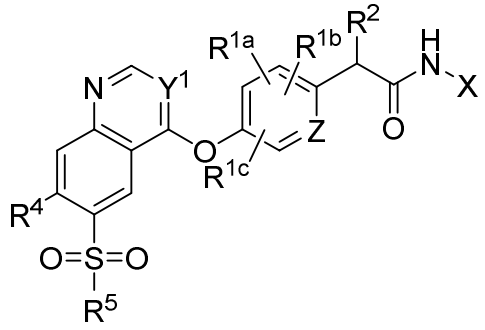
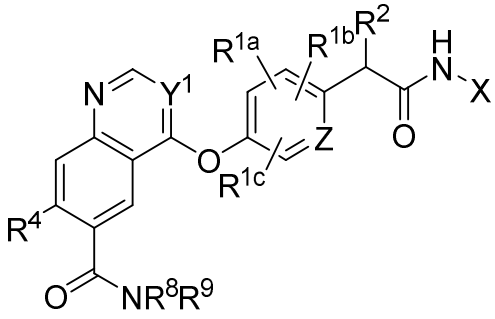
CLAIMS

1. A compound represented by structural formula (Ib) or (Ic):



(Ib);



(Ic),

wherein:

R^{1a}, R^{1b}, and R^{1c} are each independently selected from H, C_{1-6} alkyl, halogen, and CN;

R^2 is H or C_{1-3} alkyl;

R^4 is selected from H, halogen, C_{1-6} alkyl, and C_{1-6} alkoxy;

R^5 is selected from C_{1-6} alkyl, $NR^{10}R^{11}$, C_{3-6} cycloalkyl, and 4- to 10-membered heterocyclyl;

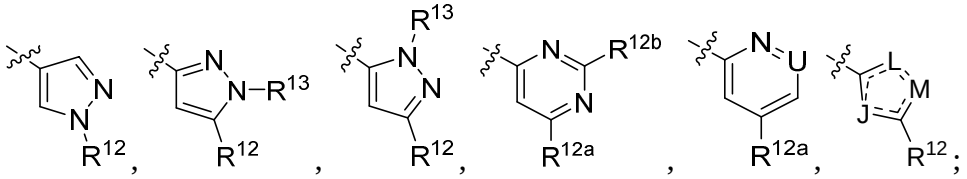
R^8 and R^9 are each independently selected from H, C_{1-6} alkyl, C_{1-6} deuteroalkyl, C_{3-6} cycloalkyl, and 4- to 10-membered heterocyclyl, or

R^8 and R^9 taken together with the nitrogen atom to which they are attached form 4- to 10-membered heterocyclyl;

R^{10} and R^{11} are each independently H or C_{1-6} alkyl, or

R^{10} and R^{11} taken together with the nitrogen to which they are attached form 4- to 10-membered heterocyclyl;

X is a moiety represented by one of the following structural formulas:



Y^1 is CH;

U is CR^{12b} or N;

Z is CR^{1b} or N;

L, M, and J are each independently selected from N, O, or S, provided that two of L, M, and J are N;

R^{12} is selected from C_{3-6} alkyl, C_{3-6} cycloalkyl, C_{5-12} bridged bicyclic carbocyclyl, and 4- to 10-membered heterocyclyl;

R^{12a} is selected from C_{1-6} alkyl, C_{1-6} deuteroalkyl, C_{3-6} cycloalkyl, C_{5-12} bridged bicyclic carbocyclyl, and 4- to 10-membered heterocyclyl;

R^{12b} and R^{13} are each independently H or C_{1-6} alkyl;

and

 is a single bond or a double bond,

wherein each C_{1-6} alkyl, C_{1-3} alkyl, C_{1-2} alkylene, C_{3-6} alkyl, C_{3-6} cycloalkyl, C_{1-6} alkoxy, C_{5-12} bridged bicyclic carbocyclyl, 5-12 membered heteroaryl, and 4- to 10-membered heterocyclyl is optionally substituted with 1 to 3 substituents independently selected from deuterium, oxo, F, Cl, Br, CN, OR^{14}, SR^{15}, $NR^{16}R^{17}$, $S(O)R^{18}$, $S(O)_2R^{18a}$, $NR^{19}S(=O)R^{20}$, $C(=O)OR^{20a}$, $C(=O)NR^{21}R^{22}$, $NR^{23}C(=O)R^{24}$, $C(=S)NR^{25}R^{26}$, $C(=O)R^{27}$, C_{1-6} alkyl, C_{1-6} deuteroalkyl, C_{3-8} cycloalkyl, C_{2-6} alkenyl, halo(C_{1-6})alkyl, C_{1-3} alkylsulfonylaminoalkyl, hydroxy(C_{1-6})alkyl, amino(C_{1-6})alkyl, (C_{1-6}) alkylamino(C_{1-6})alkyl, cyano(C_{1-6})alkyl, C_{1-3} alkylcarbonylamino(C_{1-6})alkyl, C_{1-3} alkoxy, halo(C_{1-3})alkoxy, C_{1-6} alkoxy(C_{1-3})alkyl, C_{6-12} aryl, 4- to 8-membered heterocyclyl, and 5- to 12-membered heteroaryl, wherein

R^{14}, R^{15}, R^{18}, R^{18a}, R^{20}, R^{20a}, R^{24}, and R^{27} are each independently hydrogen or C_{1-6} alkyl;

R^{16} and R^{17} are each independently selected from hydrogen, C_{1-6} alkyl, hydroxy(C_{1-6})alkyl, and halo(C_{1-6})alkyl;

R^{19} and R^{23} are each independently C_{1-6} alkyl or halo(C_{1-6})alkyl;

R^{21}, R^{22}, R^{25} and R^{26} are each independently selected from H, C_{1-6} alkyl, C_{1-3} alkoxy(C_{1-6})alkyl, hydroxy(C_{1-6})alkyl, cyano(C_{1-6})alkyl, amino(C_{1-6})alkyl, C_{1-3} alkylamino(C_{1-6})alkyl, and di(C_{1-3})alkylamino(C_{1-6})alkyl; or

R^{21} and R^{22} or R^{25} and R^{26}, together with the nitrogen to which they are attached, form a 3-8 membered ring optionally substituted with 1 to 3 substituents independently selected from deuterium, oxo, F, Cl, Br, CN, OR^{14}, SR^{15}, $NR^{16}R^{17}$, $S(O)R^{18}$, $S(O)_2R^{18a}$, $NR^{19}S(=O)R^{20}$, $C(=O)OR^{20a}$, $C(=O)NR^{21}R^{22}$, $NR^{23}C(=O)R^{24}$, $C(=S)NR^{25}R^{26}$, $C(=O)R^{27}$, C_{1-6} alkyl, C_{3-8} cycloalkyl, C_{2-6} alkenyl, halo(C_{1-6})alkyl, C_{1-3} alkylsulfonylaminoalkyl, hydroxy(C_{1-6})alkyl, amino(C_{1-6})alkyl, cyano(C_{1-6})alkyl, C_{1-3} alkylcarbonylamino(C_{1-6})alkyl, C_{1-3} alkoxy, halo(C_{1-3})alkoxy, C_{1-6} alkoxy(C_{1-3})alkyl, C_{6-12} aryl, 4- to 10-membered heterocyclyl, and 5- to 12-membered heteroaryl.

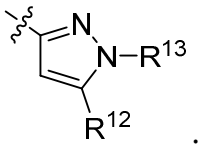
2. The compound of claim 1, wherein the compound is represented by structural formula (Ib).

3. The compound of claim 1, wherein the compound is represented by structural formula (Ic).

4. The compound of any one of claims 1-3, wherein R^4 is H.

5. The compound of any one of claims 1-3, wherein R^4 is C_{1-6} alkoxy.

6. The compound of any one of claims 1-5, wherein X is a moiety represented by the following structural formula:



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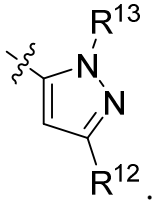
7. The compound of claim 6, wherein R^{13} is H.

8. The compound of claim 6, wherein R^{13} is C_{1-6} alkyl.

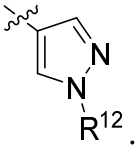
9. The compound of any one of claims 1-5, wherein X is a moiety represented by the following structural formula:



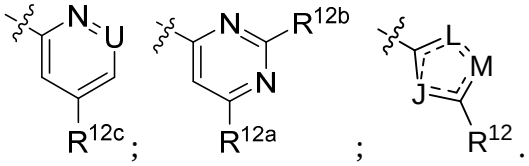
10. The compound of claim 9, wherein R^{13} is H.

11. The compound of claim 9, wherein R^{13} is C_{1-6} alkyl.

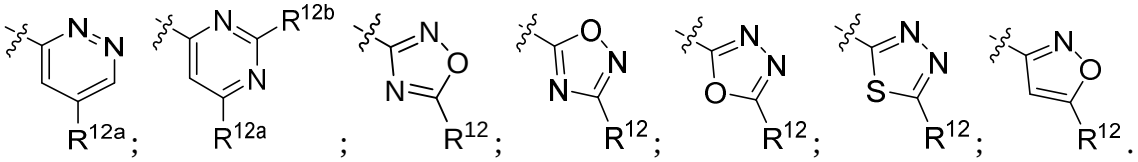
12. The compound of any one of claims 1-5, wherein X is a moiety represented by the following structural formula:



13. The compound of any one of claims 1-5, wherein X is a moiety represented by one of the following structural formulas:

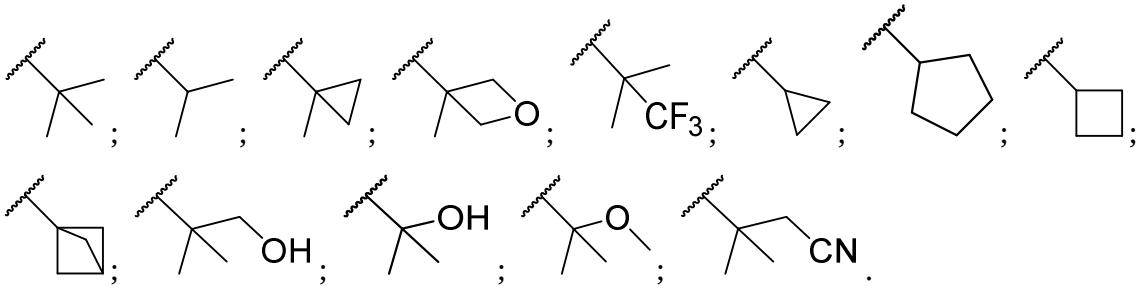


14. The compound of any one of claims 1-5, wherein X is a moiety represented by one of the following structural formulas:



15. The compound of any one of claims 1-14, wherein R^{12} is C_{3-6} alkyl optionally substituted with 1 to 3 substituents independently selected from deuterium, oxo, F, Cl, Br, CN, OR^{14}, SR^{15}, $NR^{16}R^{17}$, $S(O)R^{18}$, $S(O)_2R^{18a}$, $NR^{19}S(=O)R^{20}$, $C(=O)OR^{20a}$, $C(=O)NR^{21}R^{22}$, $NR^{23}C(=O)R^{24}$, $C(=S)NR^{25}R^{26}$, $C(=O)R^{27}$, C_{1-6} alkyl, C_{3-8} cycloalkyl, C_{2-6} alkenyl, halo(C_{1-6})alkyl, C_{1-3} alkylsulfonylaminoalkyl, hydroxy(C_{1-6})alkyl, amino(C_{1-6})alkyl, cyano(C_{1-6})alkyl, C_{1-3} alkylcarbonylamino(C_{1-6})alkyl, C_{1-3} alkoxy, halo(C_{1-3})alkoxy, C_{1-6} alkoxy(C_{1-3})alkyl, C_{6-12} aryl, 4- to 10-membered heterocyclyl, and 5- to 12-membered heteroaryl.

16. The compound of any one of claims 1-14, wherein R^{12} is selected is a moiety represented by one of the following structural formulas:



17. The compound of claim 16, wherein R^{12} is a moiety represented by structural formula



18. The compound of any one of claims 1-17, wherein Z is CH.

19. The compound of any one of claims 1-18, wherein R^2 is H.

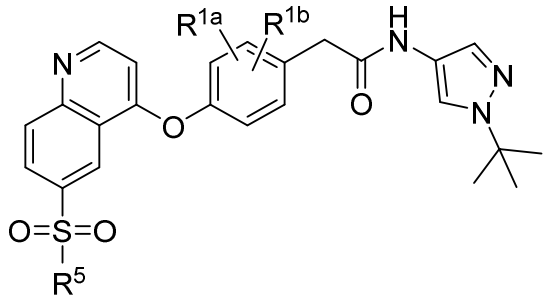
20. The compound of claim 2, wherein R^5 is C_{1-6} alkyl.

21. The compound of claim 20, wherein R^5 is C_{1-3} alkyl.

22. The compound of claim 21, wherein R^5 is methyl.

23. The compound of claim 2, wherein R^5 is $NR^{10}R^{11}$, C_{3-6} cycloalkyl, or 4- to 10-membered heterocyclyl.

24. The compound of claim 2, wherein the compound is represented by structural formula (Ik):



(Ik),

wherein R^5 is C_{1-3} alkyl.

25. The compound of any one of claims 1-24, wherein R^{1a} is C_{1-3} alkyl.

26. The compound of claim 25, wherein R^{1a} is methyl.

27. The compound of any one of claims 1-24, wherein R^{1b} or R^{1a} is selected from H, F, Cl, CH_3, CHF_2, CF_3, and CD_3.

28. The compound of any one of claims 1-26, wherein R^{1b} is halogen or R^{1c} is halogen.

29. The compound of any one of claims 1-26, wherein R^{1b} is C_{1-3} alkyl.

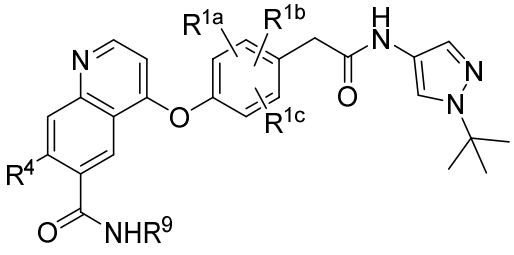
30. The compound of any one of claims 1-26, wherein R^{1b} and R^{1c} are H.

31. The compound of claim 3, wherein R^8 is C_{1-3} alkyl.

32. The compound of claim 31, wherein R^8 is methyl.

33. The compound of claim 3, wherein R^9 is H.

34. The compound of claim 1 or 3, wherein the compound is represented by structural formula (In):



(In),

wherein:

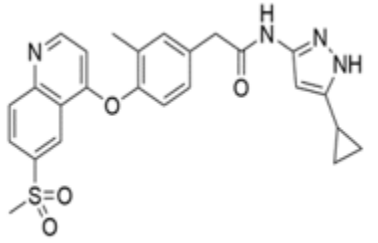
R^{1a} is selected from C_{1-3} alkyl, halogen, and H;

R^{1b} and R^4 is each H;

R^{1c} is selected from C_{1-3} haloalkyl, halogen, and H; and

R^9 is C_{1-3} alkyl.

35. The compound of claim 1, wherein the compound is represented by one of the following structural formulas:



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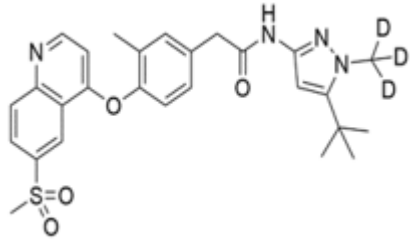

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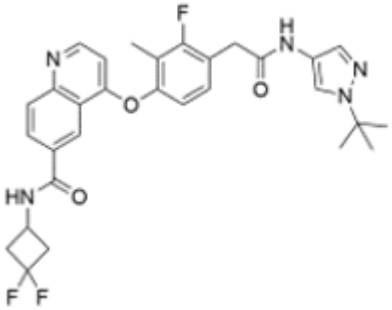

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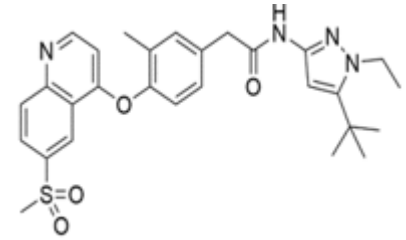

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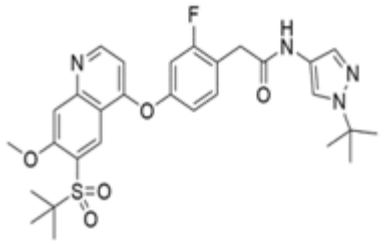
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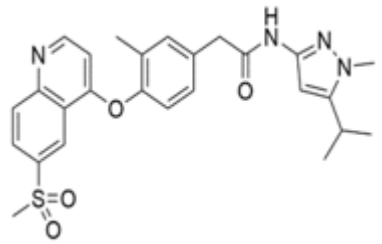
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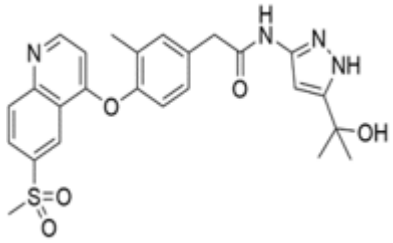
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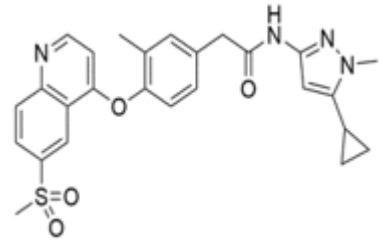
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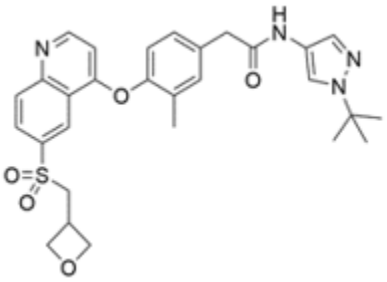
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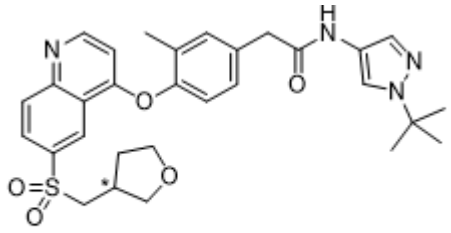
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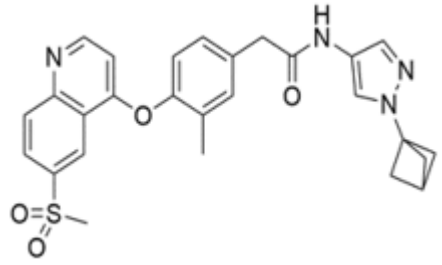
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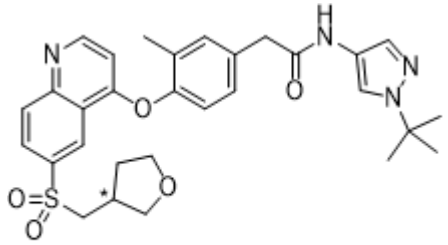
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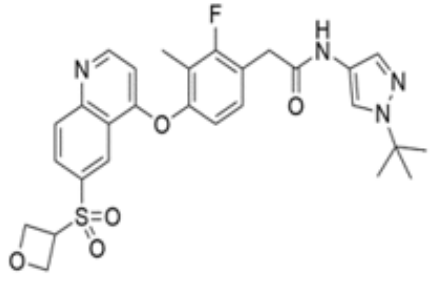
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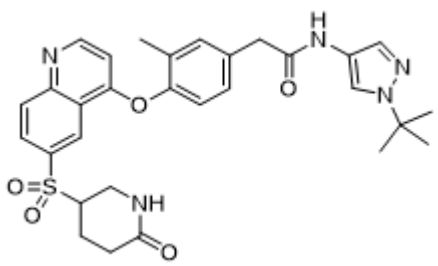
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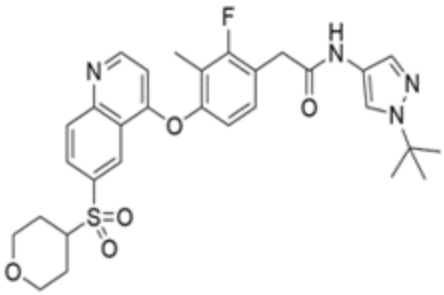

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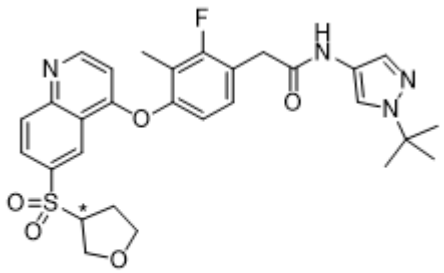

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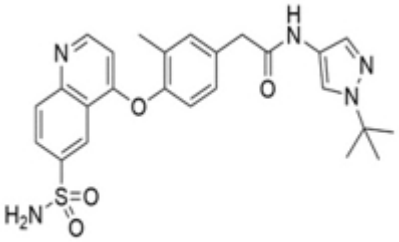

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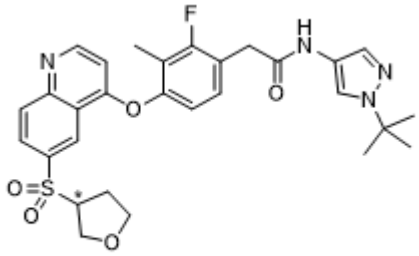

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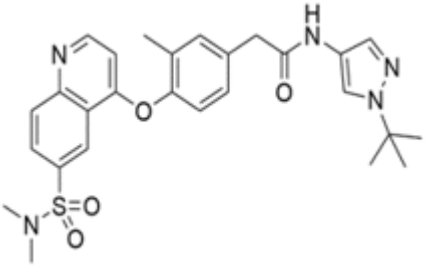

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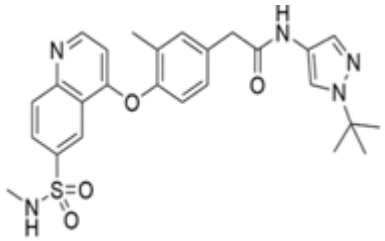

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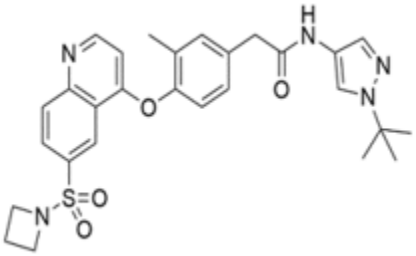

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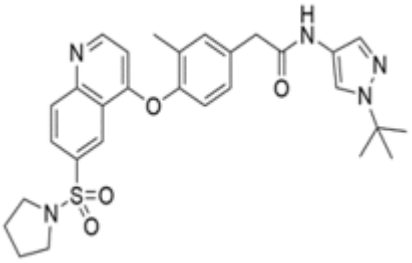

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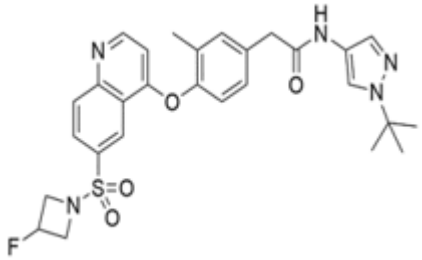

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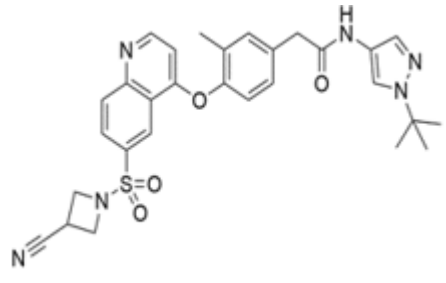

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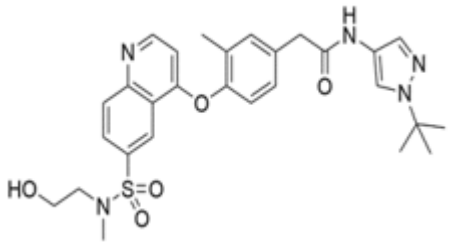
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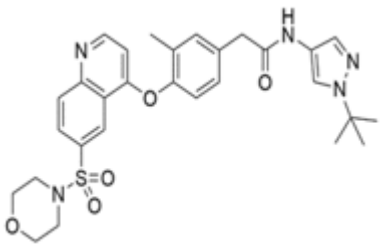
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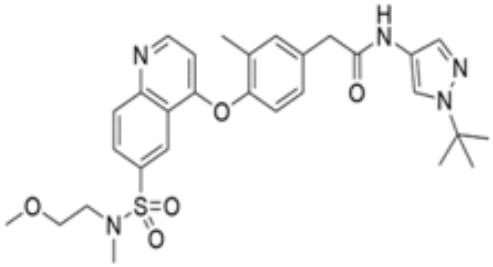
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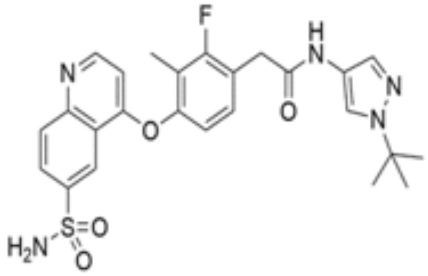
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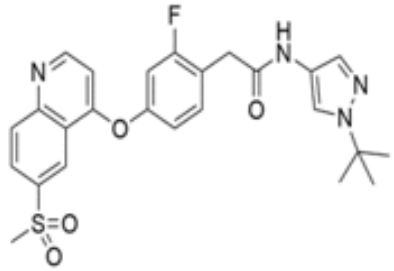
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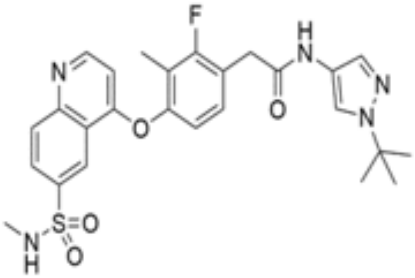
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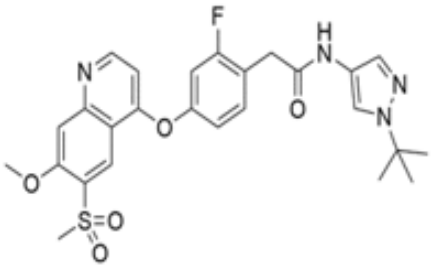
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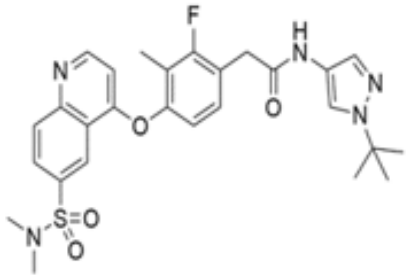
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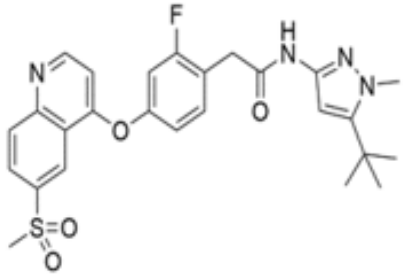
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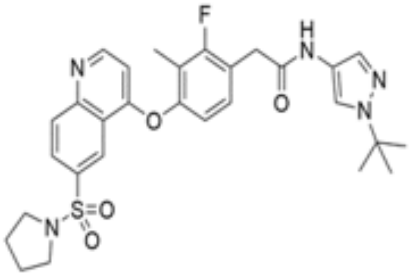
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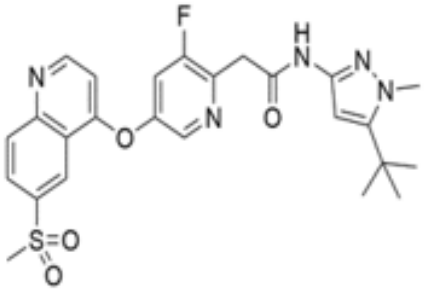
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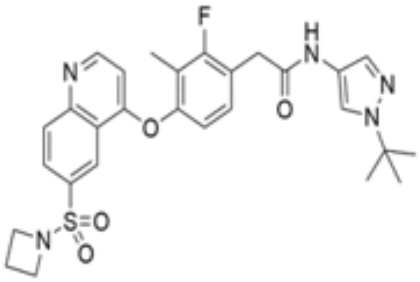
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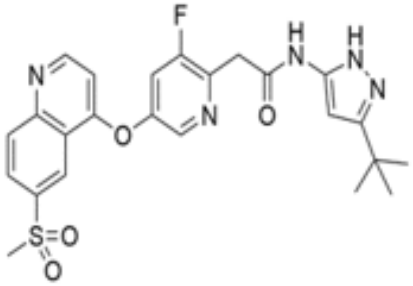
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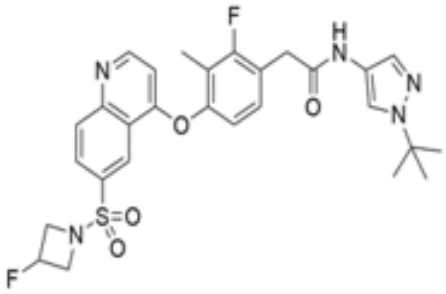
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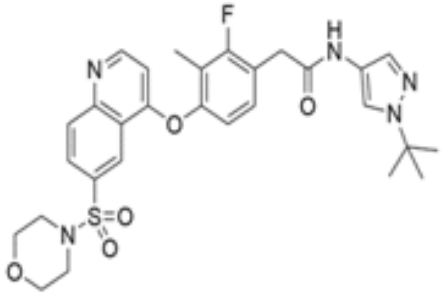
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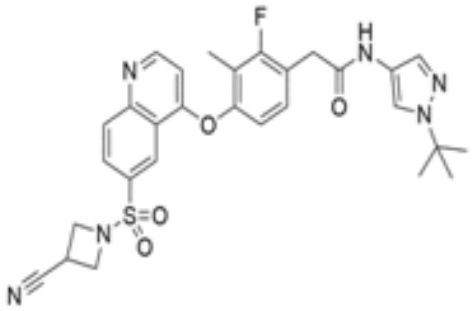
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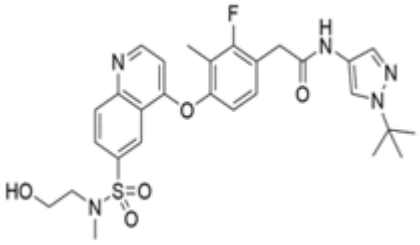
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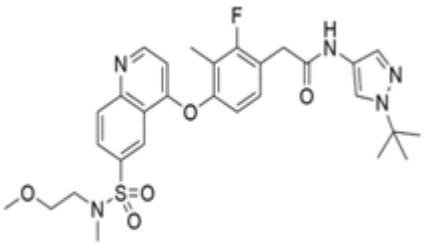
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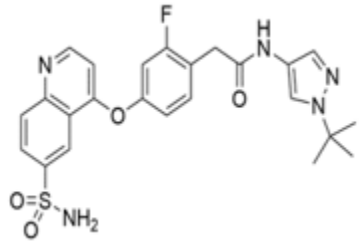
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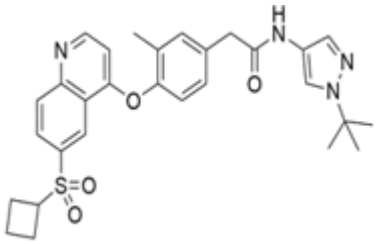
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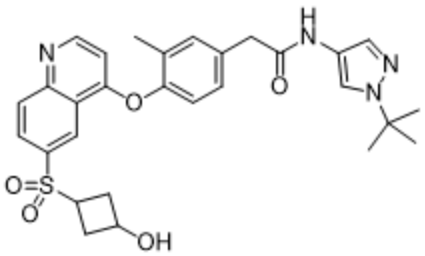

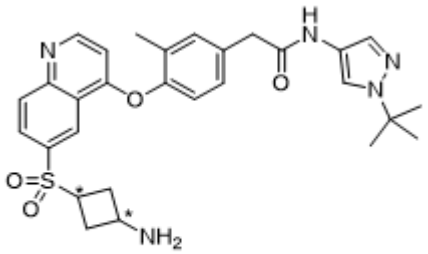

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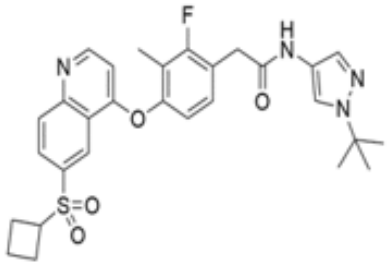

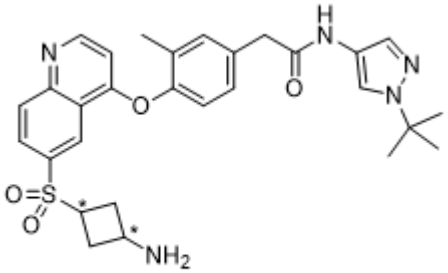

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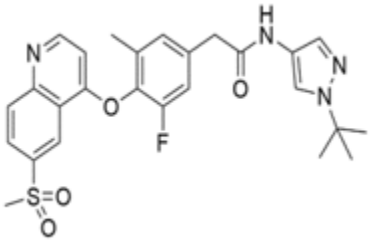

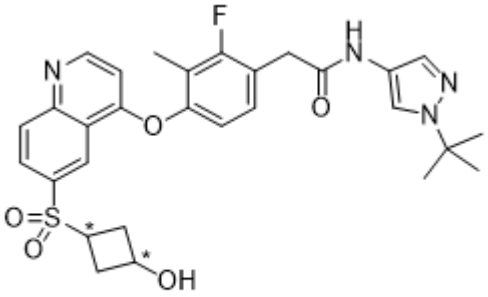

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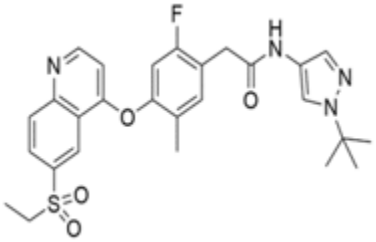

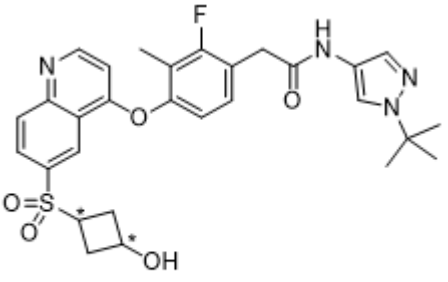

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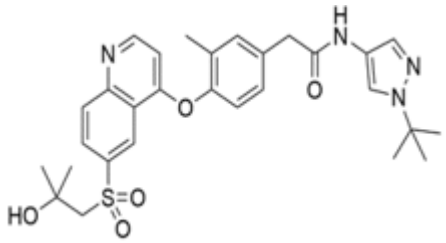

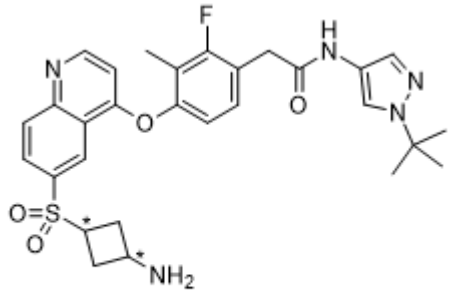

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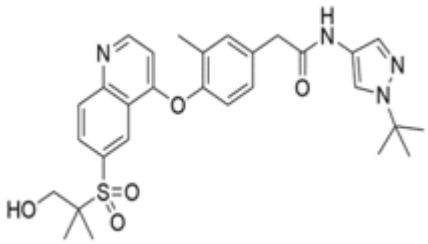

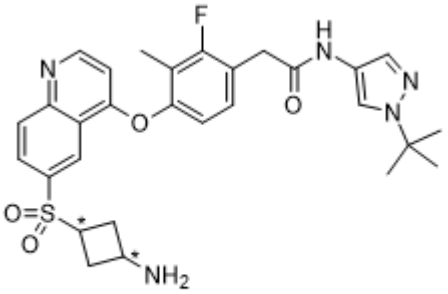

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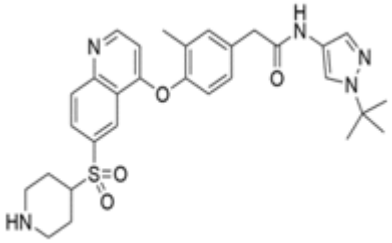

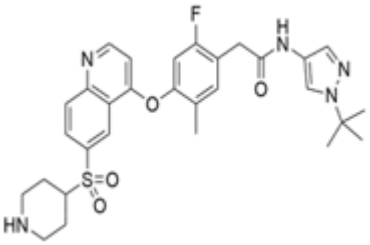

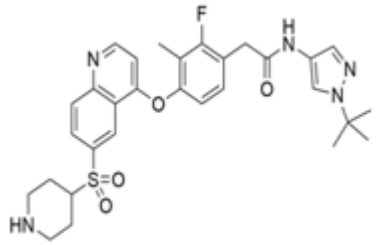

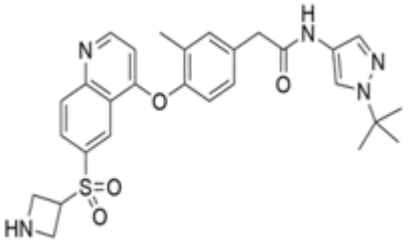

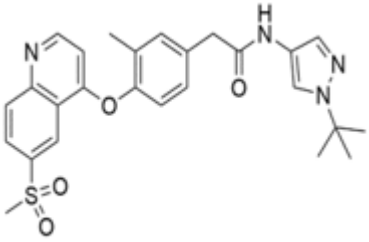

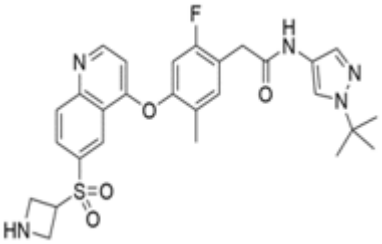

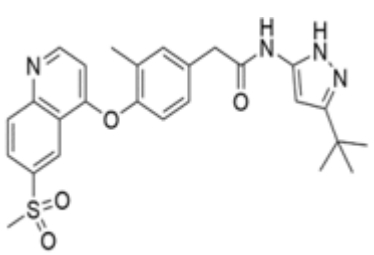
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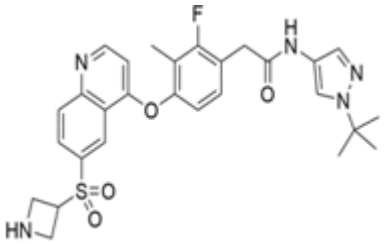
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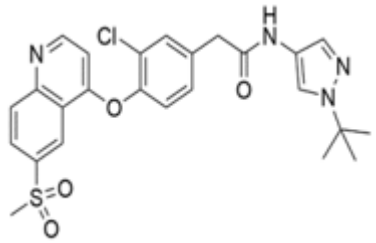
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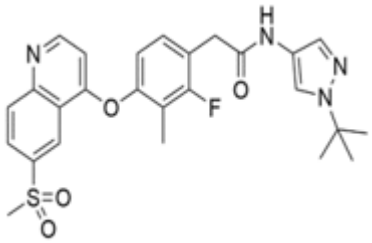
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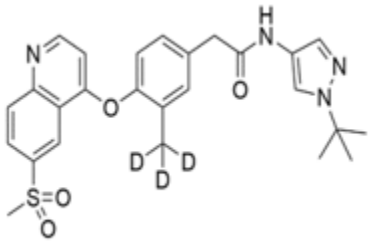
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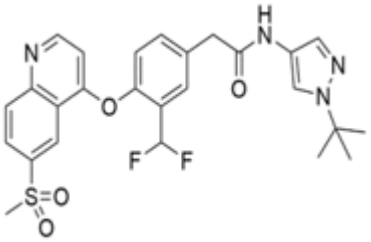
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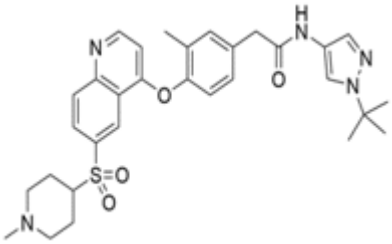
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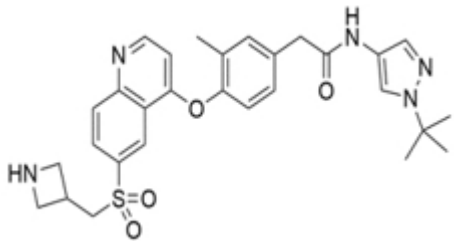
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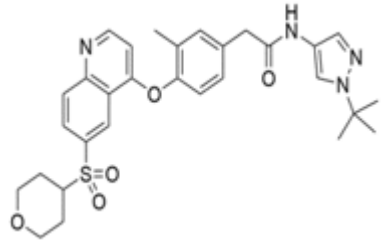
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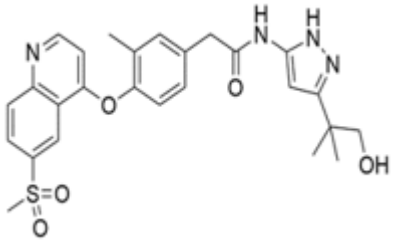
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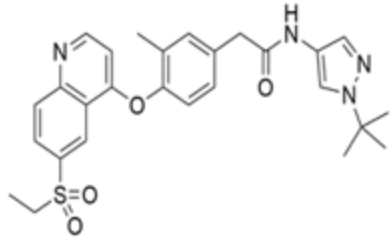
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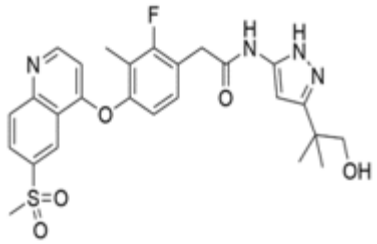
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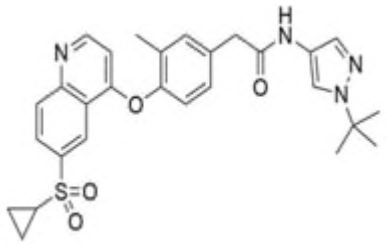
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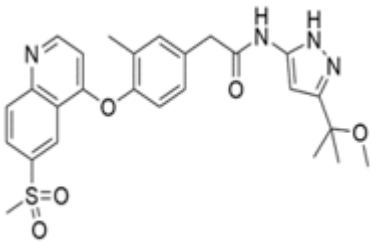
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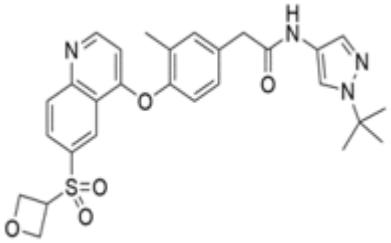
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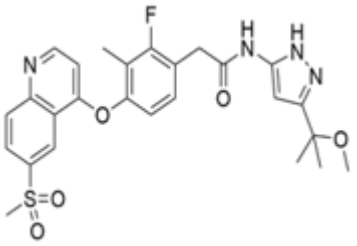
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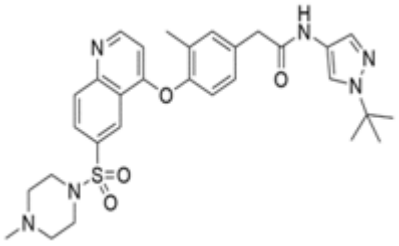
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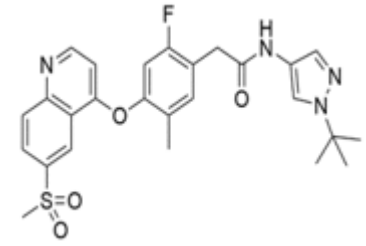
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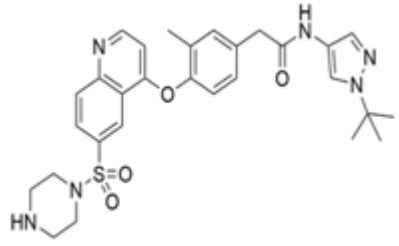
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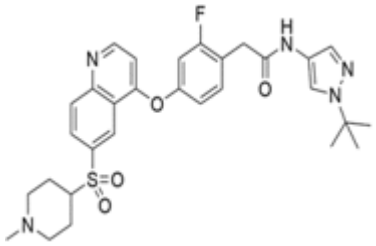
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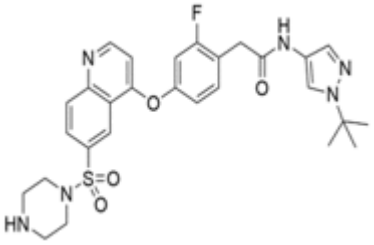
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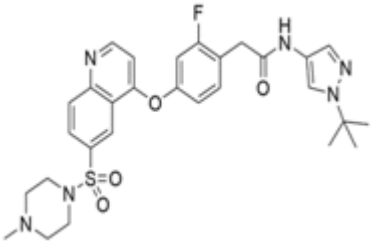
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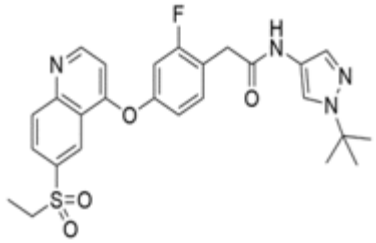
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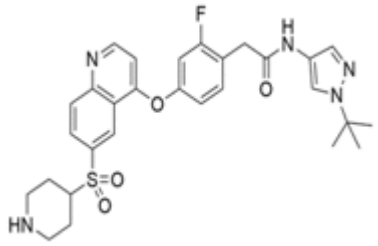
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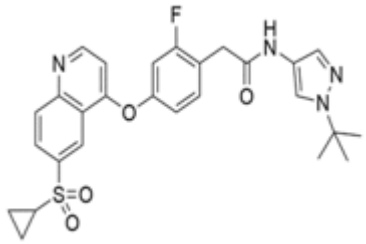
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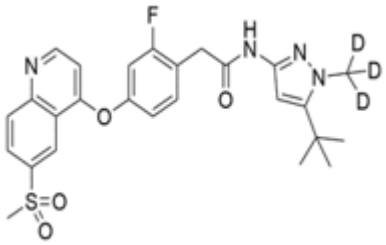
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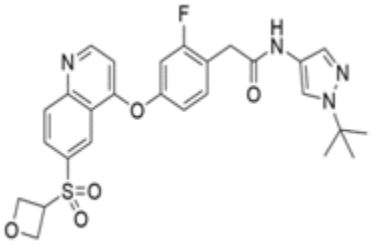
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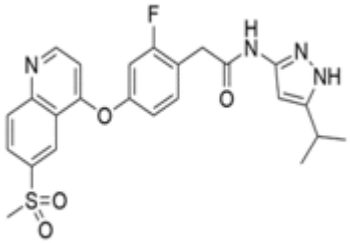
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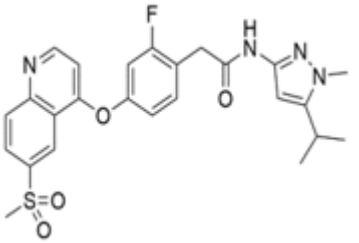
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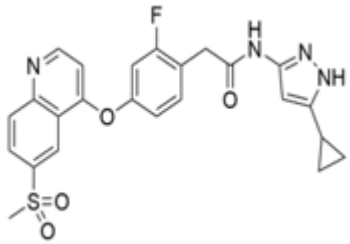
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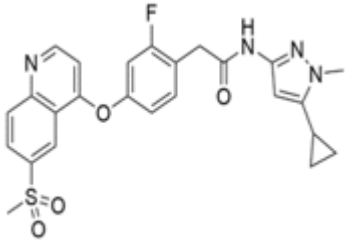
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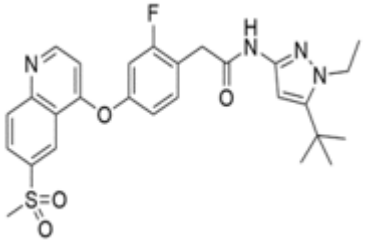
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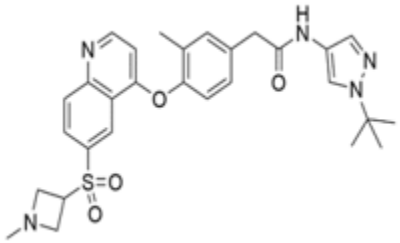
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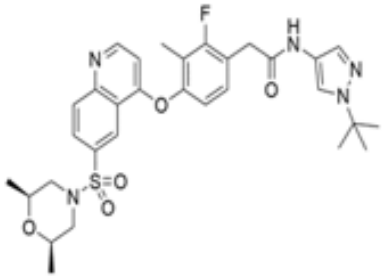
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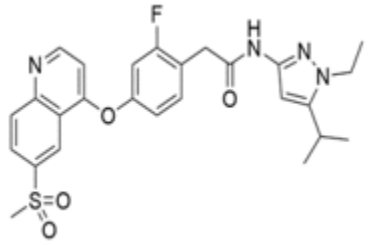
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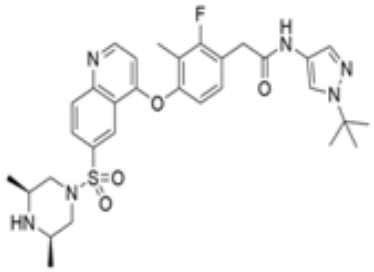
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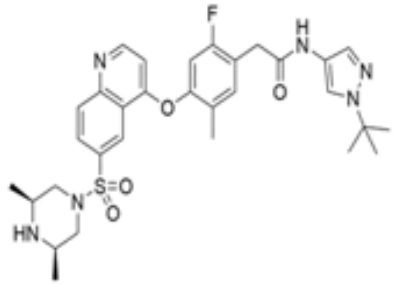
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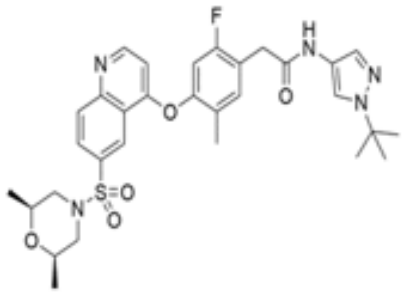
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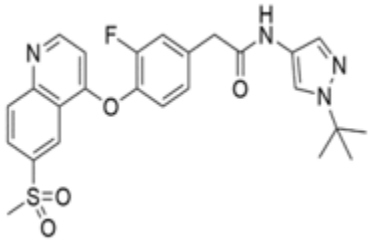
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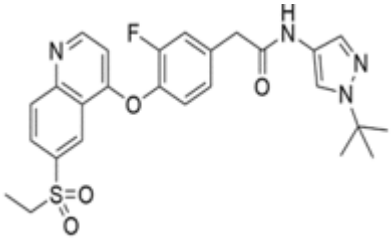
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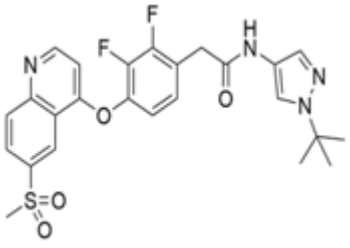
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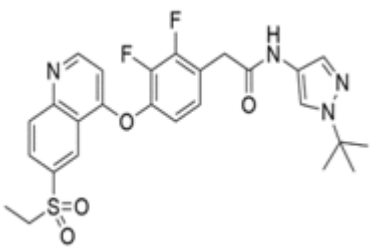
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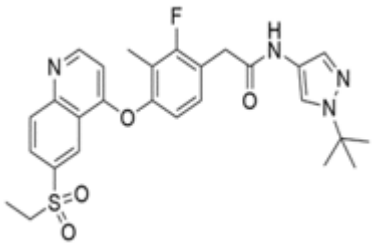
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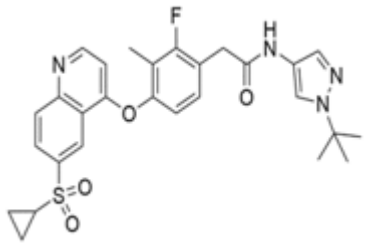
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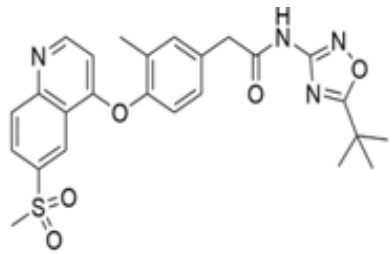
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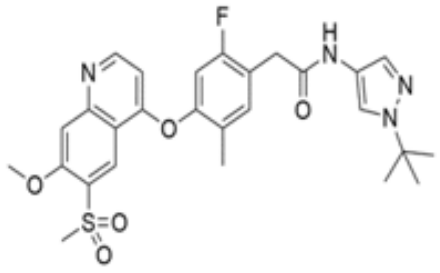
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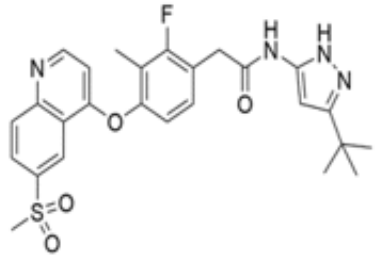
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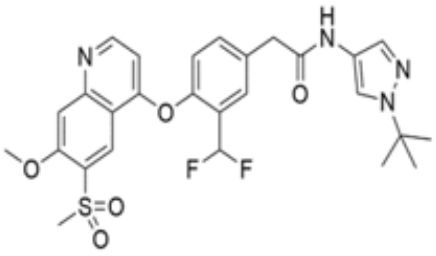
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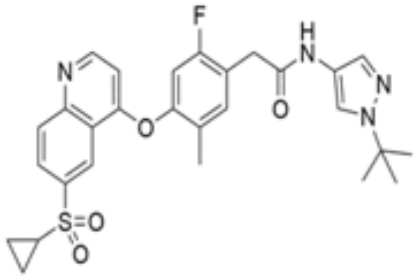
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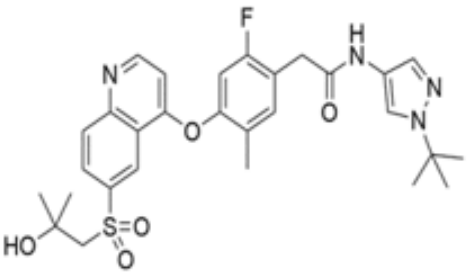
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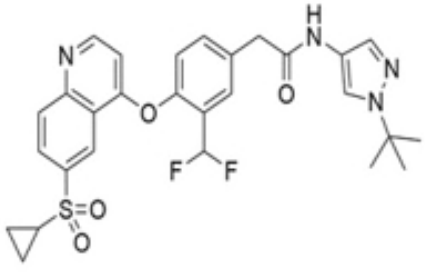
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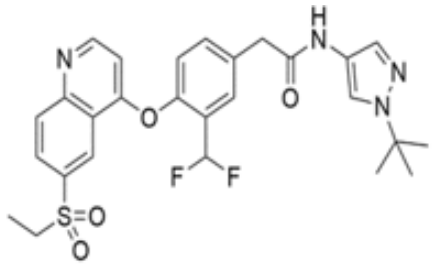
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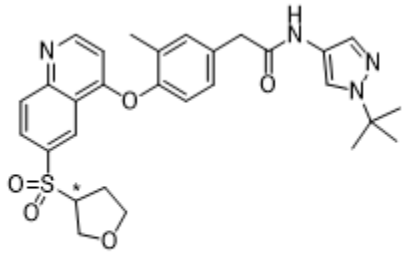

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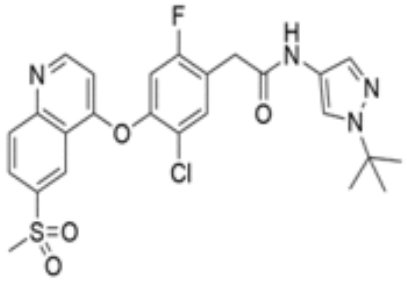

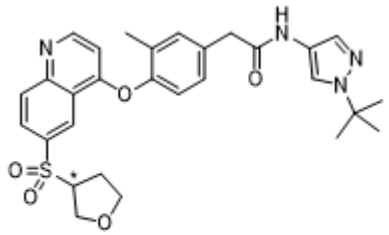

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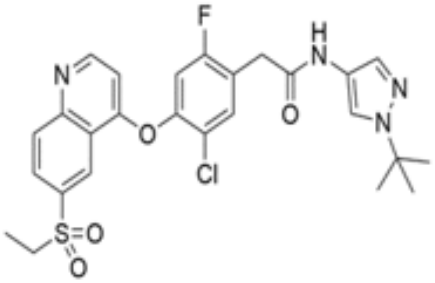

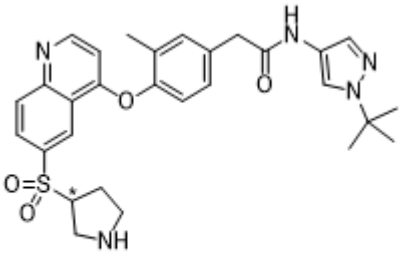

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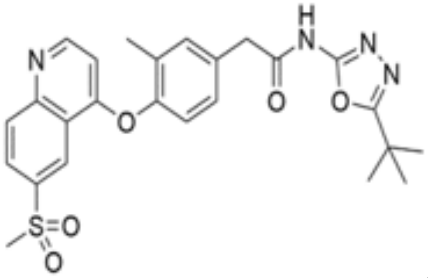

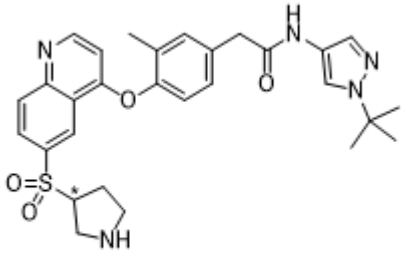

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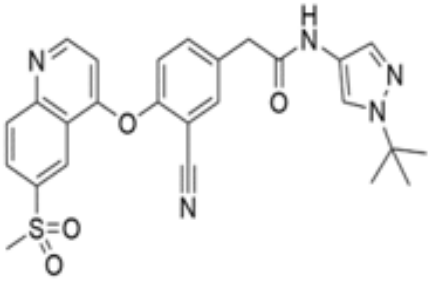

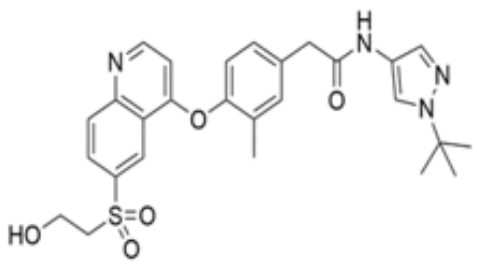
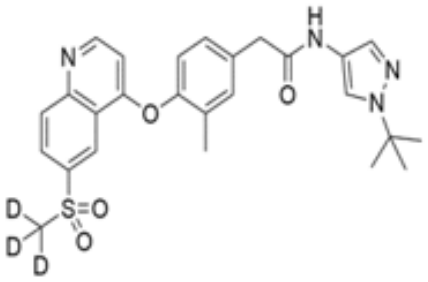
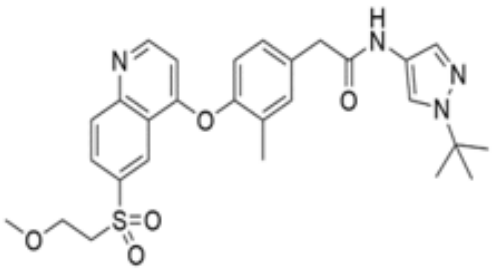
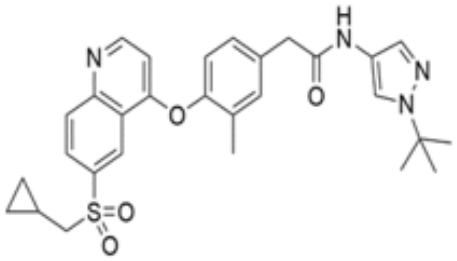
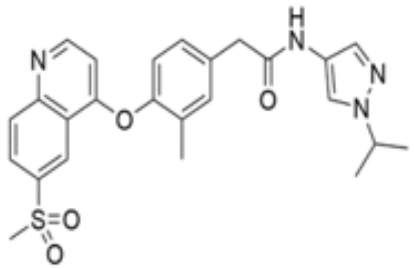
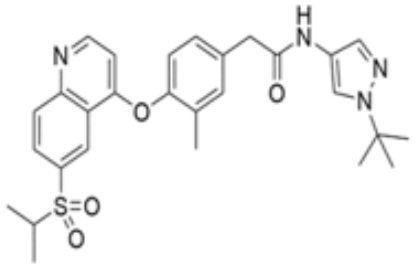
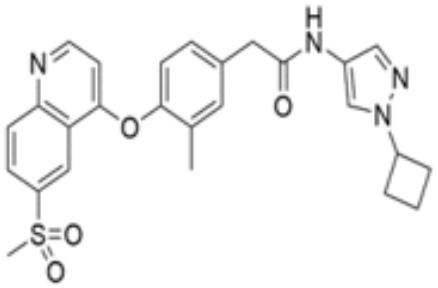
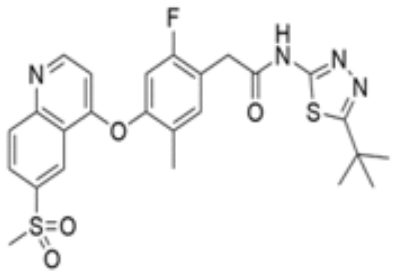
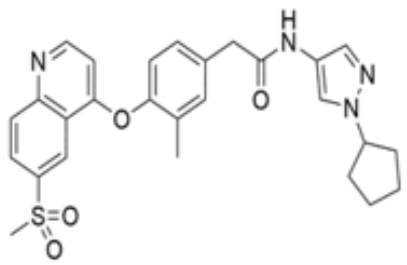
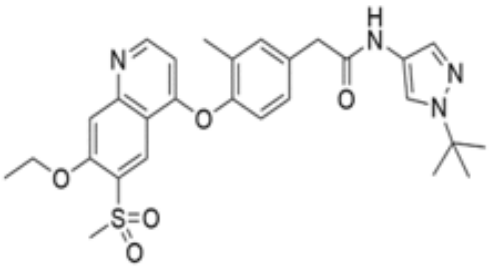

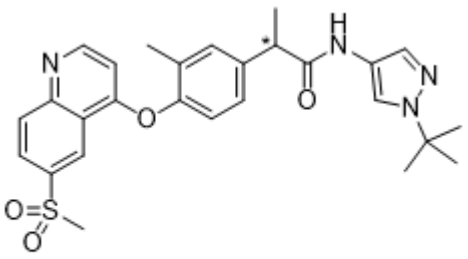

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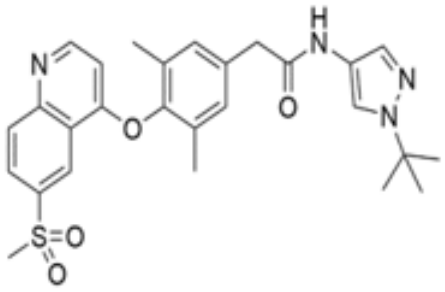

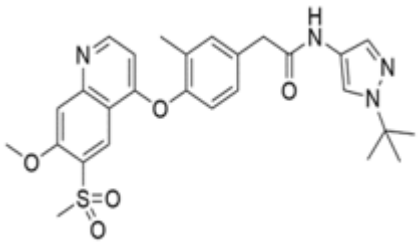

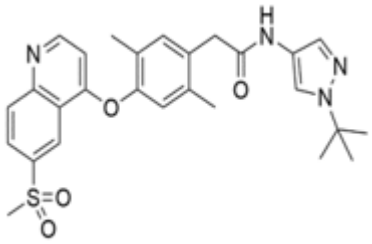

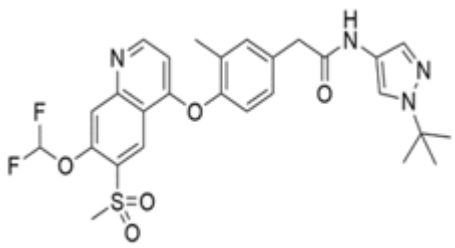

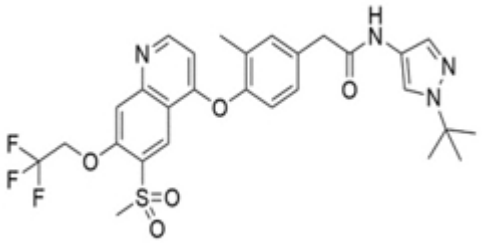

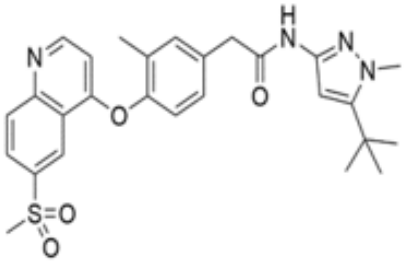

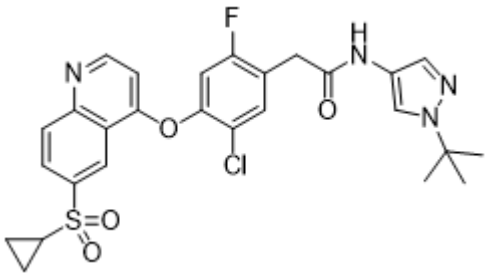

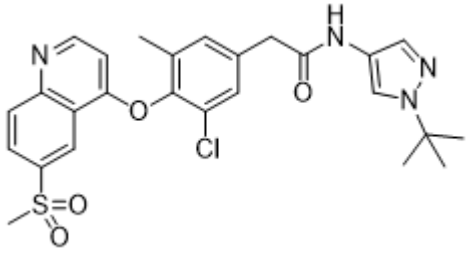

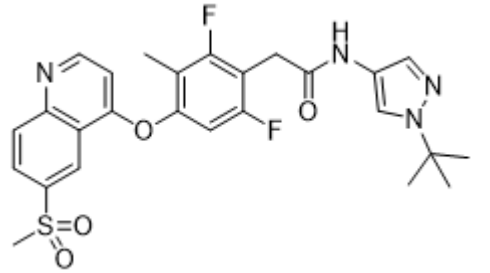

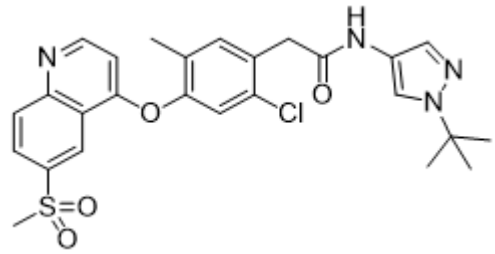
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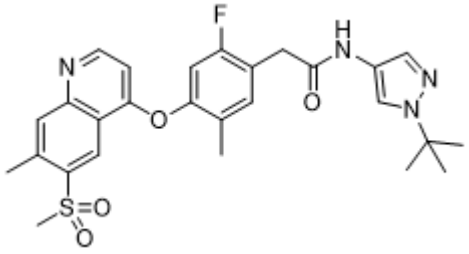
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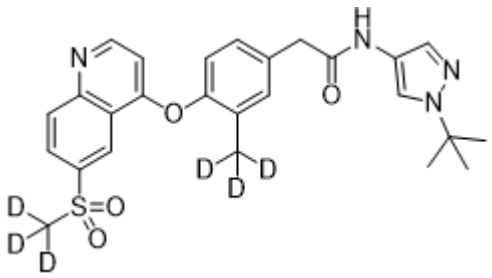
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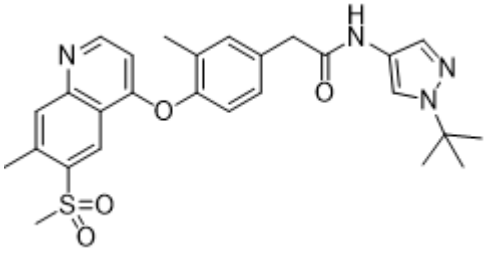
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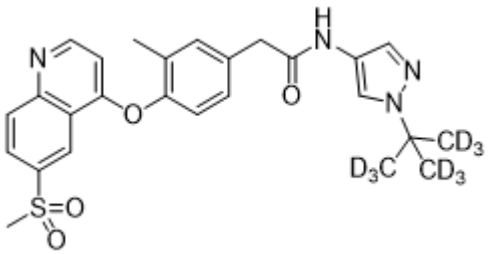
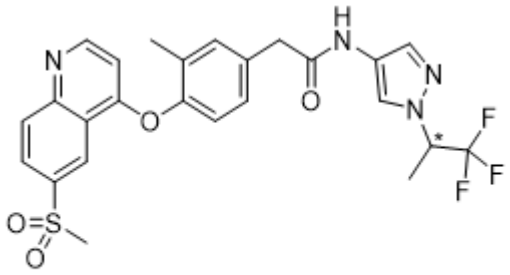
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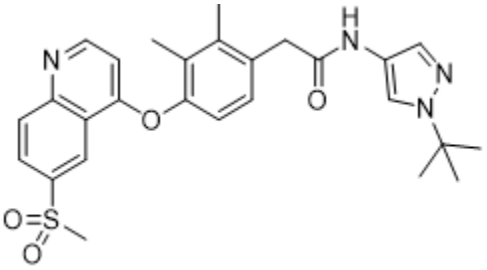
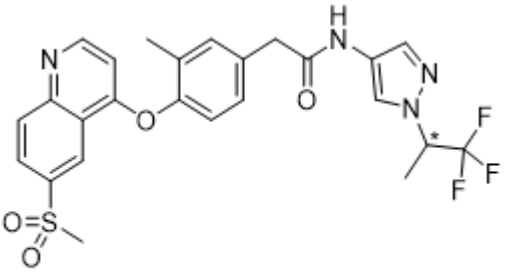
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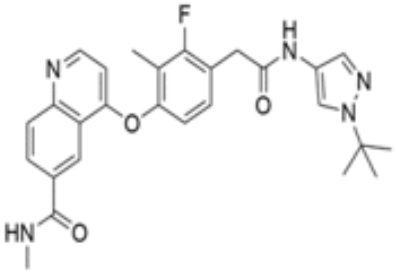
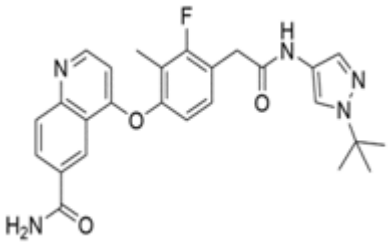
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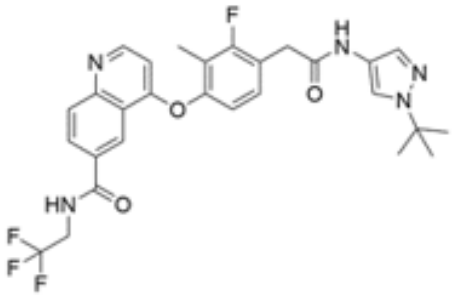
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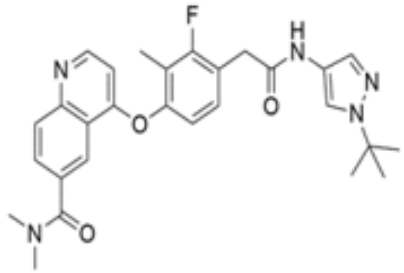
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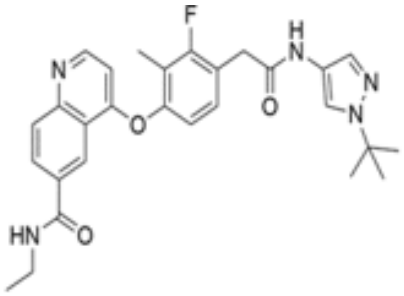
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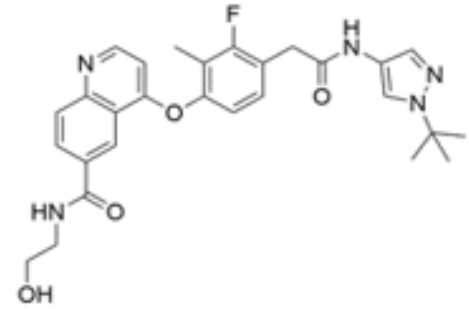
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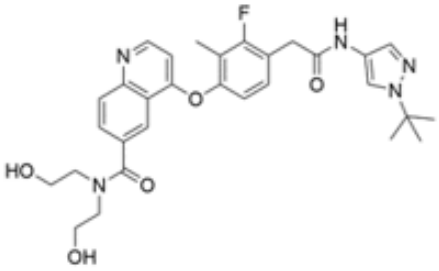
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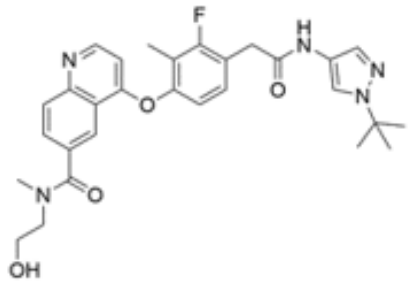
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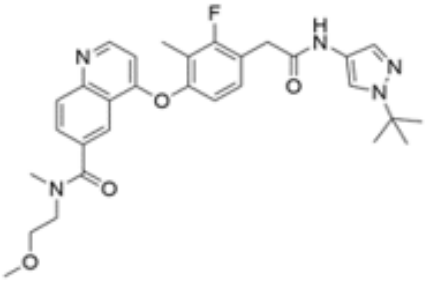
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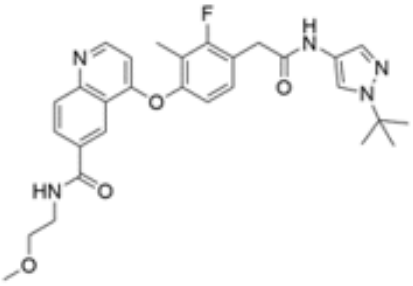
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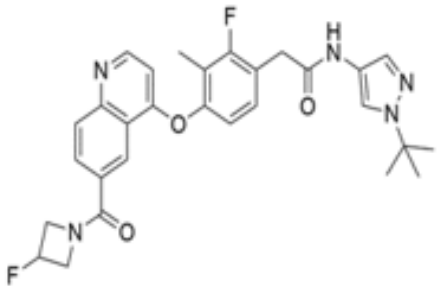
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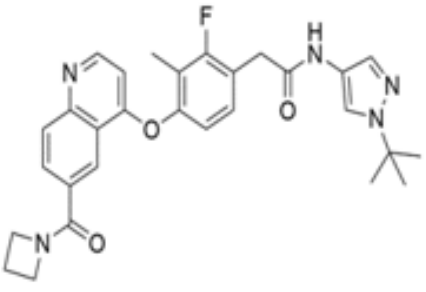
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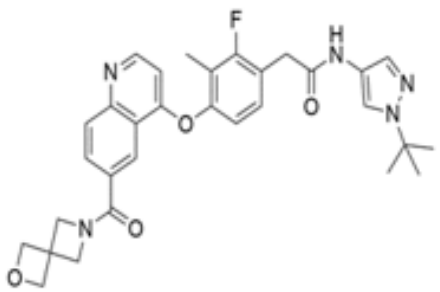
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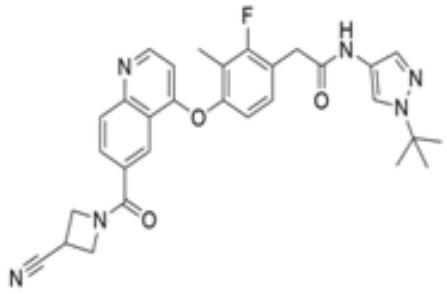
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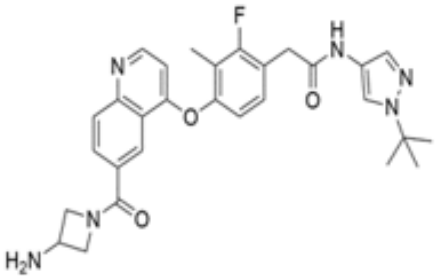
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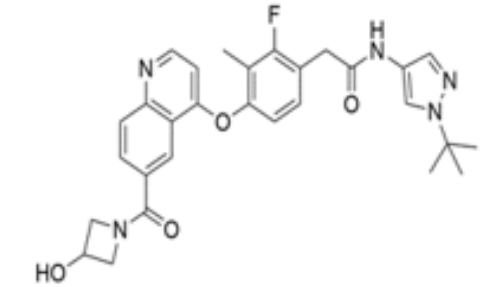
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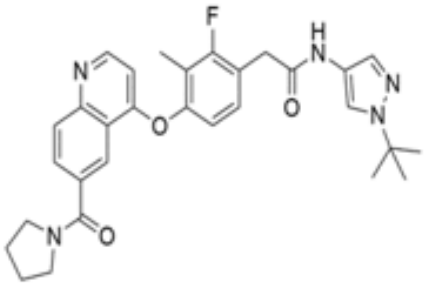
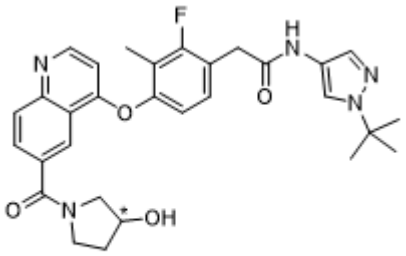
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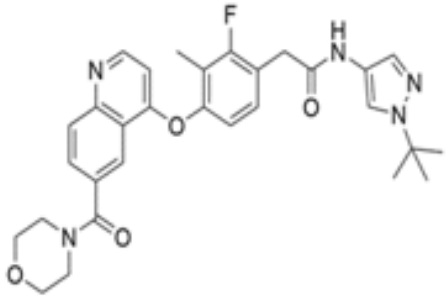
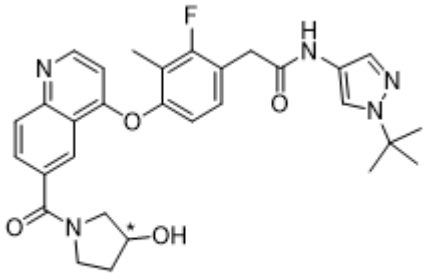
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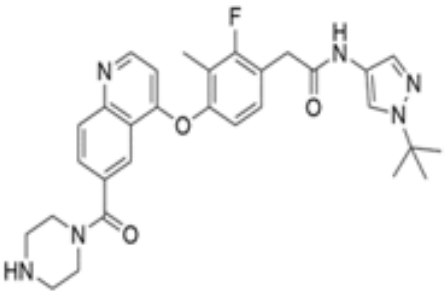

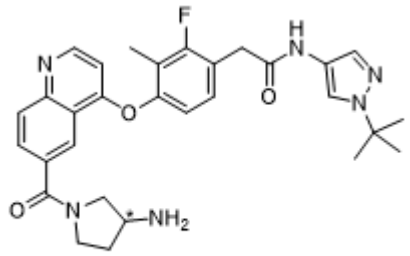

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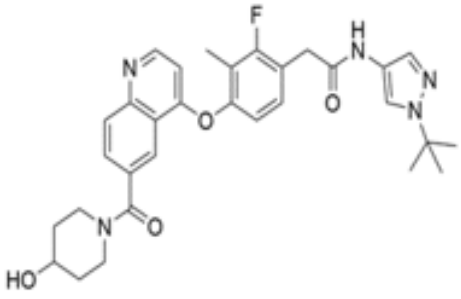

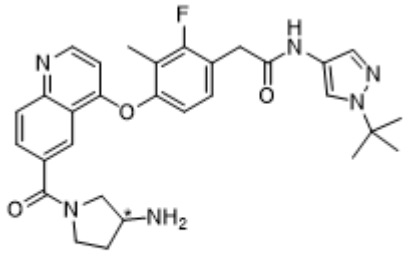

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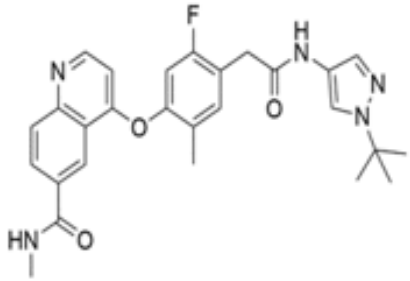

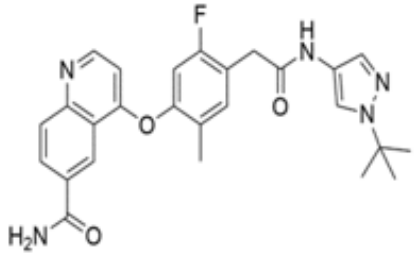

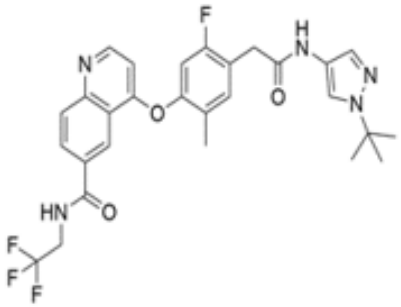

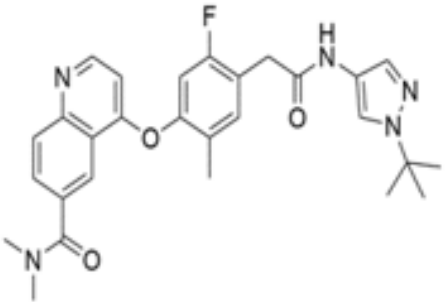

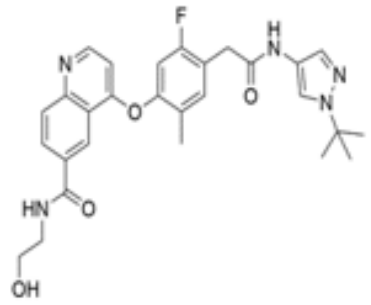
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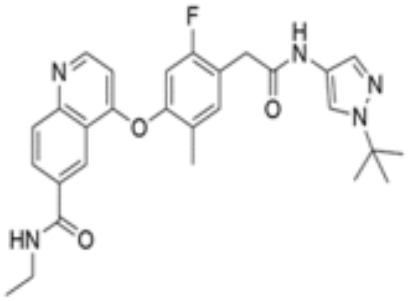
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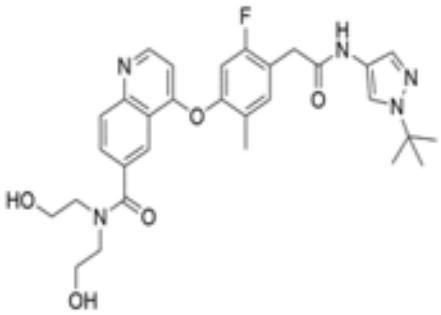
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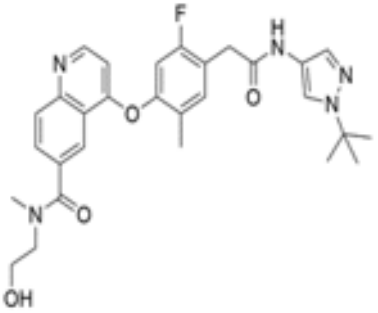
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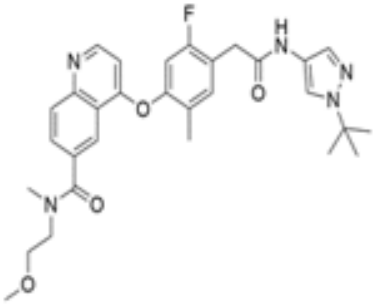
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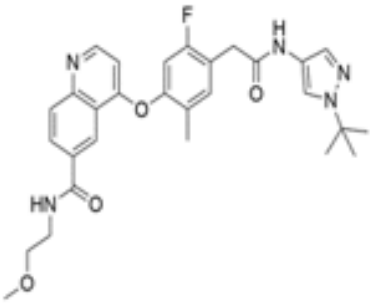
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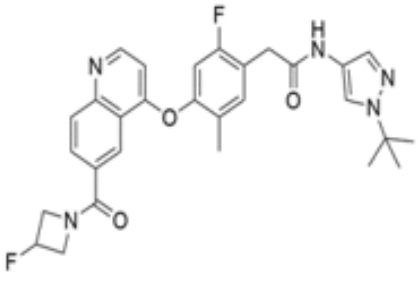
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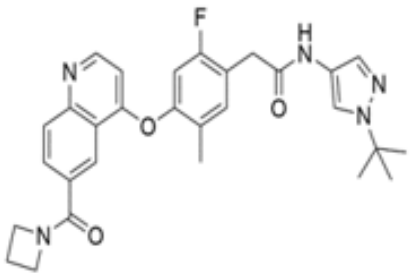
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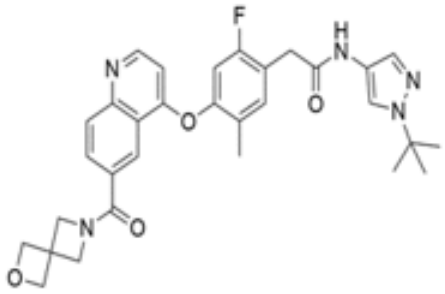
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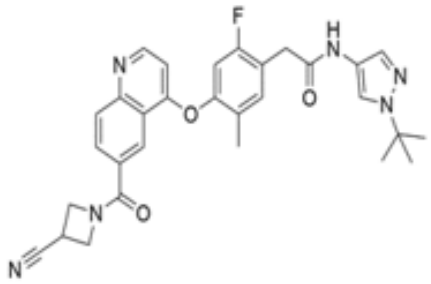
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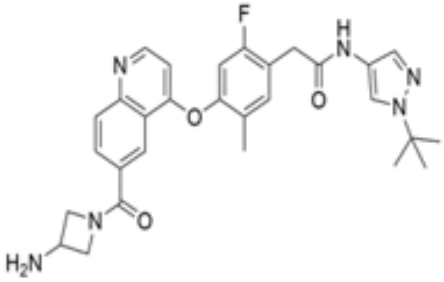
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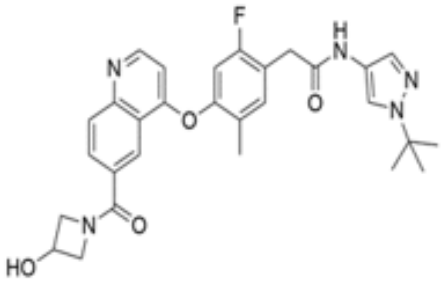
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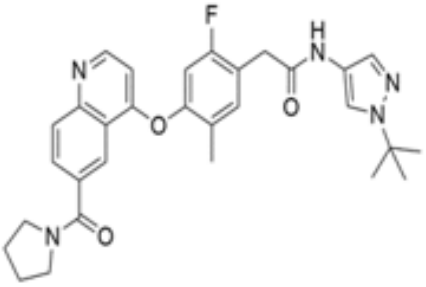
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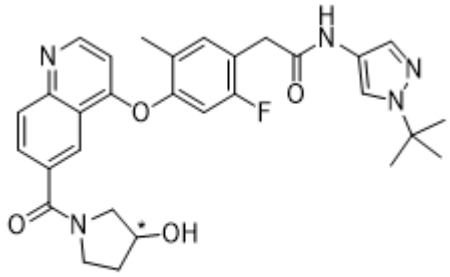
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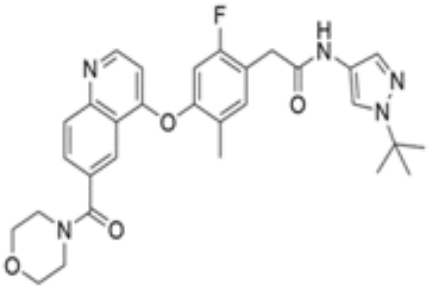
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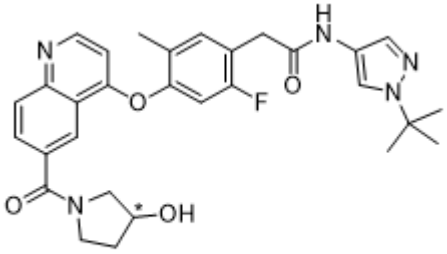
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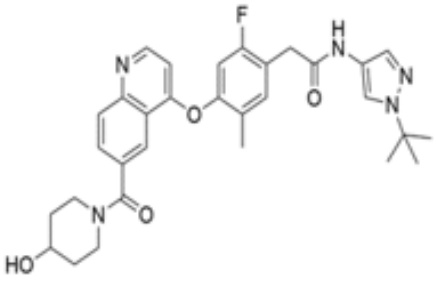
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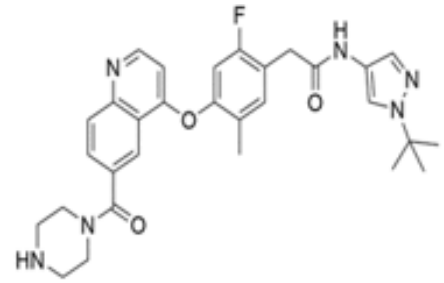
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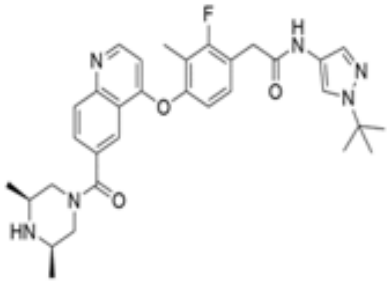
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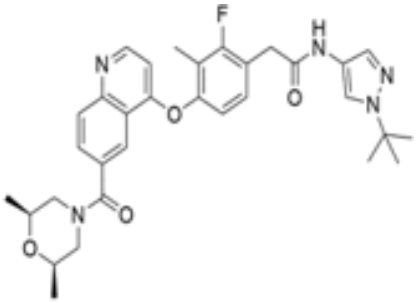
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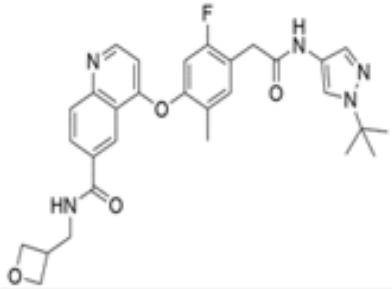
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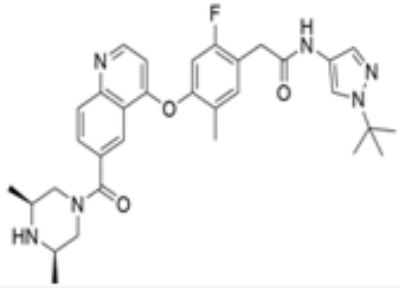
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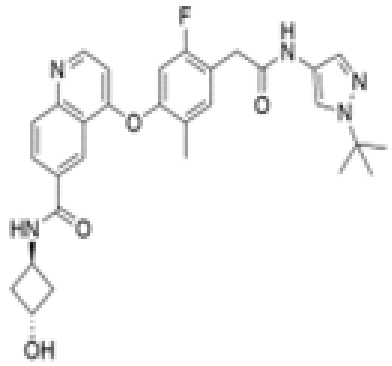
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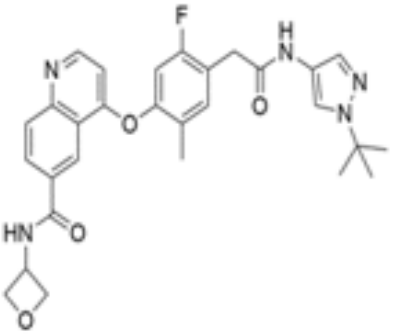
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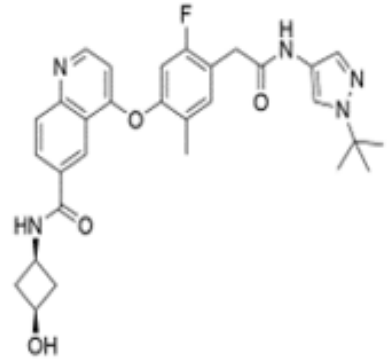

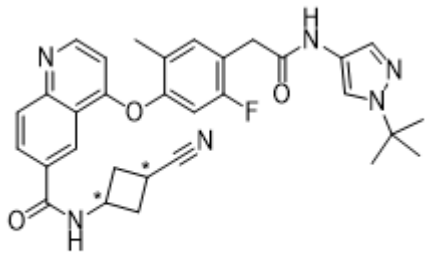

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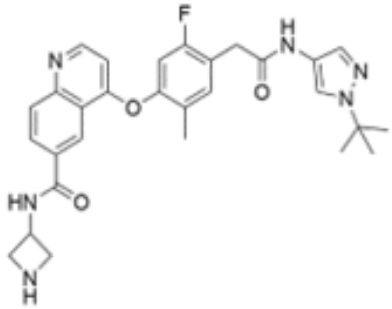

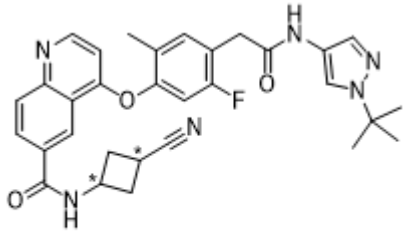

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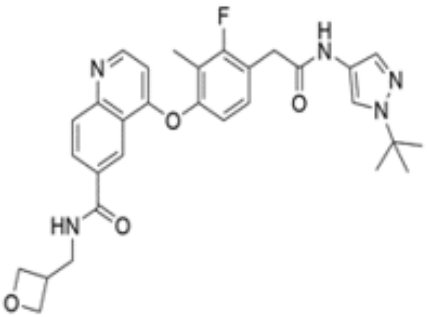

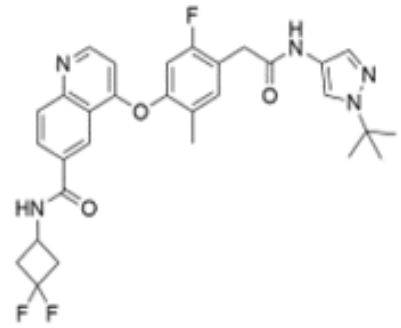

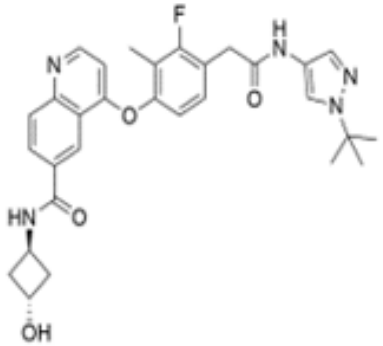

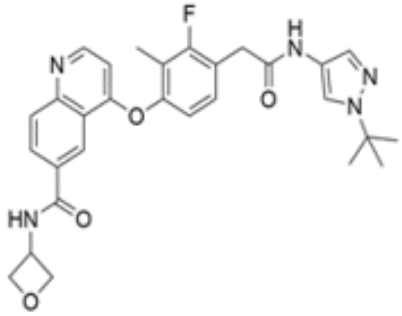

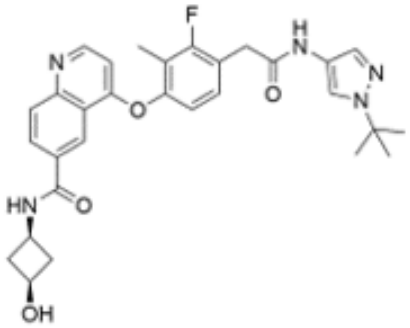

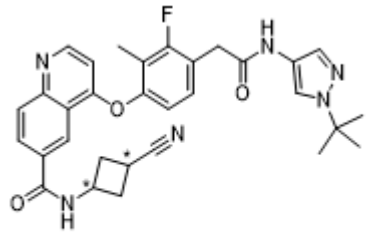

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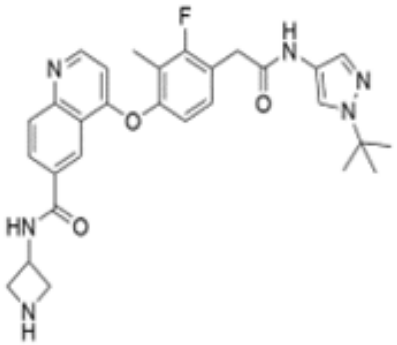

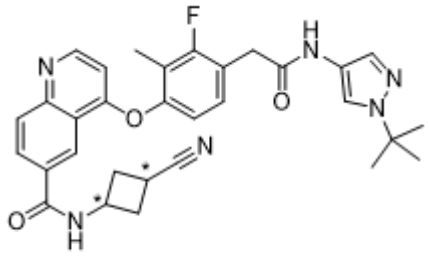

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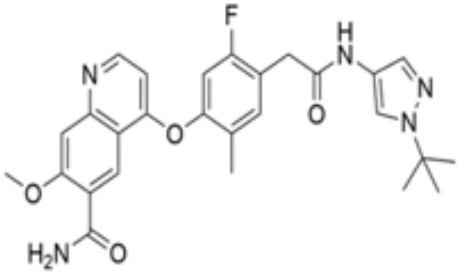

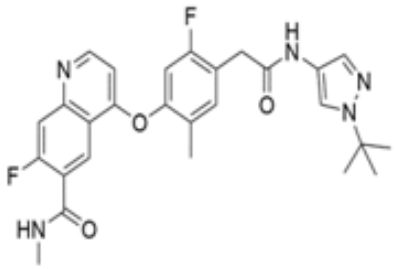

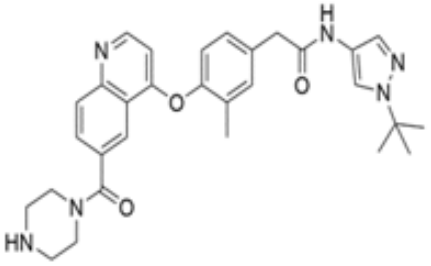

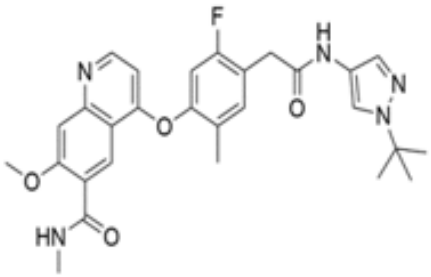

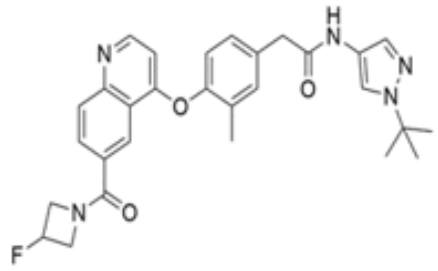
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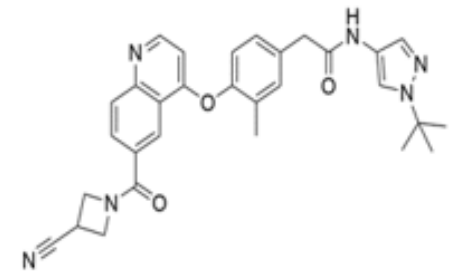
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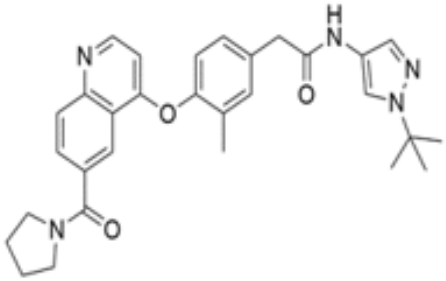
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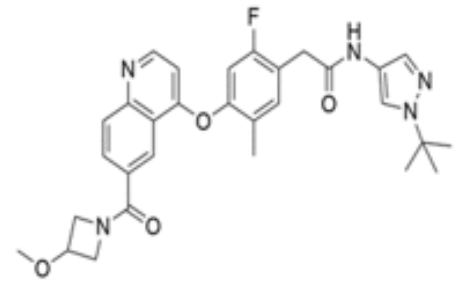
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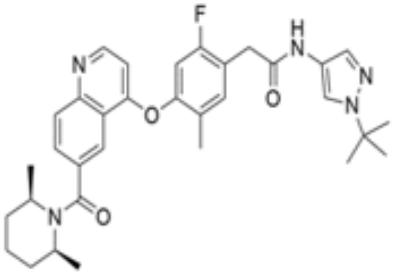
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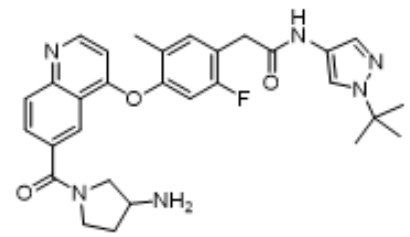
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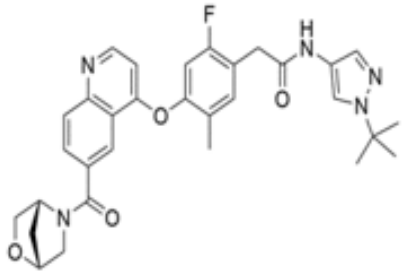
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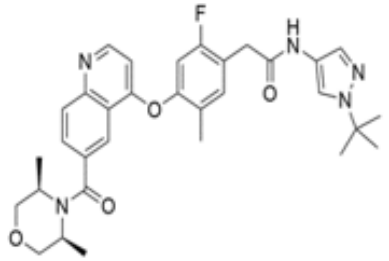
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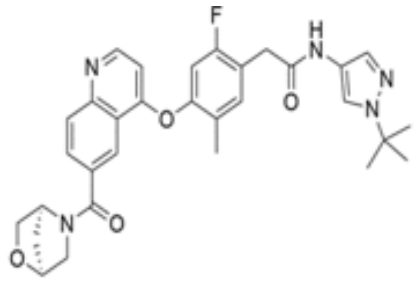
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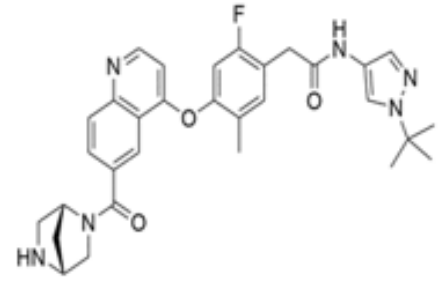
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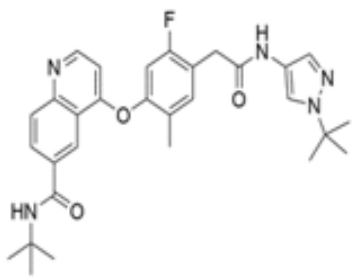
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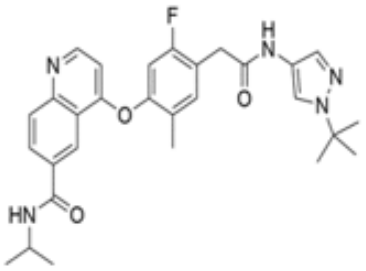
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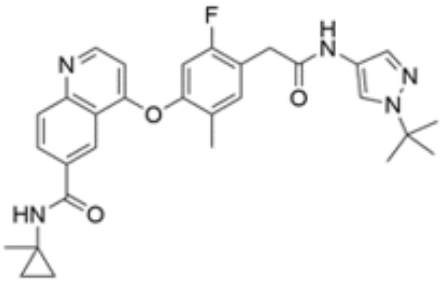
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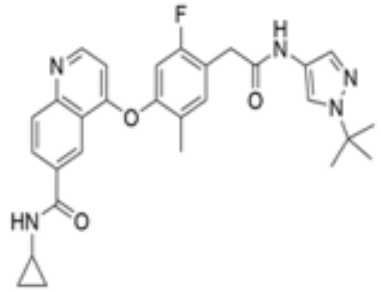
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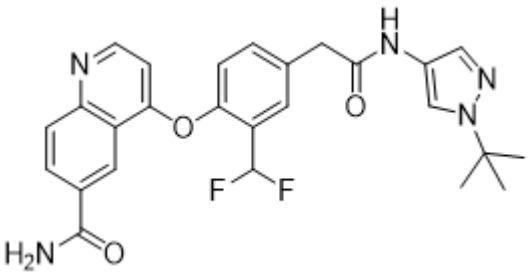
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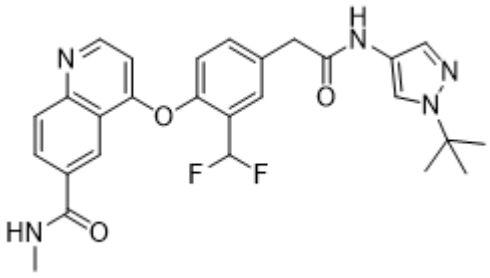
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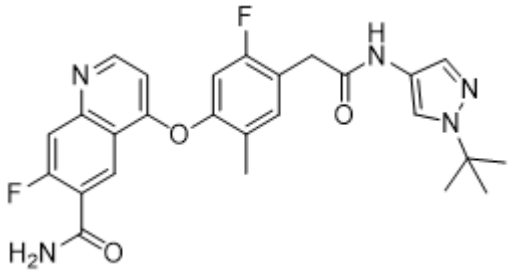
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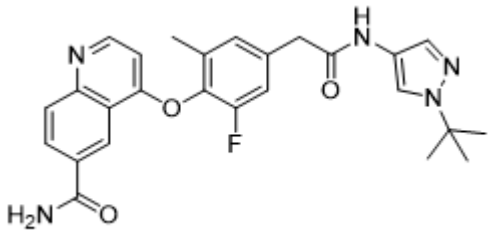
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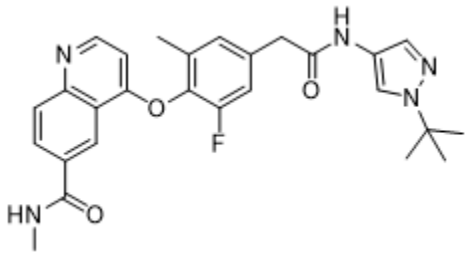
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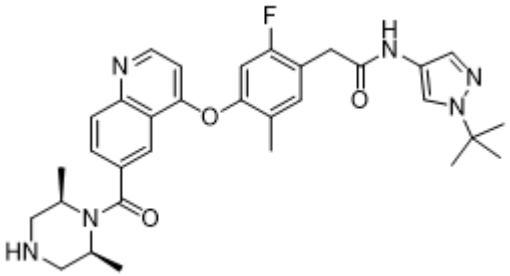
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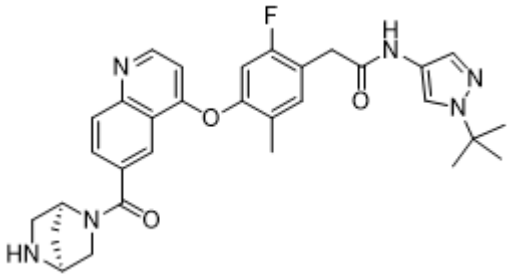
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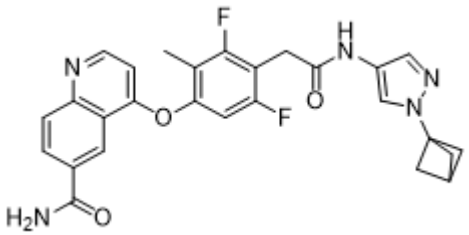
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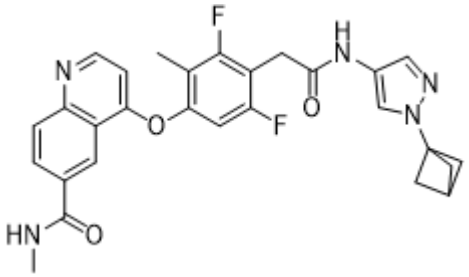
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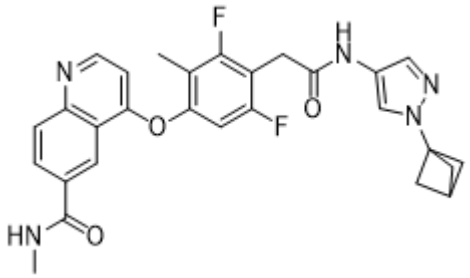
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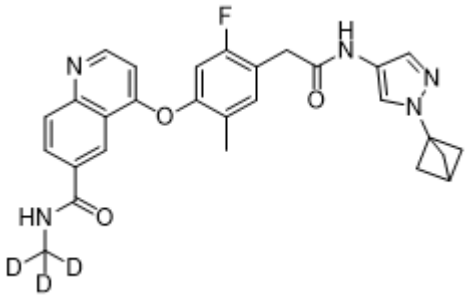
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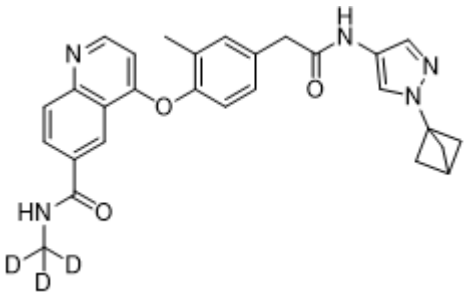
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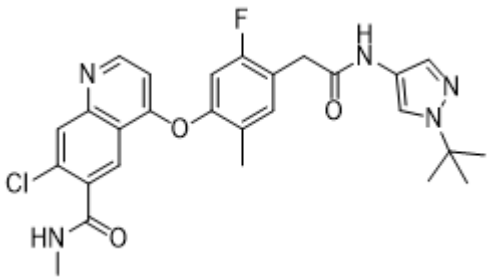
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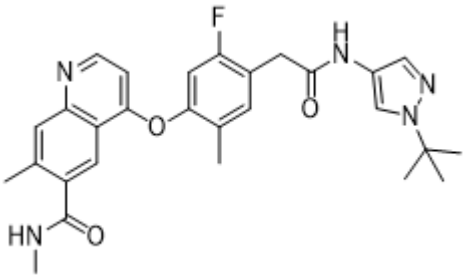
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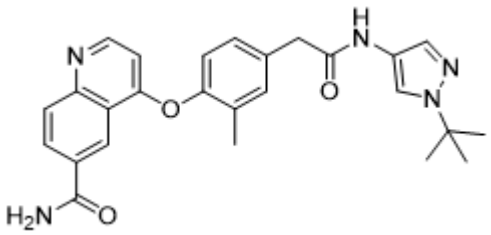
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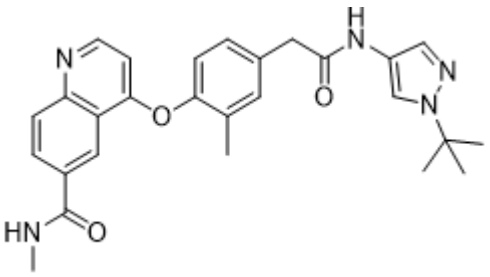
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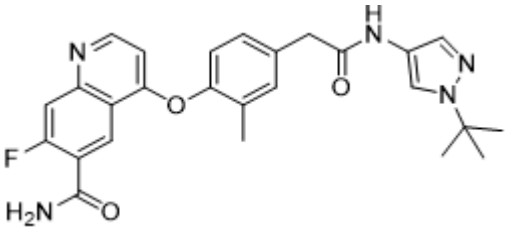
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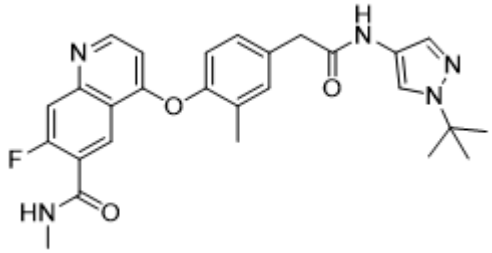
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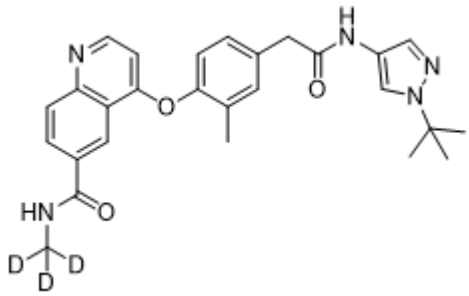
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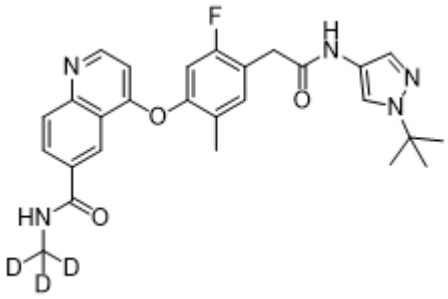
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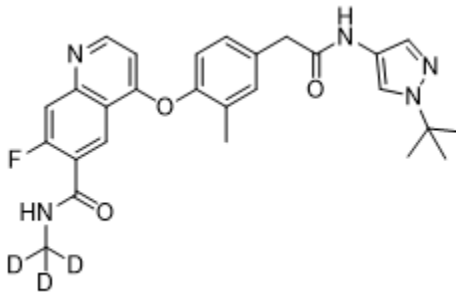
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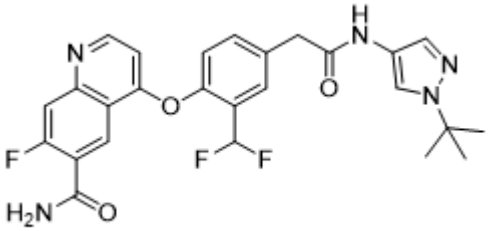
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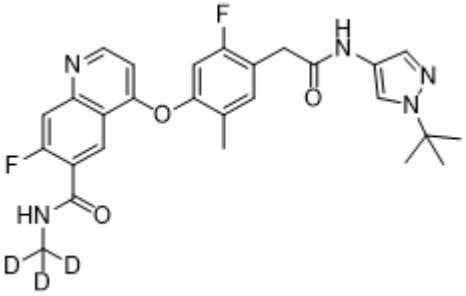
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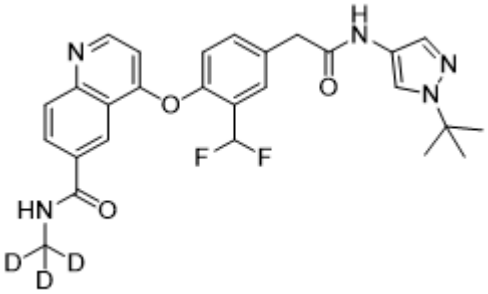
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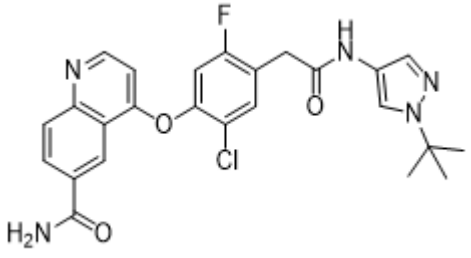
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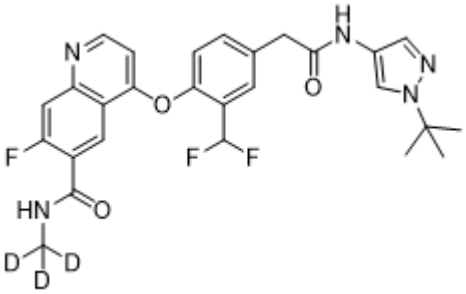
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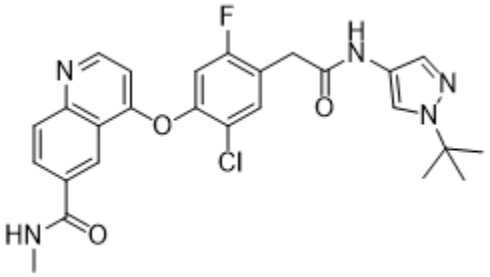
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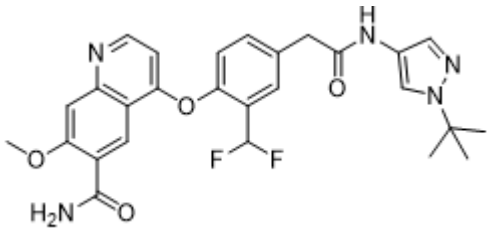
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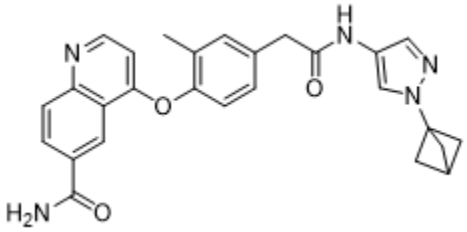
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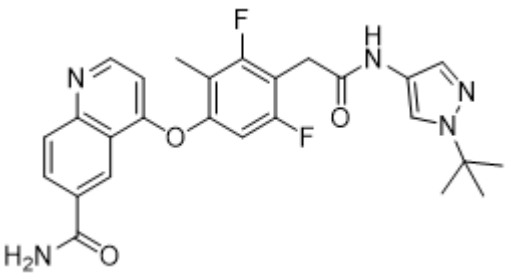
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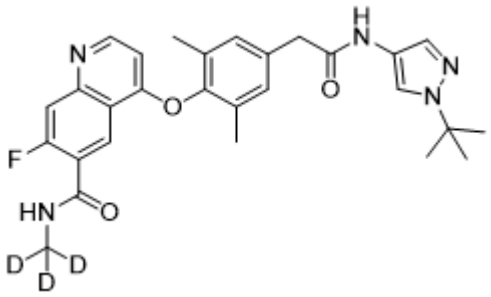
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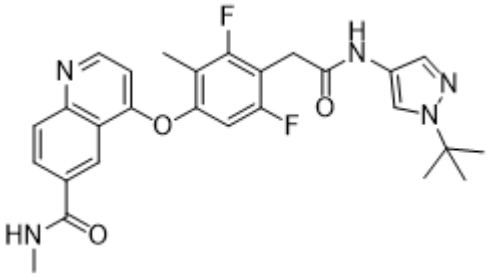
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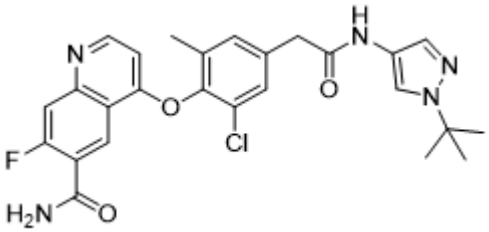
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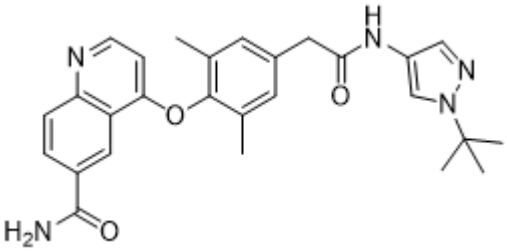
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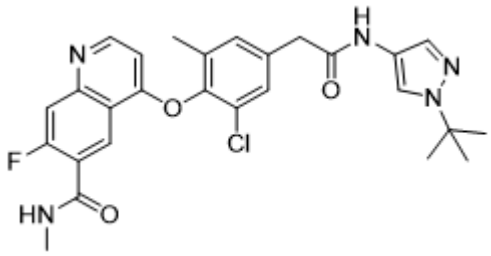
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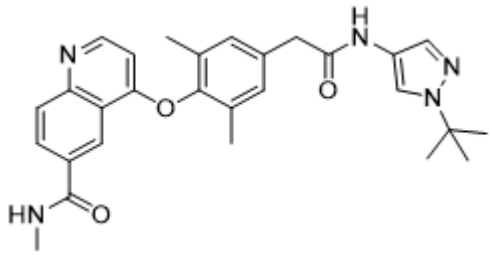
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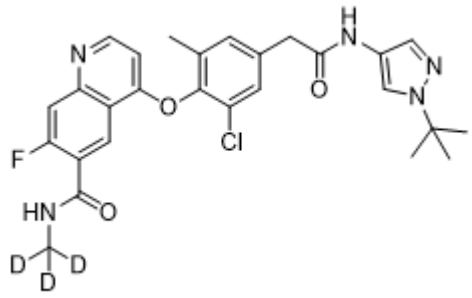
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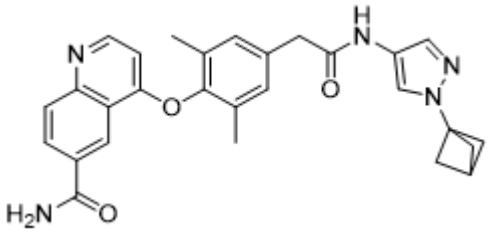
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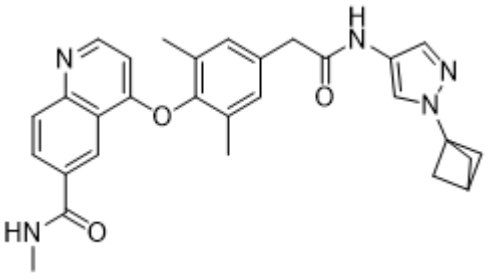
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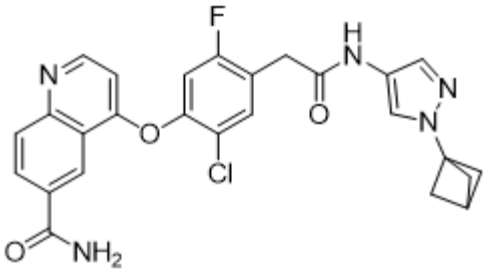
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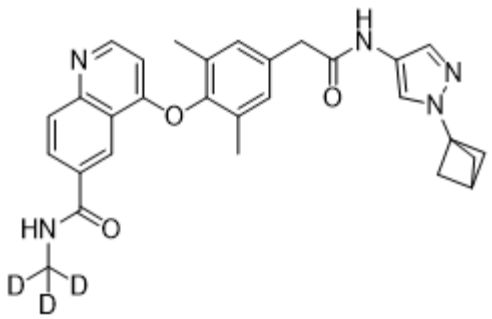
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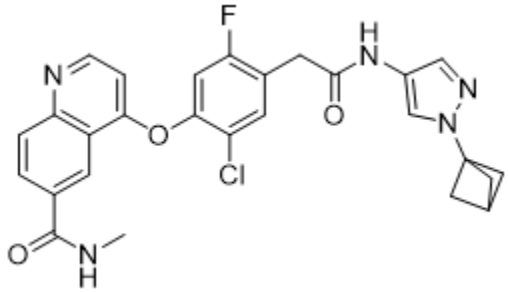
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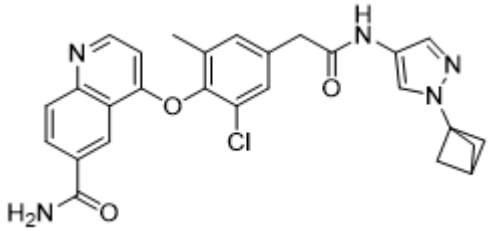
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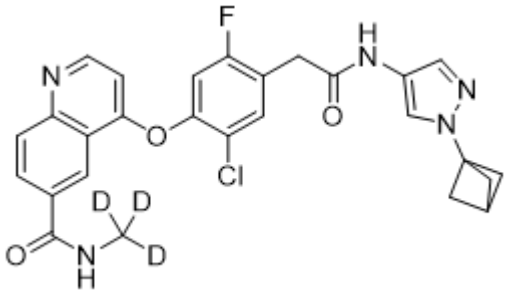
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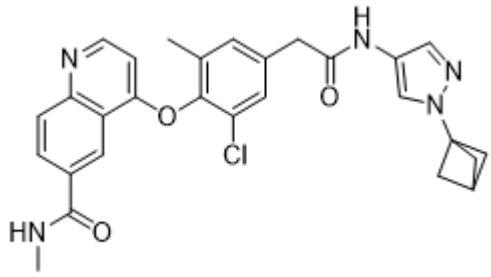
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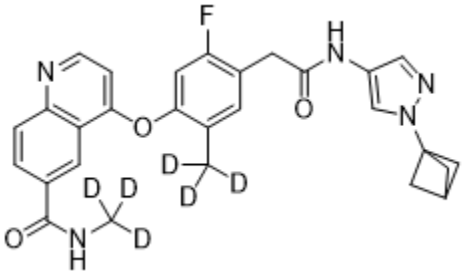
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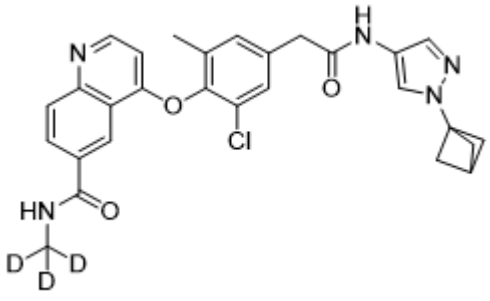
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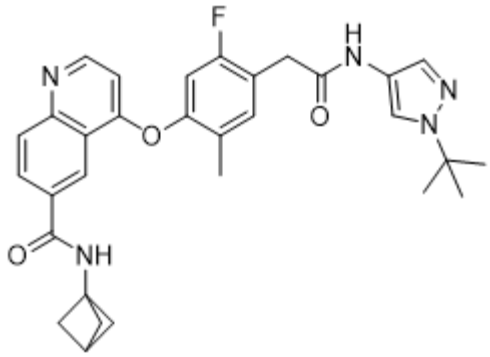
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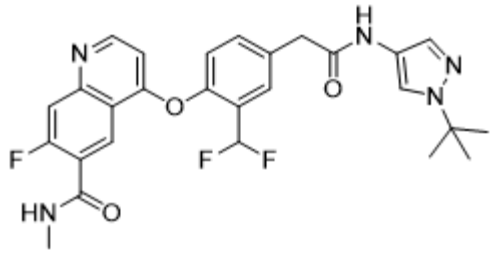
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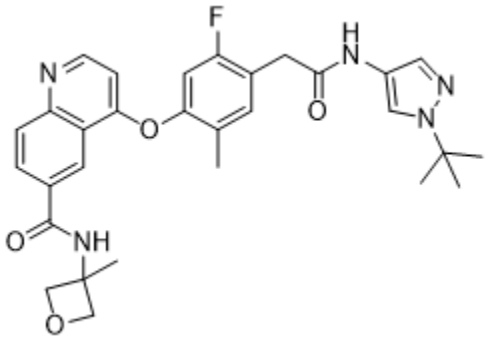
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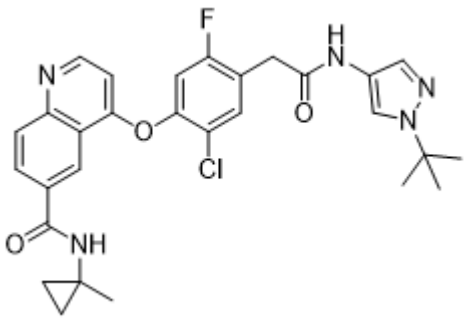
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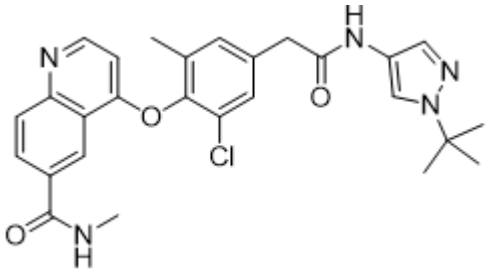
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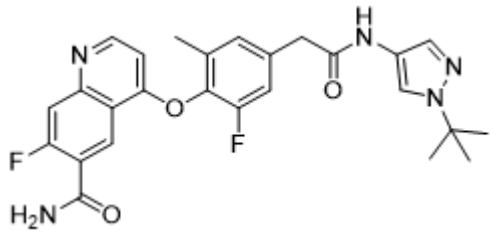
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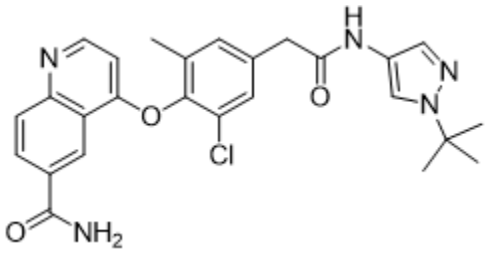
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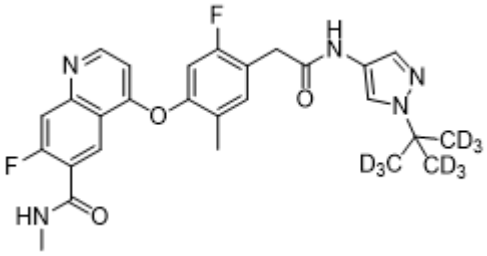
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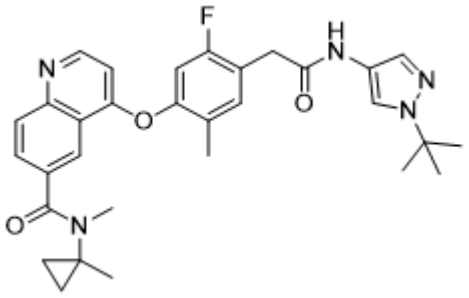
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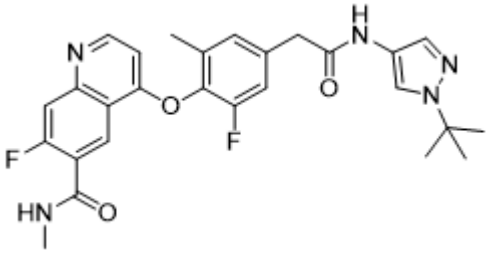
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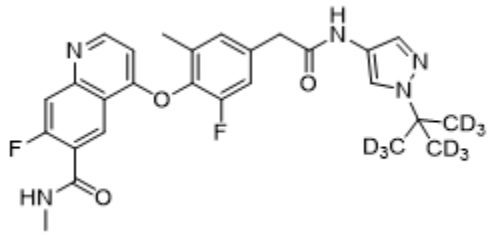
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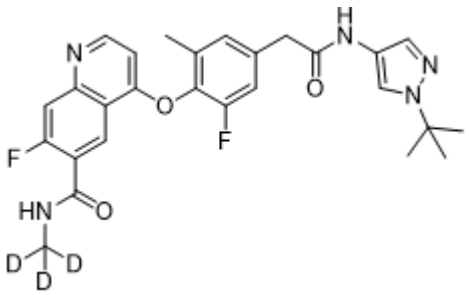
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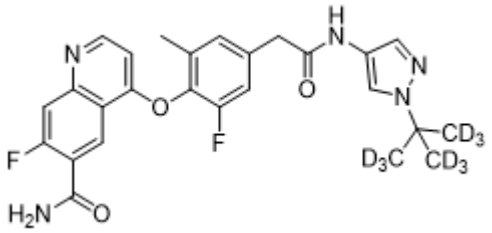
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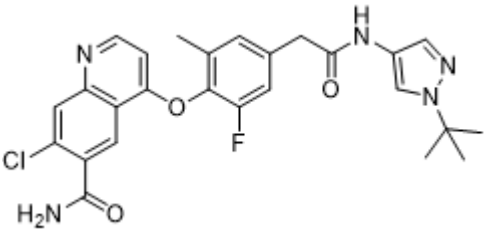
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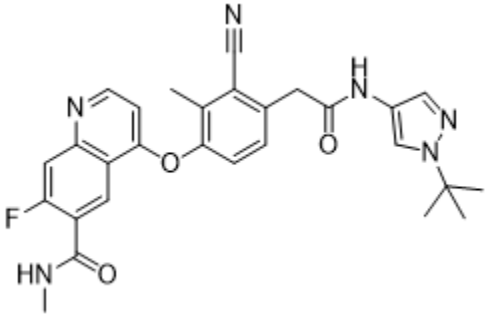
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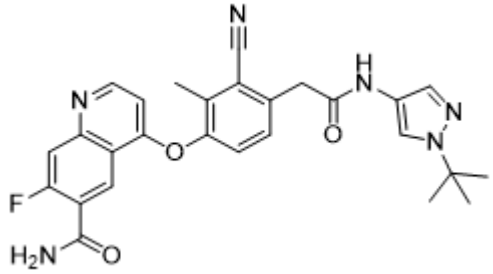
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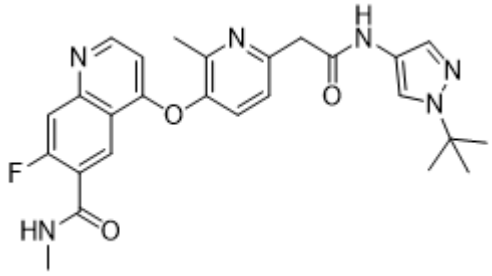
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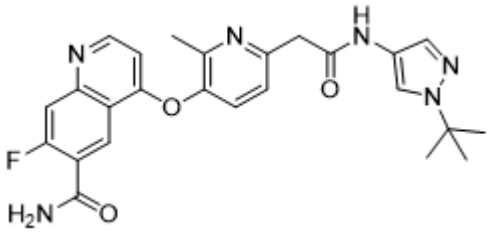
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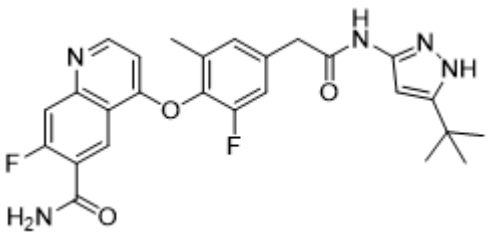
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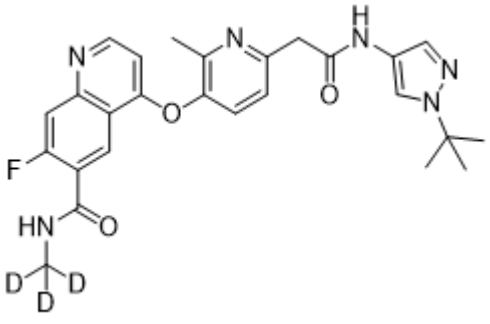
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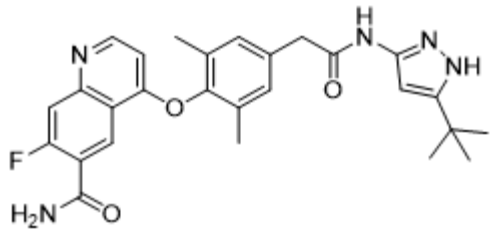
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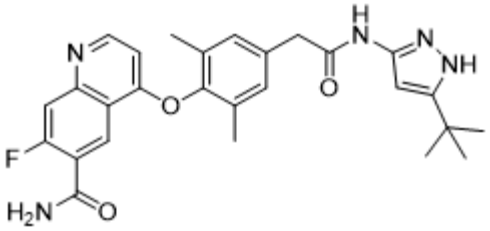
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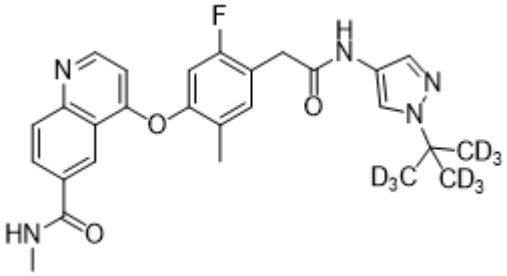
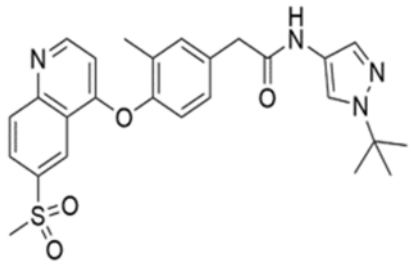
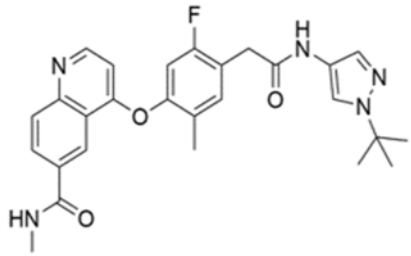

, or a pharmaceutically acceptable salt thereof.

36. The compound of claim 1, wherein the compound is represented by the following structural formula:



or a pharmaceutically acceptable salt thereof.

37. The compound of claim 1, wherein the compound is represented by the following structural formula:



or a pharmaceutically acceptable salt thereof.

38. A pharmaceutical composition comprising a compound of any one of claims 1-37 and a pharmaceutically acceptable excipient.

39. Use of a compound of any one of claims 1-37 or a pharmaceutical composition of claim 38 in the manufacture of a medicament for the treatment of a disease or disorder, wherein the disease or disorder is selected from an inflammatory disease, autoimmune disease, granulomatous disease, cancer, and neurodegenerative disease.

40. The use of claim 38, wherein the disease or disorder is an inflammatory disease.

41. The use of claim 39, wherein the inflammatory disease is selected from uveitis, interleukin-1 converting enzyme fever syndrome, dermatitis, acute lung injury, type 2 diabetes mellitus, arthritis, inflammatory bowel disorder (IBD), ischemia reperfusion injury in a solid organ transplant, sepsis, liver disease, allergic disease, and graft versus host disease.

42. The use of claim 39, wherein the inflammatory disease is an IBD.

43. The use of claim 41, wherein the IBD is selected from ulcerative colitis, Crohn's disease, early-onset IBD, and extraintestinal IBD.

44. The use of claim 41, wherein the IBD is ulcerative colitis.

45. The use of claim 39, wherein the inflammatory disease is selected from rheumatoid arthritis, inflammatory arthritis, peritonitis, ischemia reperfusion injury in kidney transplant, non-alcohol steatohepatitis, alcohol steatohepatitis, insulin-resistant type 2 diabetes, allergic rhinitis, asthma, atopic dermatitis, Sjogren’s syndrome, ankylosing spondylitis, pemphigus vulgaris, idiopathic plasmocytic lymphadenopathy, atherosclerosis, myocardial infarction, thrombosis, α-synucleinopathy, Parkinson’s disease, dementia with Lewy body, multiple system atrophy, Alzheimer’s disease, amyotrophic lateral sclerosis, and chronic obstructive pulmonary disease.

46. The use of claim 38, wherein the disease or disorder is an autoimmune disease, a granulomatous disease, a cancer, or a neurodegenerative disease.

47. The use of any one of claims 38-45, wherein the treatment further comprises administering a therapeutically effective amount of a second agent.

48. The use of claim 46, wherein the second agent is selected from anti-TNF agent, anti-IL-23 agent, anti-integrin agent, and JAK inhibitor.

49. The use of claim 47, wherein the second agent is an anti-integrin agent.

50. The use of claim 48, wherein the anti-integrin agent is vedolizumab.

51. The use of claim 47, wherein the second agent is a JAK inhibitor.

52. The use of claim 50, wherein the JAK inhibitor is tofacitinib.

53. The compound of any one of claims 1-37 or the pharmaceutical composition of claim 38 for use as a medicament.