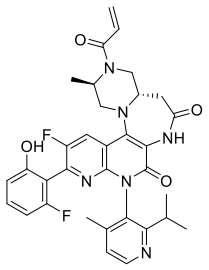
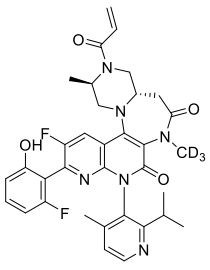
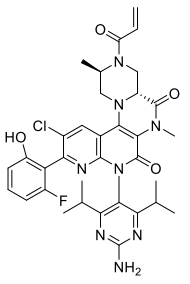
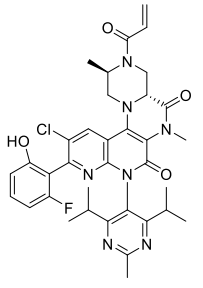
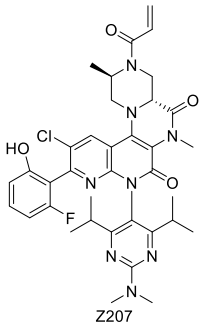
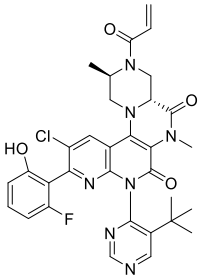
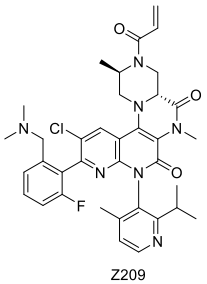
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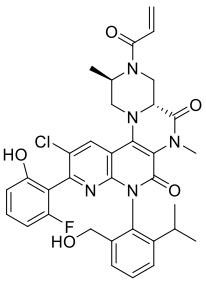
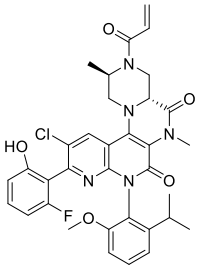
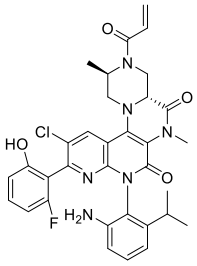
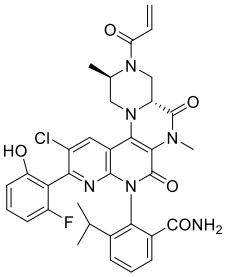
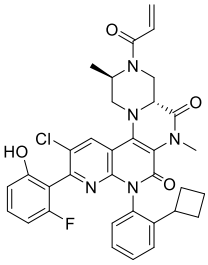
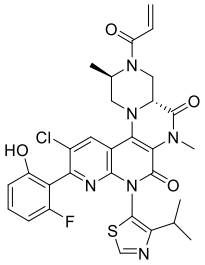
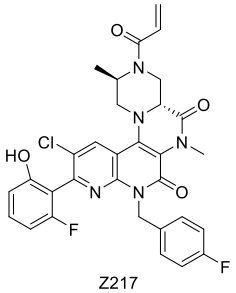
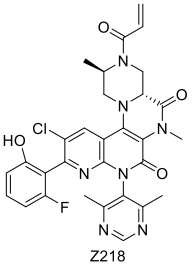
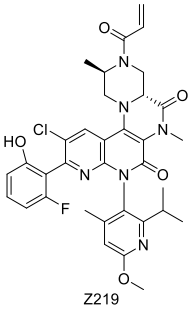
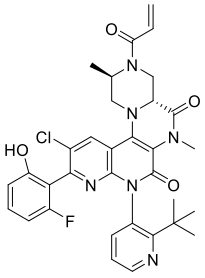
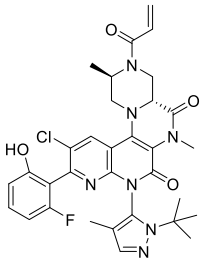
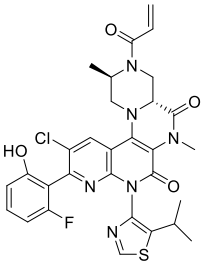
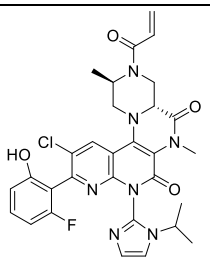
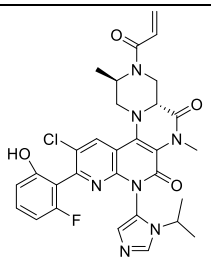
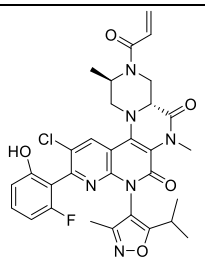
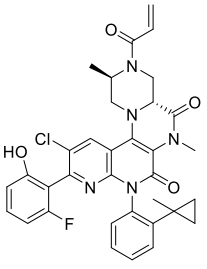
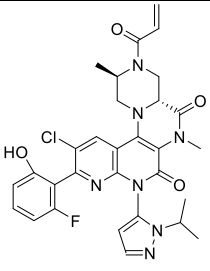
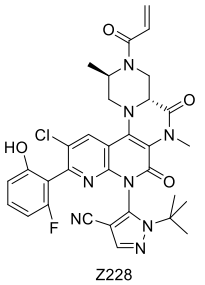
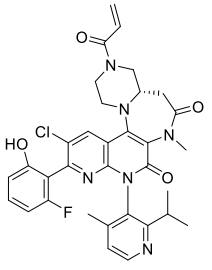
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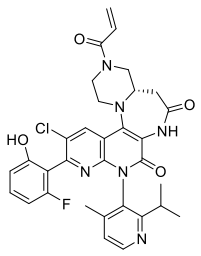
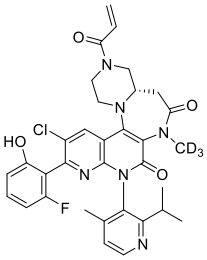
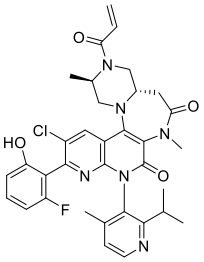
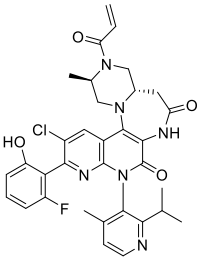
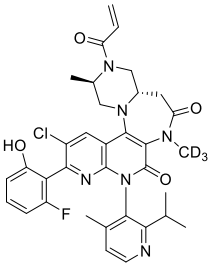
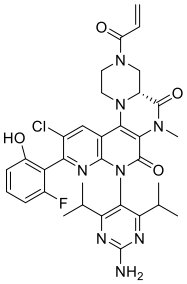
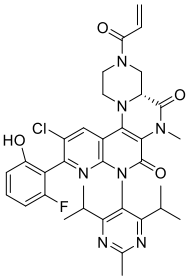
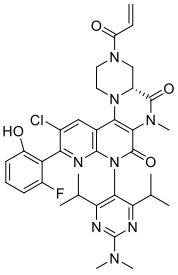
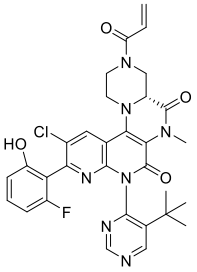
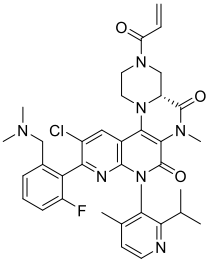
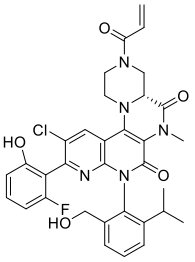
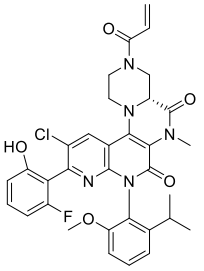
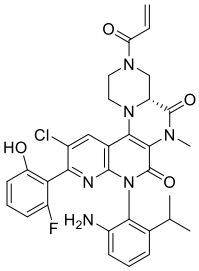
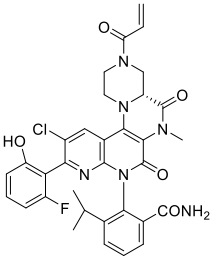
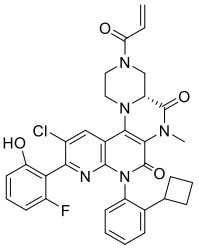
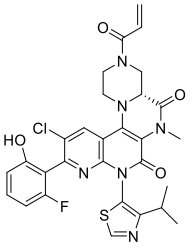
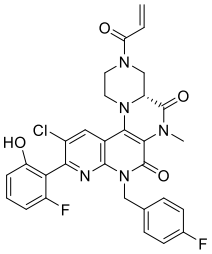
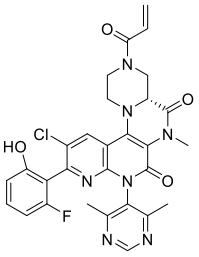
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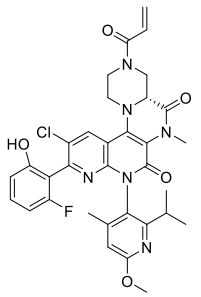
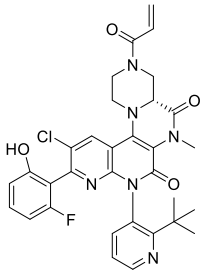
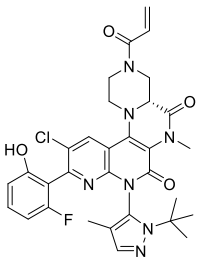
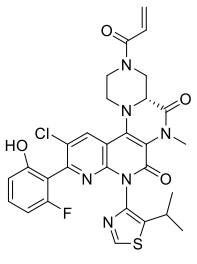
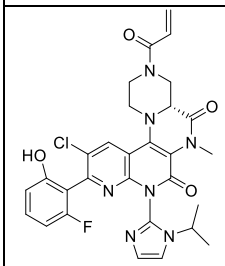
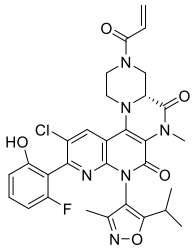
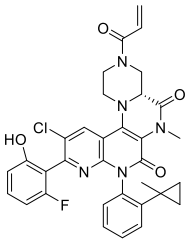
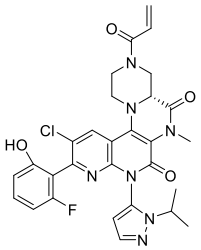
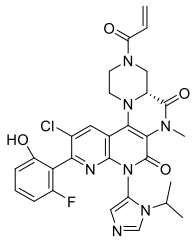
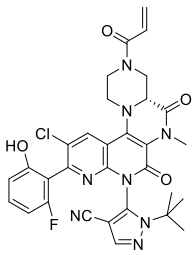
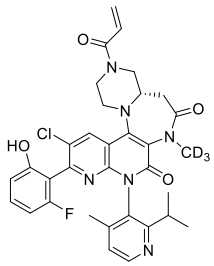
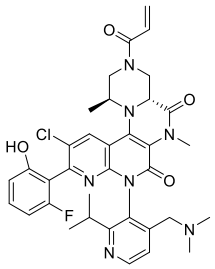
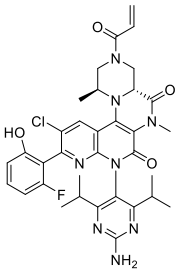
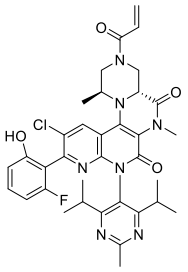
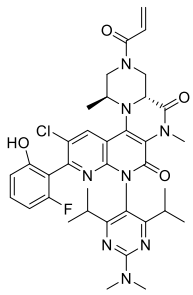
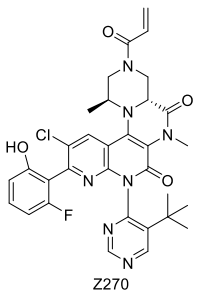
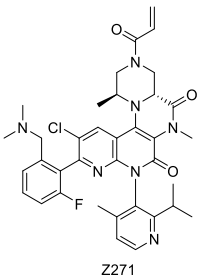
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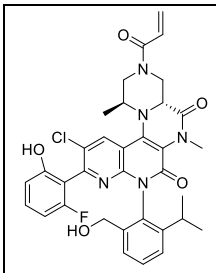
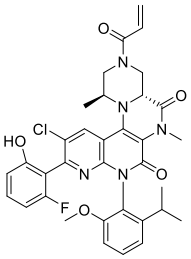
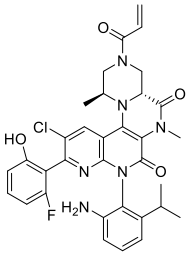
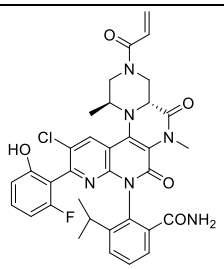
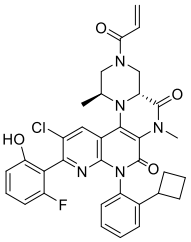
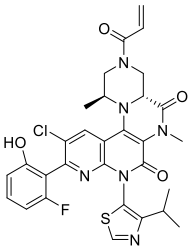
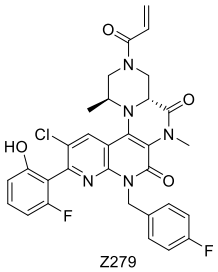
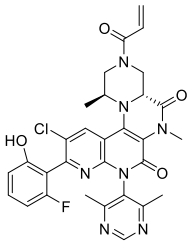
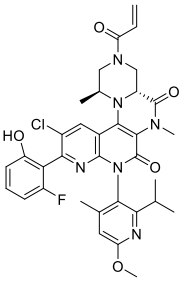
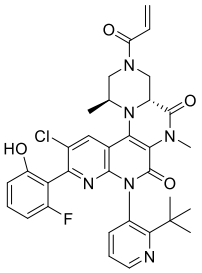
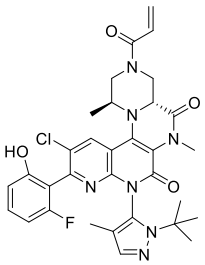
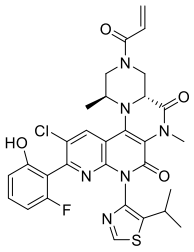
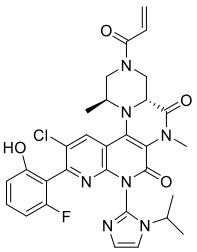
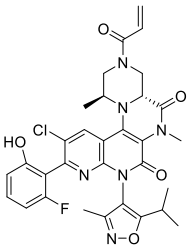
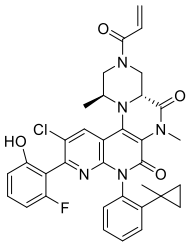
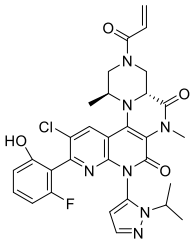
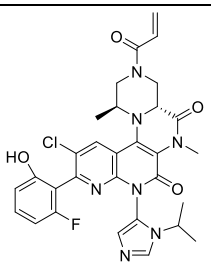
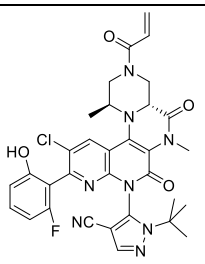
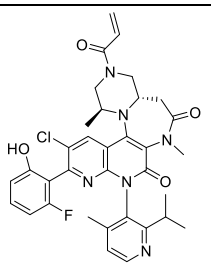
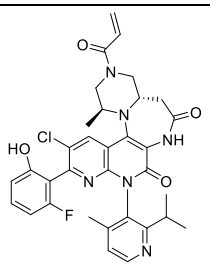
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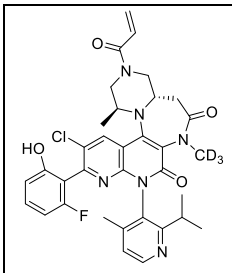
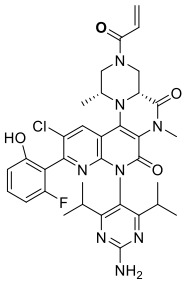
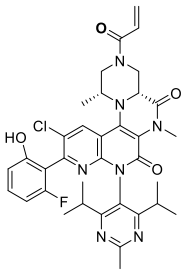
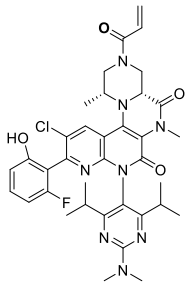
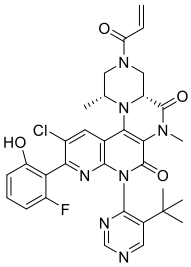
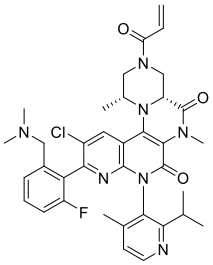
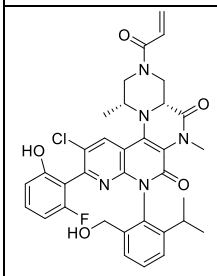
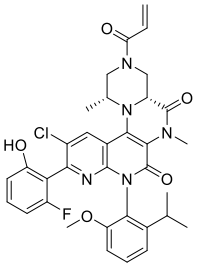
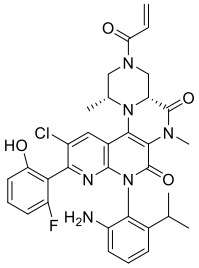
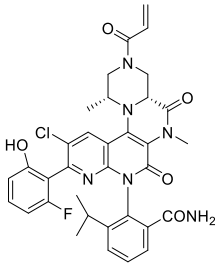
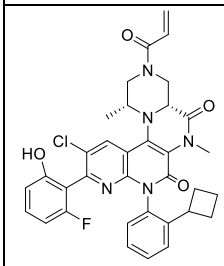
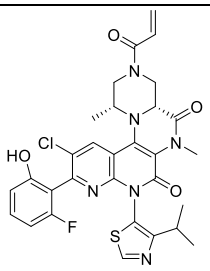
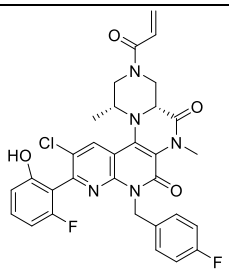
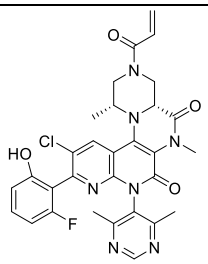
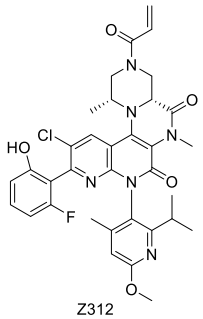
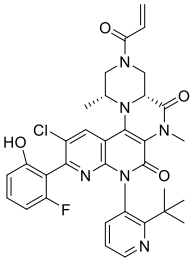
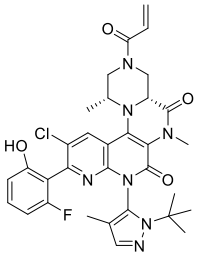
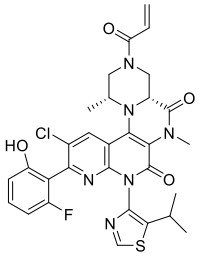
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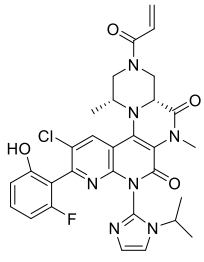
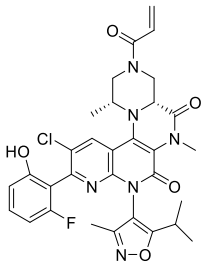
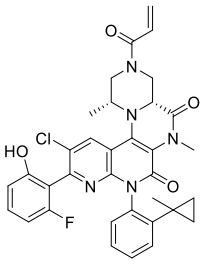
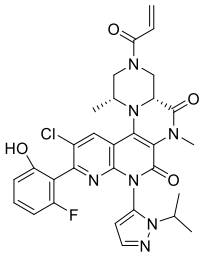
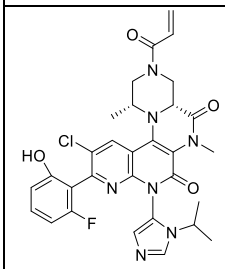
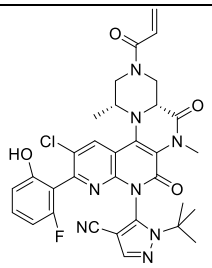
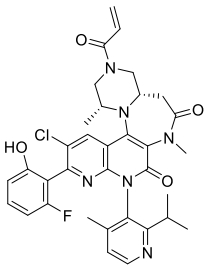
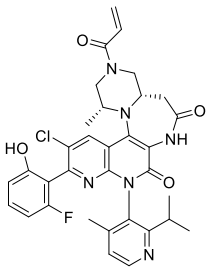
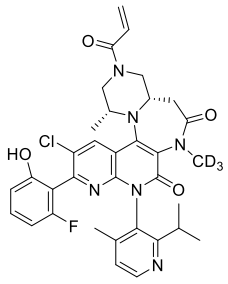
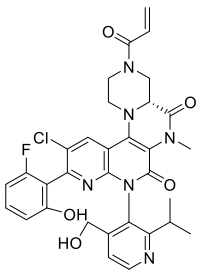
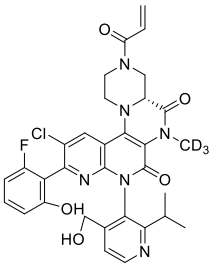
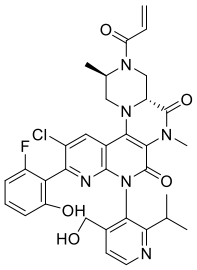
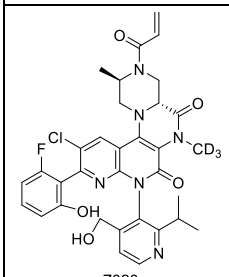
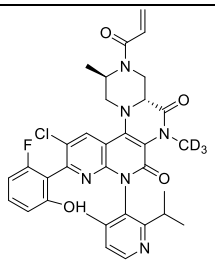
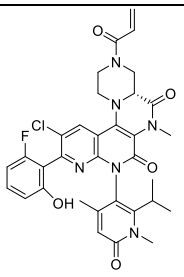
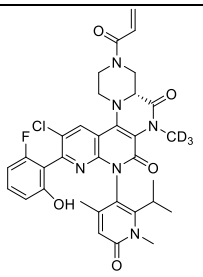
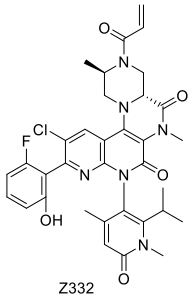
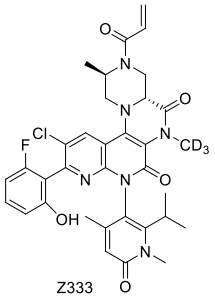
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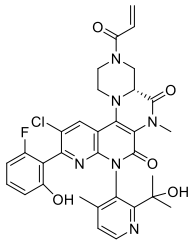
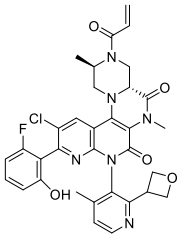
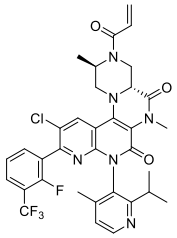
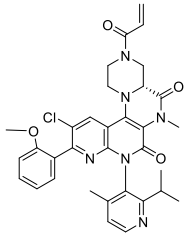
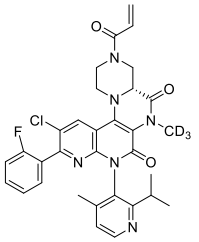
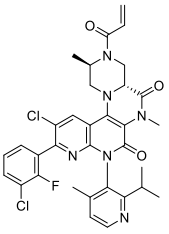
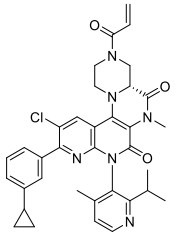
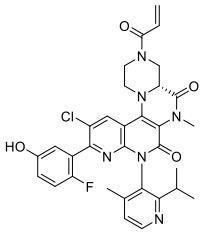
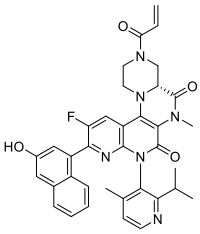
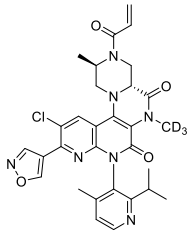
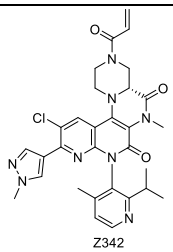
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 Z254	 Z255	 Z256	 Z257
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 Z269	 Z270	 Z271	

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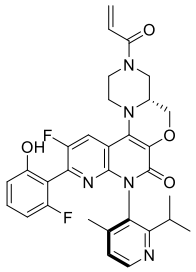
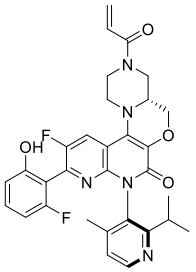
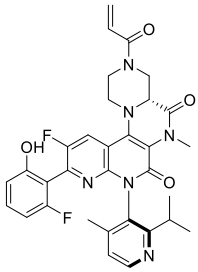
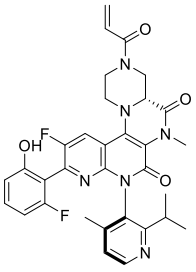
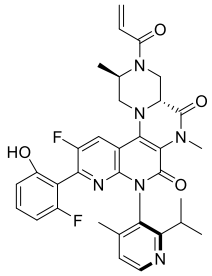
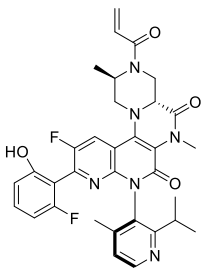
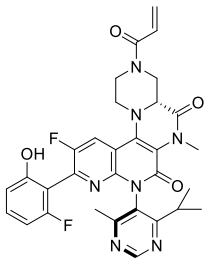
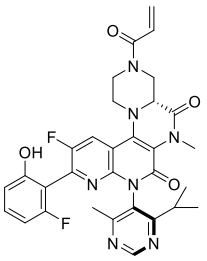
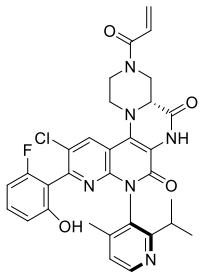
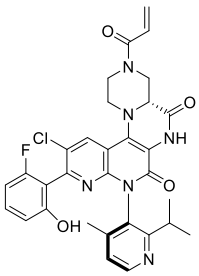
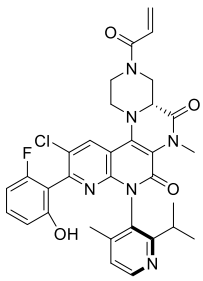
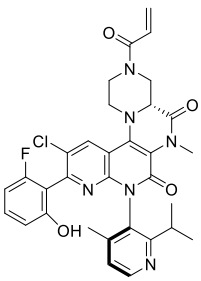
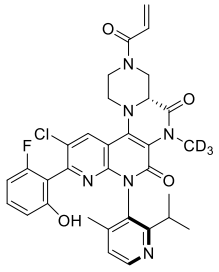
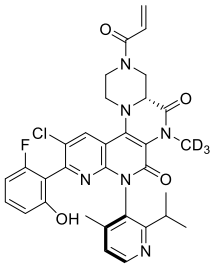
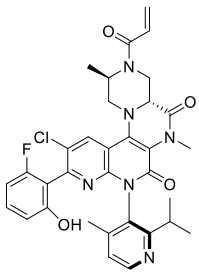
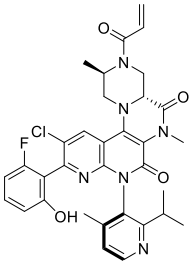
 Z293		 Z298	 Z299
 Z300	 Z301	 Z302	
 Z304	 Z305	 Z306	 Z307
 Z308	 Z309	 Z310	 Z311
 Z312	 Z313	 Z314	 Z315

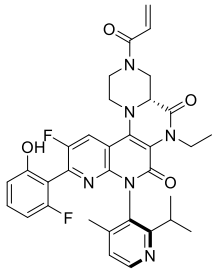
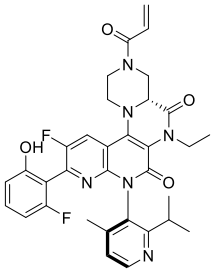
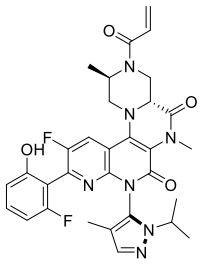
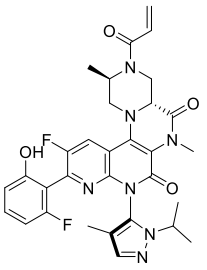
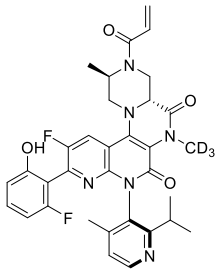
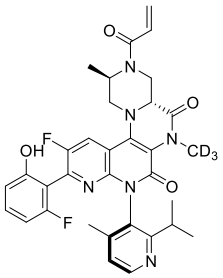
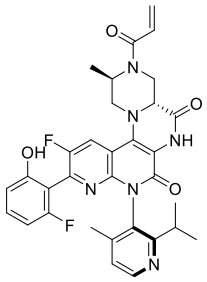
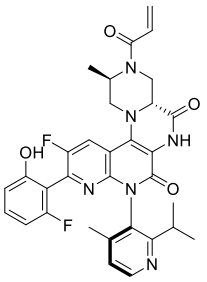
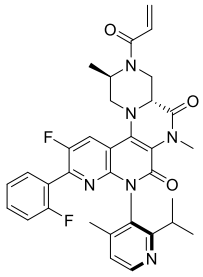
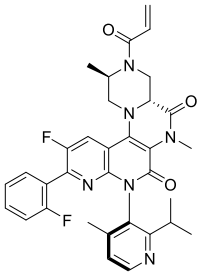
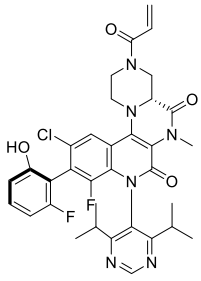
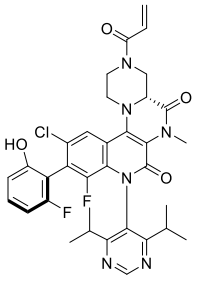
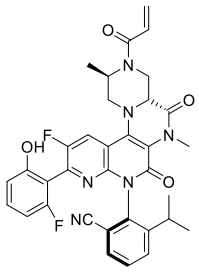
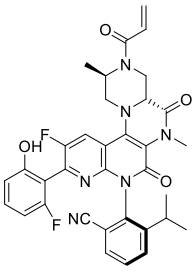
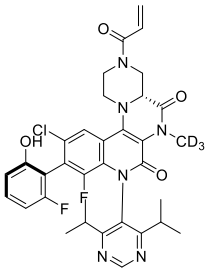
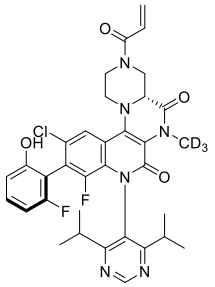
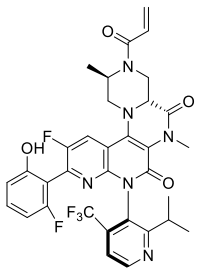
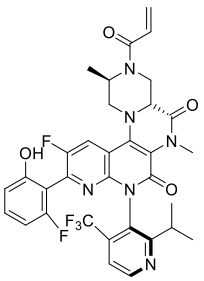
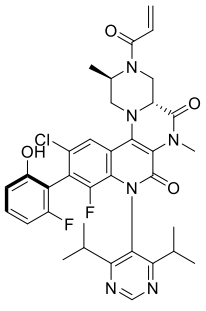
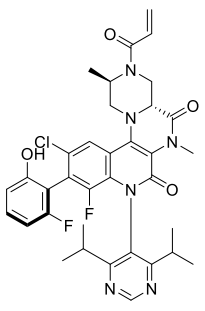
 Z316	 Z317	 Z318	 Z319
 Z320	 Z321	 Z322	 Z323
 Z324	 Z325	 Z326	 Z327
 Z328	 Z329	 Z330	 Z331
 Z332	 Z333		

 Z94	 Z263		 Z265
 Z294	 Z295	 Z296	 Z336
	 Z338	 Z339	
 Z341	 Z342		

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22. A compound, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, wherein the compound is selected from the following:

 Z1-1	 Z1-2	 Z9-1	 Z9-2
 Z10-1	 Z10-2	 Z21-1	 Z21-2
 Z24-1	 Z24-2	 Z25-1	 Z25-2
 Z26-1	 Z26-2	 Z27-1	 Z27-2

 Z30-1	 Z30-2	 Z33-1	 Z33-2
 Z34-1	 Z34-2	 Z35-1	 Z35-2
 Z36-1	 Z36-2	 Z37-1	 Z37-2
 Z38-1	 Z38-2	 Z39-1	 Z39-2
 Z49-1	 Z49-2	 Z50-1	 Z50-2

.

23. A pharmaceutical composition, comprising the compound according to any one of claims 1 to 22 or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, and a pharmaceutically acceptable carrier.

24. Use of the compound according to any one of claims 1 to 22, or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, or the pharmaceutical composition according to claim 23 in preparing a medicament for preventing and/or treating a KRAS G12C mutation-induced disease; the KRAS G12C mutation-induced disease is cancer.

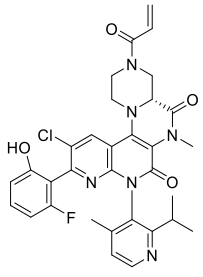
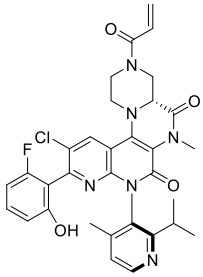
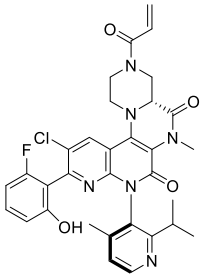
25. The use according to claim 24, wherein, the cancer is pancreatic cancer, colorectal cancer, or lung cancer.

26. The use according to claim 24, wherein, the cancer is non-small-cell lung cancer.

27. Use of the compound according to any one of claims 1 to 22 or a tautomer, a cis-trans isomer, a mesomer, a racemate, an enantiomer, a diastereoisomer, an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt or a solvate thereof, or the pharmaceutical composition according to claim 23 in

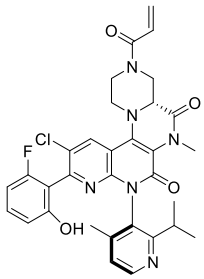
preparing an inhibitor for a KRAS mutation, wherein the KRAS mutation is KRAS G12C mutation.

28. A compound, or an atropisomer or a mixture thereof, or a pharmaceutically acceptable salt thereof, wherein the compound is selected from the following:

 Z25	 Z25-1	 Z25-2

.

29. A compound or a pharmaceutically acceptable salt thereof, wherein the compound shows as the following:


Z25-2 .