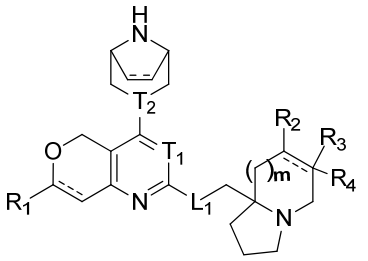
CLAIMS

1. A compound represented by formula (VI) or a pharmaceutically acceptable salt thereof,



(VI) ,

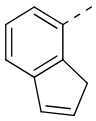
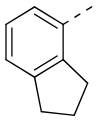
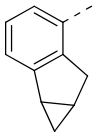
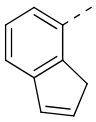
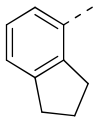
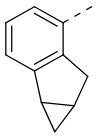
wherein

 is selected from a single bond and a double bond;

T_1 is selected from CR_a and N;

T_2 is selected from CH and N;

L_1 is selected from O and S;

R_1 is selected from phenyl, naphthyl, ,  and , wherein the phenyl, naphthyl, ,  and  are each independently optionally substituted with 1, 2, 3, 4 or 5 R_b;

R_2 is H;

R_3 is selected from H, F, CN, CH_3 and OCH_3, wherein the CH_3 and OCH_3 are optionally substituted with 1, 2 or 3 halogens;

alternatively, R_2 and R_3 together with the atoms to which they are attached form a phenyl group or a 5-6 membered heteroaryl group, wherein the phenyl group or the 5-6 membered heteroaryl group is optionally substituted with 1, 2 or 3 halogens;

R_4 is absent or is selected from H, CH_3 and $-CH=CH_2$, wherein the CH_3 and $-CH=CH_2$ are optionally substituted with 1, 2 or 3 halogens;

alternatively, R_3 and R_4 together with the atom to which they are attached form , wherein

the  is optionally substituted with 1 or 2 R_c;

alternatively, R_3 and R_4 together with the atom to which they are attached form a cyclopropyl group, which is optionally substituted with 1, 2 or 3 halogens;

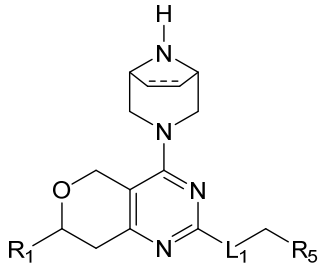
R_a is selected from H and CN;

each R_b is independently selected from H, F, Cl, Br, I, OH, NH_2, CN, C_{1-3} alkyl, C_{1-3} alkoxy, C_{2-4} alkynyl, C_{2-4} alkynyl-cyclopropyl, C_{2-3} alkenyl, -C(=O)C_{1-3} alkyl and C_{3-5} cycloalkyl, wherein the C_{1-3} alkyl, C_{1-3} alkoxy, C_{2-4} alkynyl, C_{2-4} alkynyl-cyclopropyl, C_{2-3} alkenyl, -C(=O)C_{1-3} alkyl and C_{3-5} cycloalkyl are optionally substituted with 1, 2, 3, 4 or 5 halogens;

each R_c is independently selected from F, Cl, Br, I, CN, CH_3 and OCH_3;

m is selected from 0 and 1.

2. A compound represented by formula (P-1) or a pharmaceutically acceptable salt thereof,



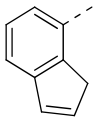
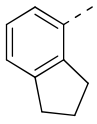
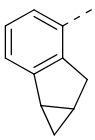
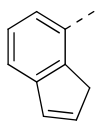
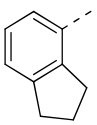
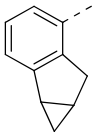
(P-1)

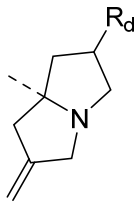
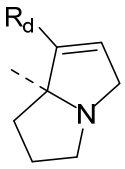
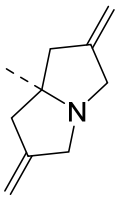
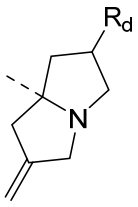
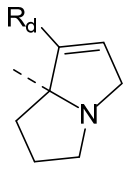
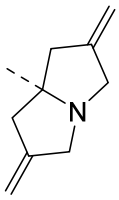
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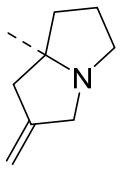
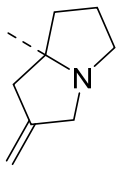
wherein

 is selected from a single bond and a double bond;

L_1 is selected from O and S;

R_1 is selected from phenyl, naphthyl, 5-10 membered heteroaryl, ,  and , wherein the phenyl, naphthyl, 5-10 membered heteroaryl, ,  and  are each independently optionally substituted with 1, 2, 3, 4 or 5 R_b, and R_5 is selected

from ,  and , wherein the ,  and  are each independently optionally substituted with 1, 2, 3, 4 or 5 R_d;

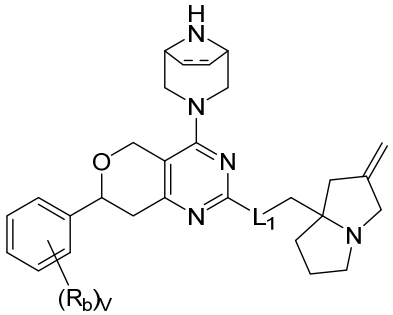
alternatively, R_1 is 5-10 membered heteroaryl, wherein the 5-10 membered heteroaryl is optionally substituted with 1, 2, 3, 4 or 5 R_b, and R_5 is , wherein the  is optionally substituted with 1, 2, 3, 4 or 5 R_d;

each R_b is independently selected from H, F, Cl, Br, I, OH, NH_2, CN, C_{1-3} alkyl, C_{1-3} alkoxy, C_{2-4} alkynyl, C_{2-4} alkynyl-cyclopropyl, C_{2-3} alkenyl, -C(=O)C_{1-3} alkyl and C_{3-5} cycloalkyl, wherein the C_{1-3} alkyl, C_{1-3} alkoxy, C_{2-4} alkynyl, C_{2-4} alkynyl-cyclopropyl, C_{2-3} alkenyl, -C(=O)C_{1-3} alkyl and C_{3-5} cycloalkyl are optionally substituted with 1, 2, 3, 4 or 5 R;

each R_d is independently selected from F, Cl, Br, I, CN, CH_3 and OCH_3;

each R is independently selected from halogen and D.

3. A compound represented by formula (P-2) or a pharmaceutically acceptable salt thereof:



(P-2)

,

wherein

 is selected from a single bond and a double bond;

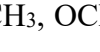
L_1 is selected from O and S;

each R_b is independently selected from F, Cl, Br, I, OH, NH_2, CN, C_{1-3} alkyl, C_{1-3} alkoxy, C_{2-4} alkynyl, C_{2-4} alkynyl-cyclopropyl, C_{2-3} alkenyl, $-C(=O)C_{1-3}$ alkyl and C_{3-5} cycloalkyl, wherein the C_{1-3} alkyl, C_{1-3} alkoxy, C_{2-4} alkynyl, C_{2-4} alkynyl-cyclopropyl, C_{2-3} alkenyl, $-C(=O)C_{1-3}$ alkyl and C_{3-5} cycloalkyl are optionally substituted with 1, 2, 3, 4 or 5 R;

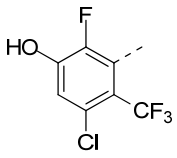
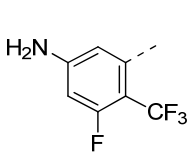
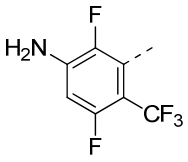
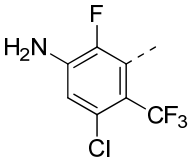
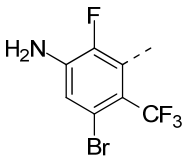
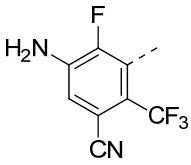
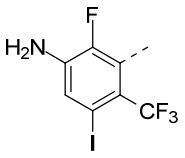
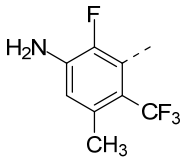
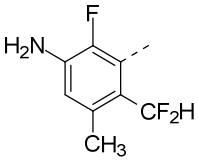
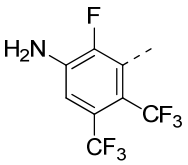
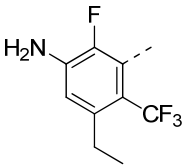
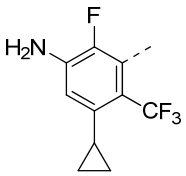
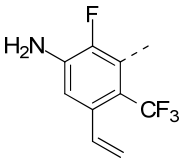
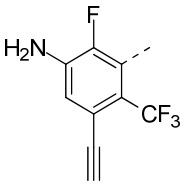
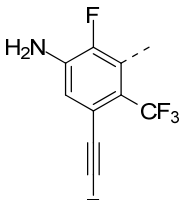
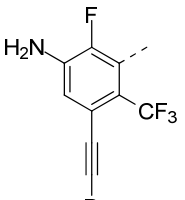
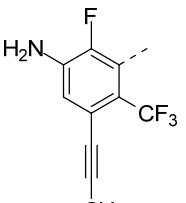
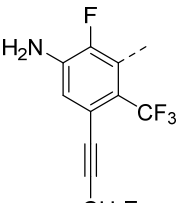
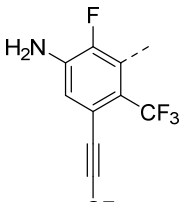
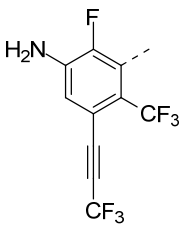
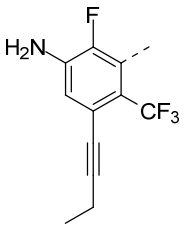
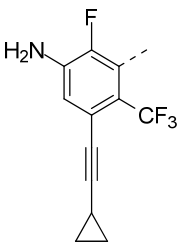
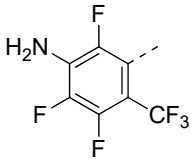
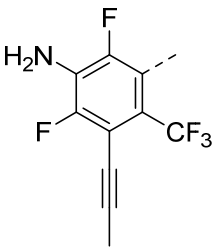
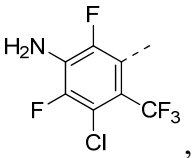
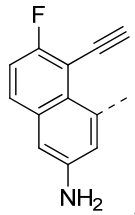
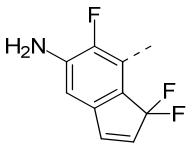
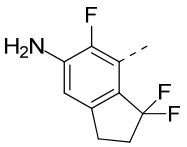
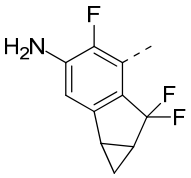
each R is independently selected from halogen and D;

v is selected from 1, 2, 3, 4 and 5;

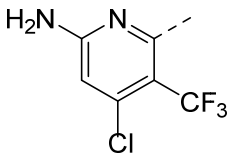
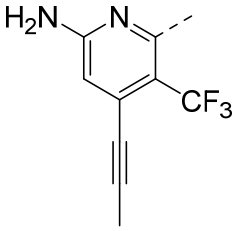
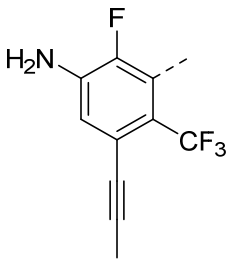
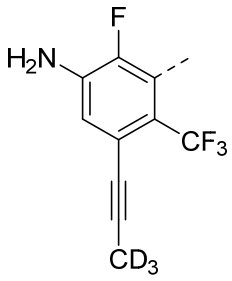
provided that at least one R_b is substituted with 1, 2, 3, 4 or 5 D.

4. The compound according to claim 1 or a pharmaceutically acceptable salt thereof, wherein each R_b is independently selected from H, F, Cl, Br, I, OH, NH_2, CN, CH_3, CH_2CH_3, OCH_3, OCH_2CH_3, $-CH=CH_2$, , , , and cyclopropyl, wherein the CH_3, CH_2CH_3, OCH_3, OCH_2CH_3, $-CH=CH_2$, , , , and cyclopropyl are optionally substituted with 1, 2, 3, 4 or 5 halogens; alternatively, each R_b is independently selected from H, F, Cl, Br, I, OH, NH_2, CN, CH_3, CH_2F, CF_2H, CF_3, CH_2CH_3, CF_2CF_3, $-CH=CH_2$, , , , , , , ,  and cyclopropyl.

5. The compound according to claim 2 or 3 or a pharmaceutically acceptable salt thereof, wherein each R_b is independently selected from H, F, Cl, Br, I, OH, NH_2, CN, CH_3, CH_2CH_3, OCH_3, OCH_2CH_3, $-CH=CH_2$, , , , and cyclopropyl, wherein the CH_3, CH_2CH_3, OCH_3, OCH_2CH_3, $-CH=CH_2$, , , , and cyclopropyl are optionally substituted with 1, 2, 3, 4 or 5 R; alternatively, each R_b is independently selected from H, F, Cl, Br, I, OH, NH_2, CN, CH_3, CD_3, CH_2F, CF_2H, CF_3, CH_2CH_3, CF_2CF_3, $-CH=CH_2$, , , , , , , , and cyclopropyl.

6. The compound according to claim 1 or a pharmaceutically acceptable salt thereof, wherein R_1 is selected from: , , , , , , , , , , , , , , , , , , , , , , , , , , , , , , , , , and .

7. The compound according to claim 2 or a pharmaceutically acceptable salt thereof, wherein

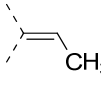
R_1 is selected from , ,  and .

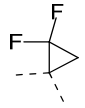
8. The compound according to claim 1 or a pharmaceutically acceptable salt thereof, wherein R_3 is selected from H, F, CN, CH_3 and OCH_3.

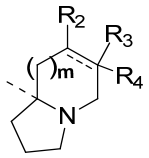
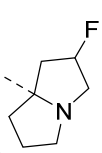
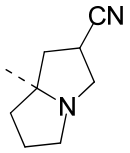
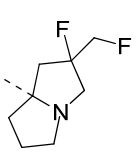
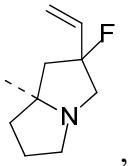
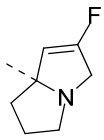
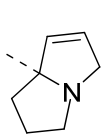
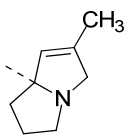
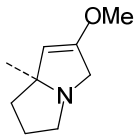
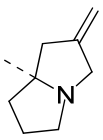
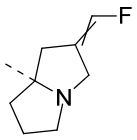
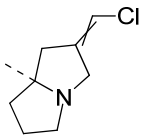
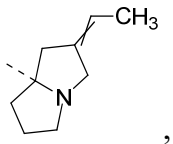
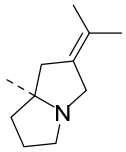
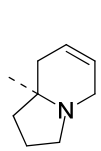
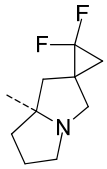
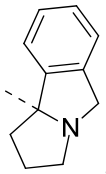
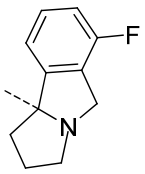
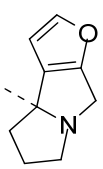
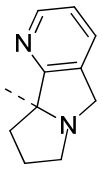
9. The compound according to claim 1 or a pharmaceutically acceptable salt thereof, wherein R_2 and R_3 together with the atoms to which they are attached form a phenyl group, a furyl group or a pyridyl group, wherein the phenyl group, the furyl group and the pyridyl group are optionally substituted with one F.

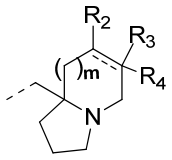
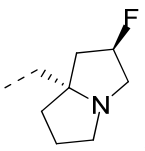
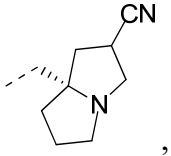
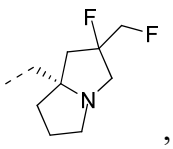
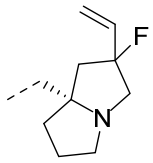
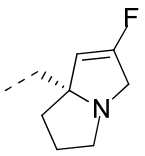
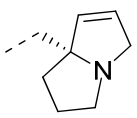
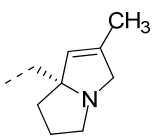
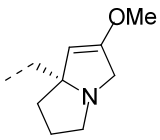
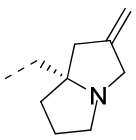
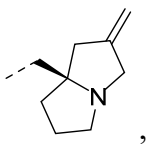
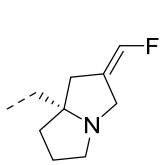
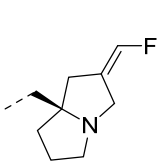
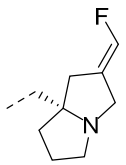
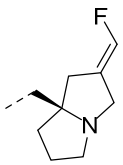
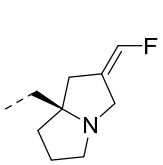
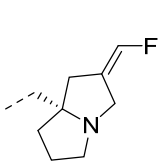
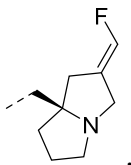
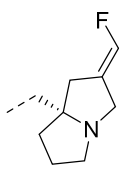
10. The compound according to claim 1 or a pharmaceutically acceptable salt thereof, wherein R_4 is absent or is selected from H, CH_2F and $-CH=CH_2$.

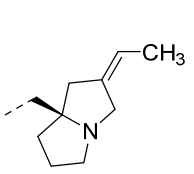
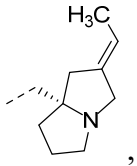
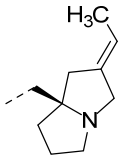
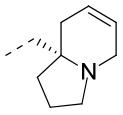
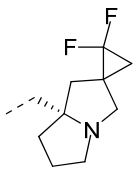
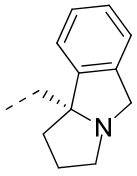
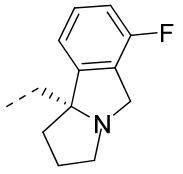
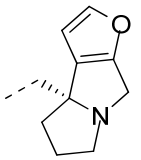
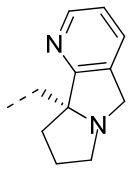
11. The compound according to claim 1 or a pharmaceutically acceptable salt thereof,

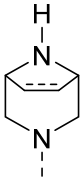
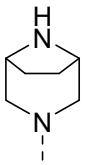
- wherein R_3 and R_4 together with the atom to which they are attached form , ,  or ;

- alternatively, wherein R_3 and R_4 together with the atom to which they are attached form .

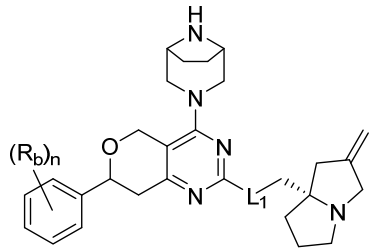
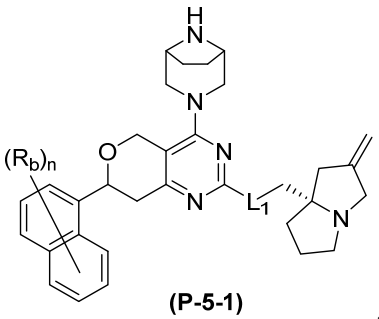
12. The compound according to claim 1 or a pharmaceutically acceptable salt thereof, wherein the structural moiety  is selected from , , , , , , , , , , , , , , , , , , and .

13. The compound according to claim 1 or a pharmaceutically acceptable salt thereof, wherein the structural moiety  is selected from , , , , , , , , , , , , , , , , , , , , , , .


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and

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14. The compound according to claim 1, 2 or 3 or a pharmaceutically acceptable salt thereof, wherein the structural moiety  is .

15. The compound according to claim 1 or a pharmaceutically acceptable salt thereof, wherein the compound is selected from

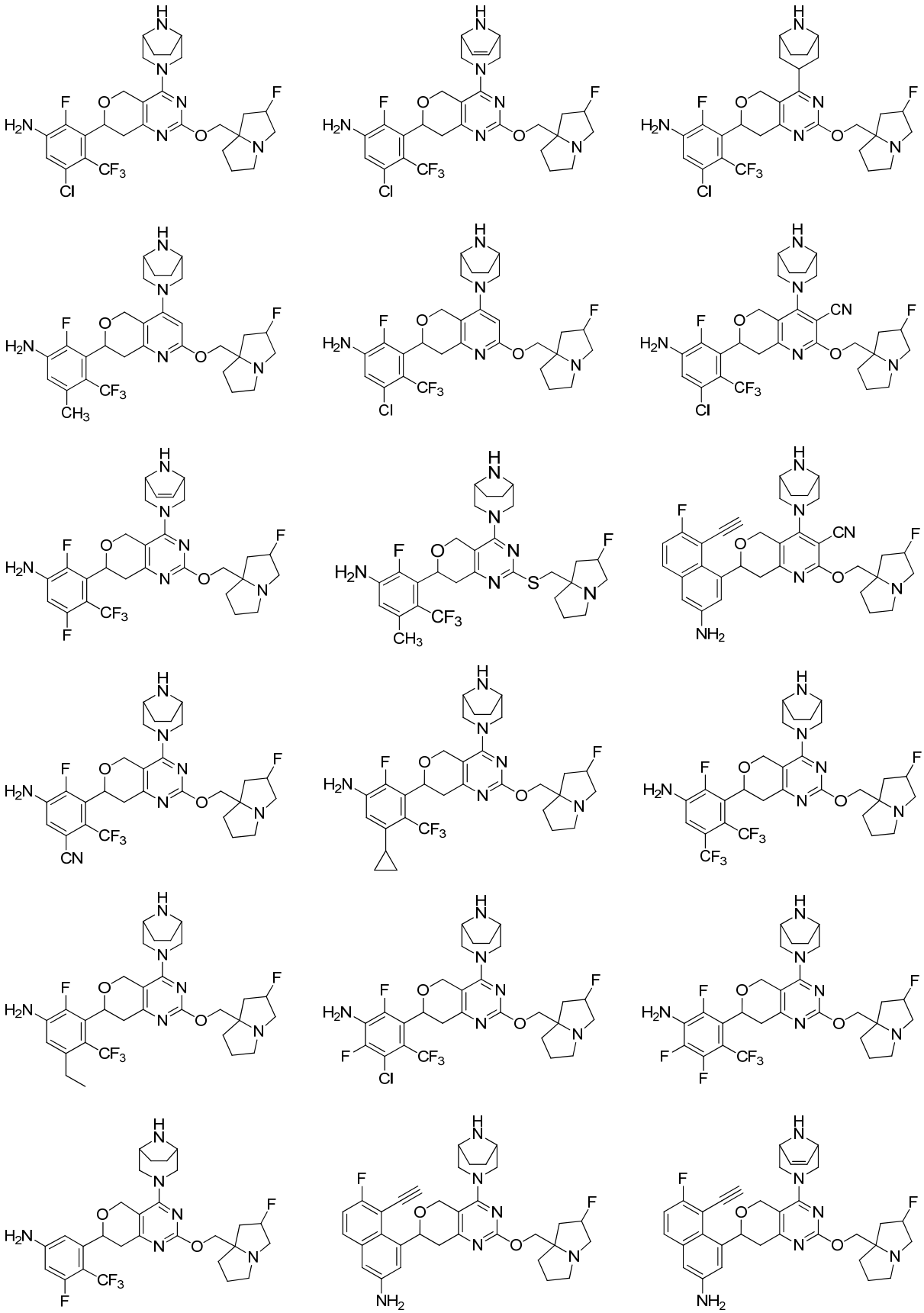

(P-4-1)
and

(P-5-1)
,

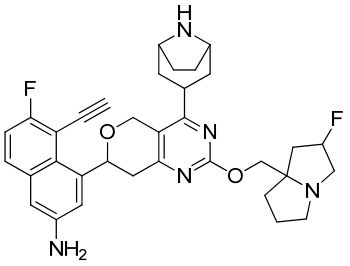
wherein

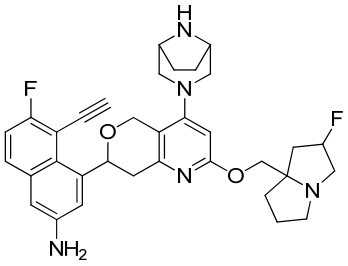
each of R_b and L_1 is as defined in claim 1;

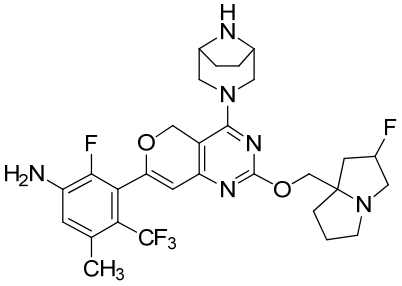
n is selected from 0, 1, 2, 3, 4 and 5.

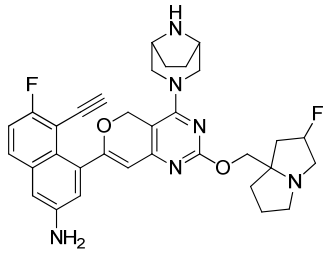
16. A compound or a pharmaceutically acceptable salt thereof, wherein the compound is selected from

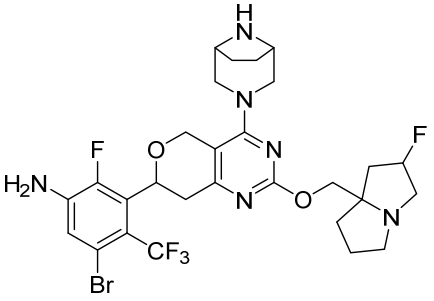


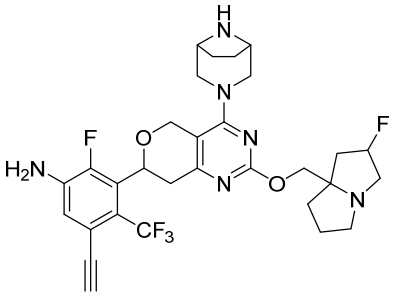


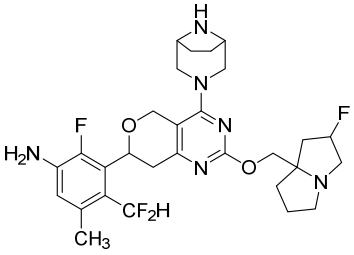


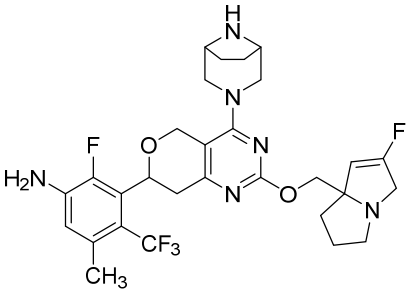


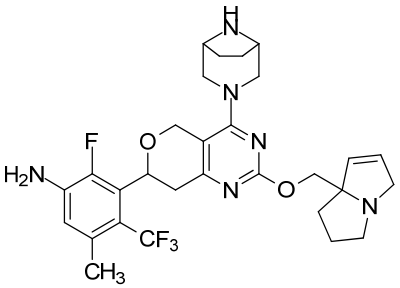


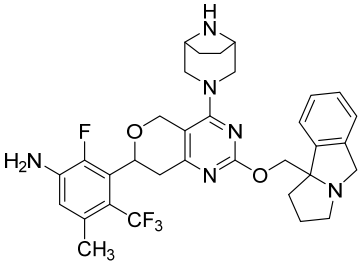


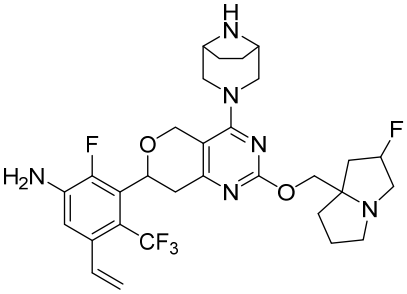


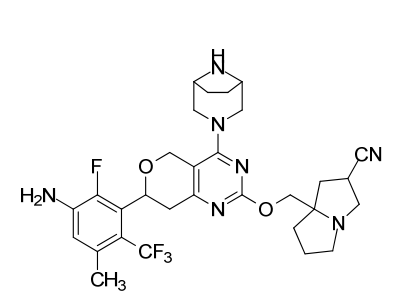


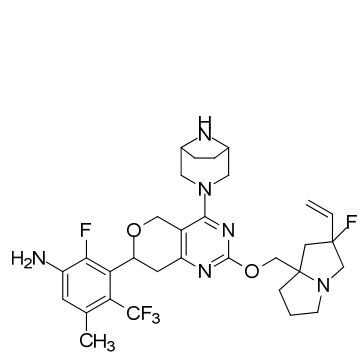


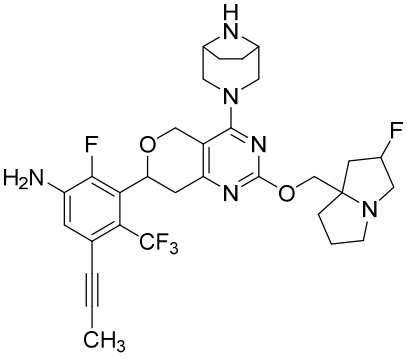


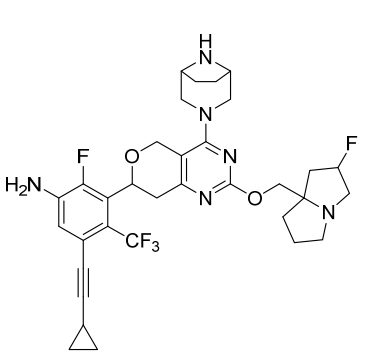


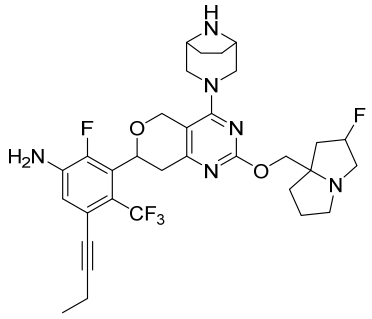
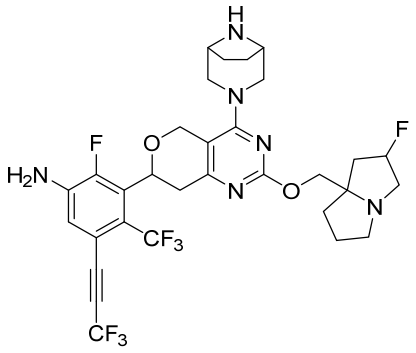
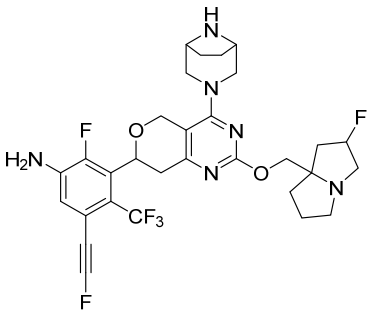
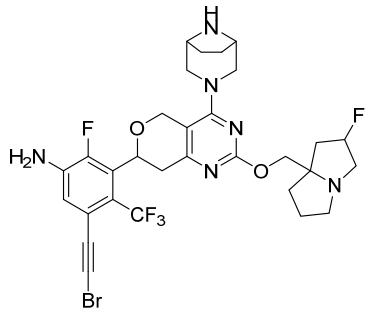
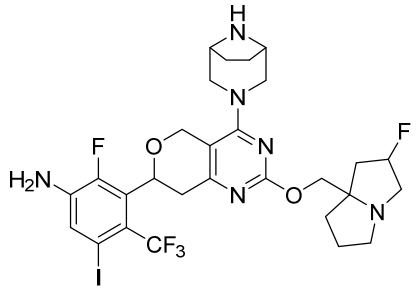
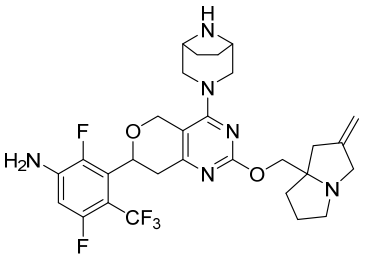
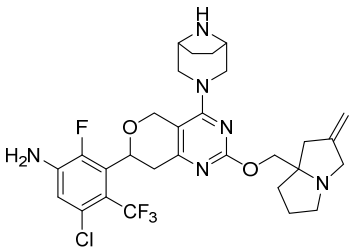
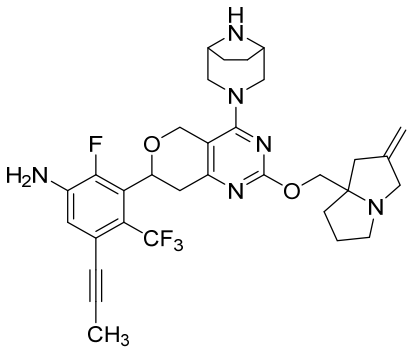
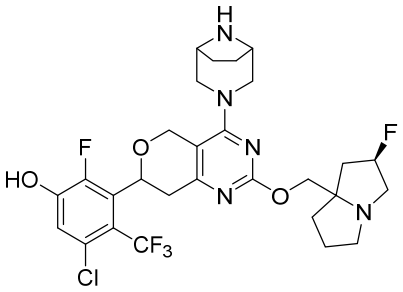
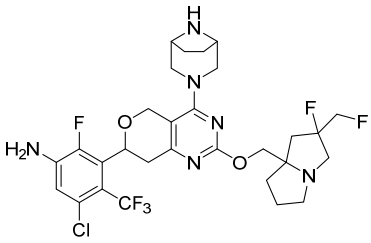
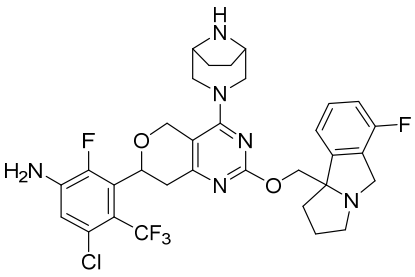
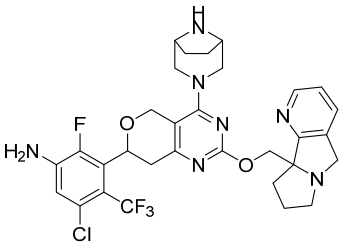
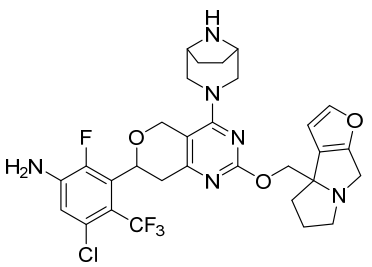
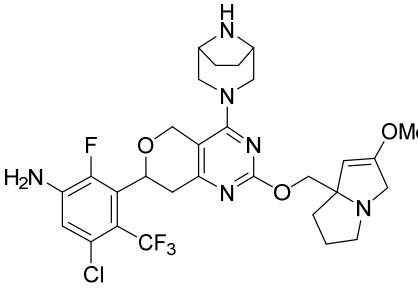
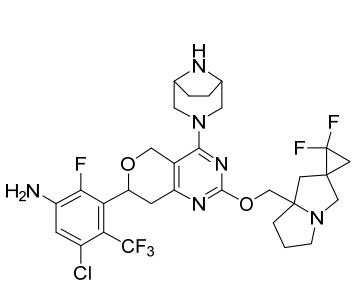


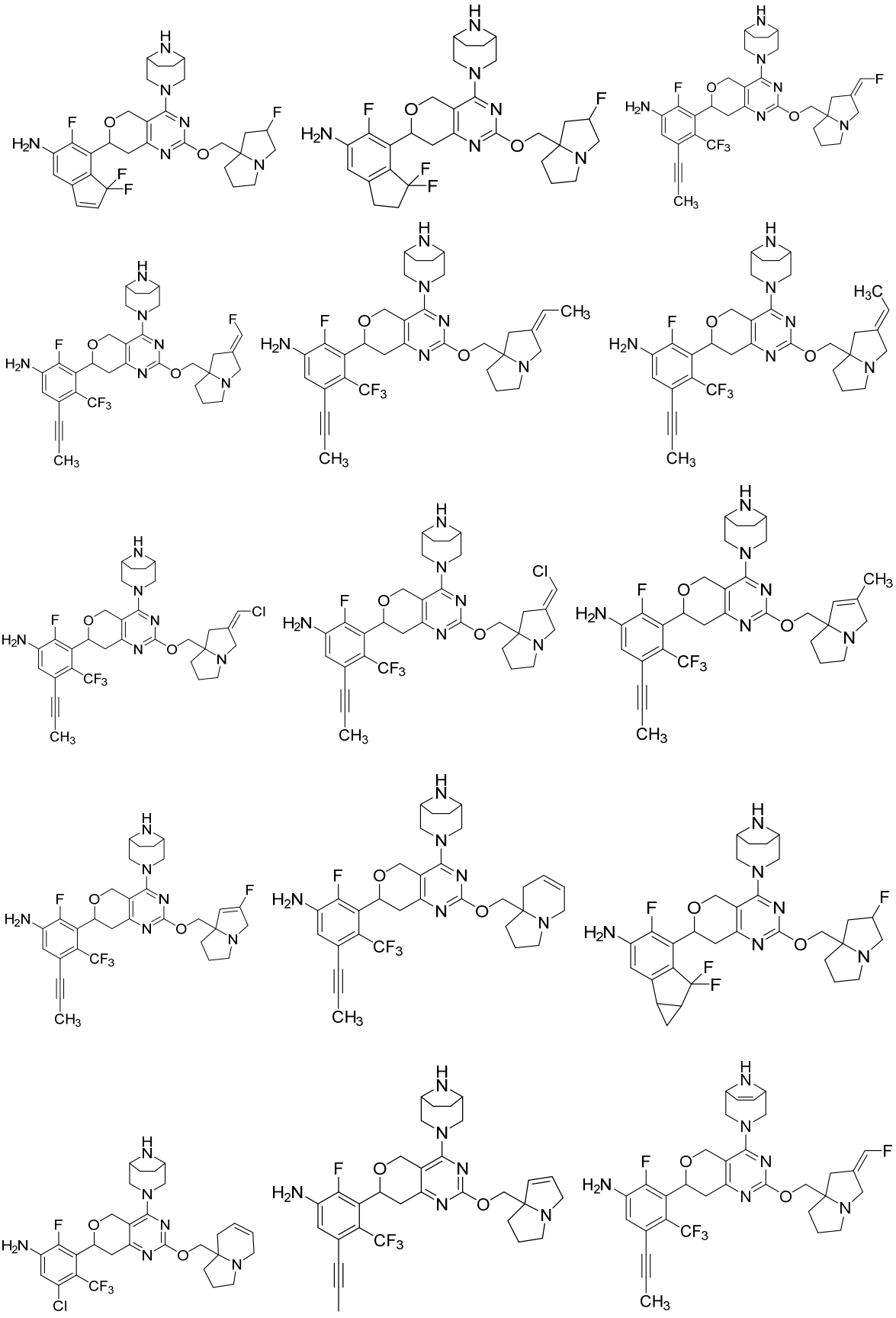


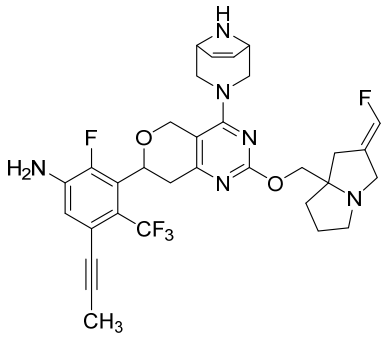


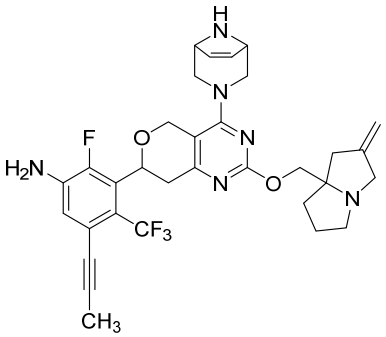


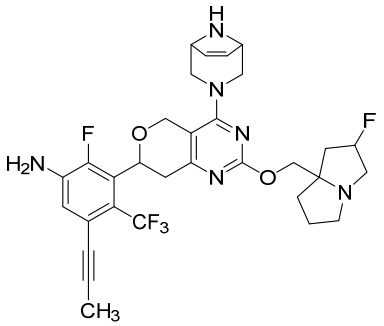


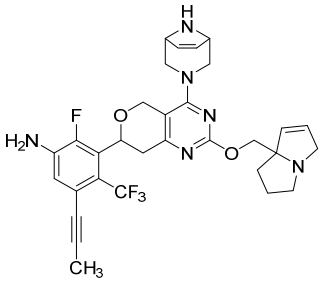
















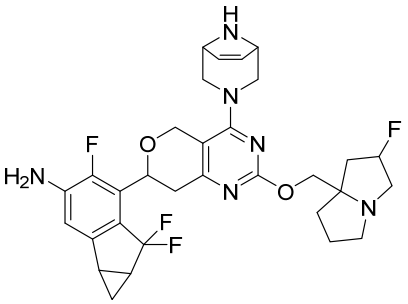


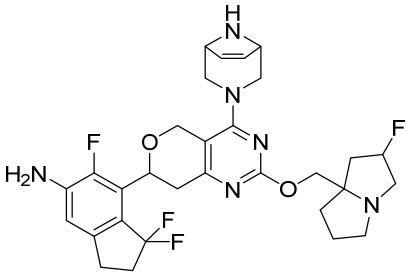


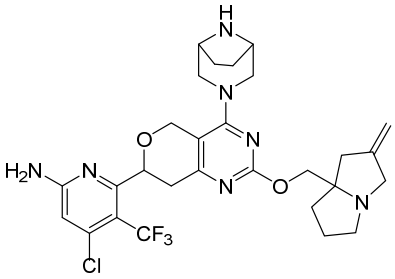


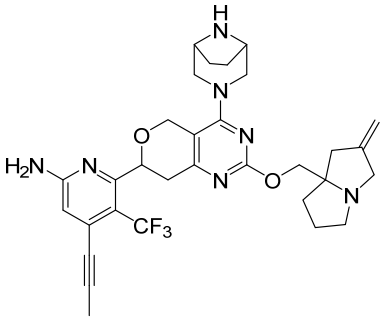


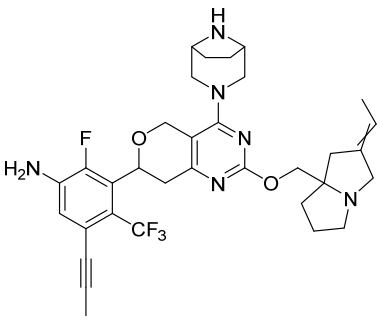


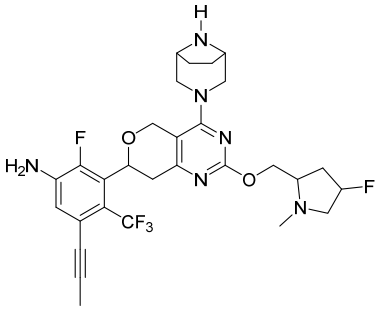


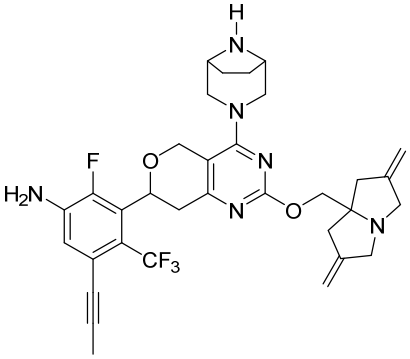


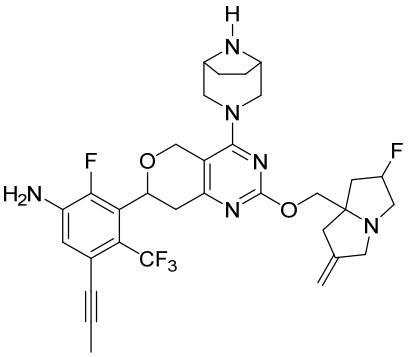


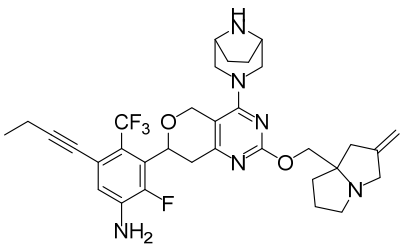


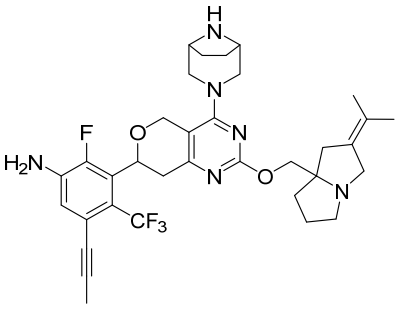


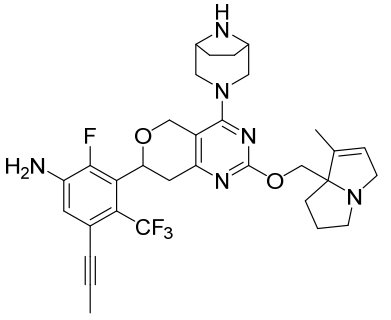


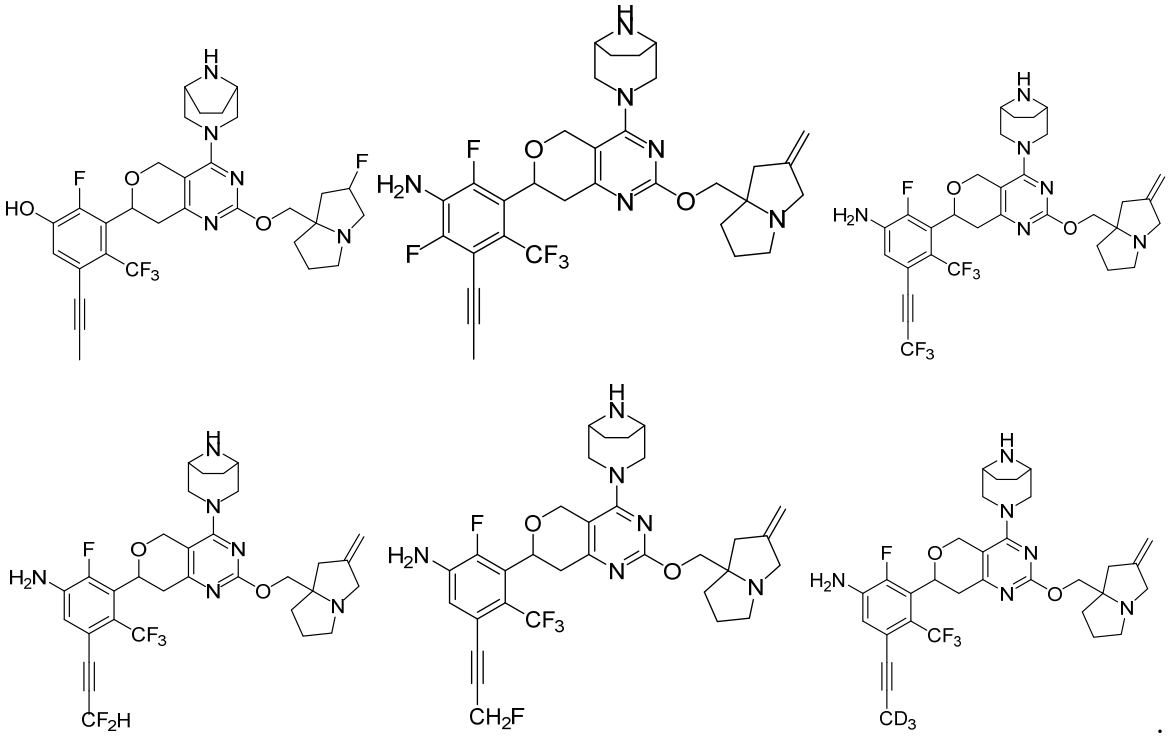




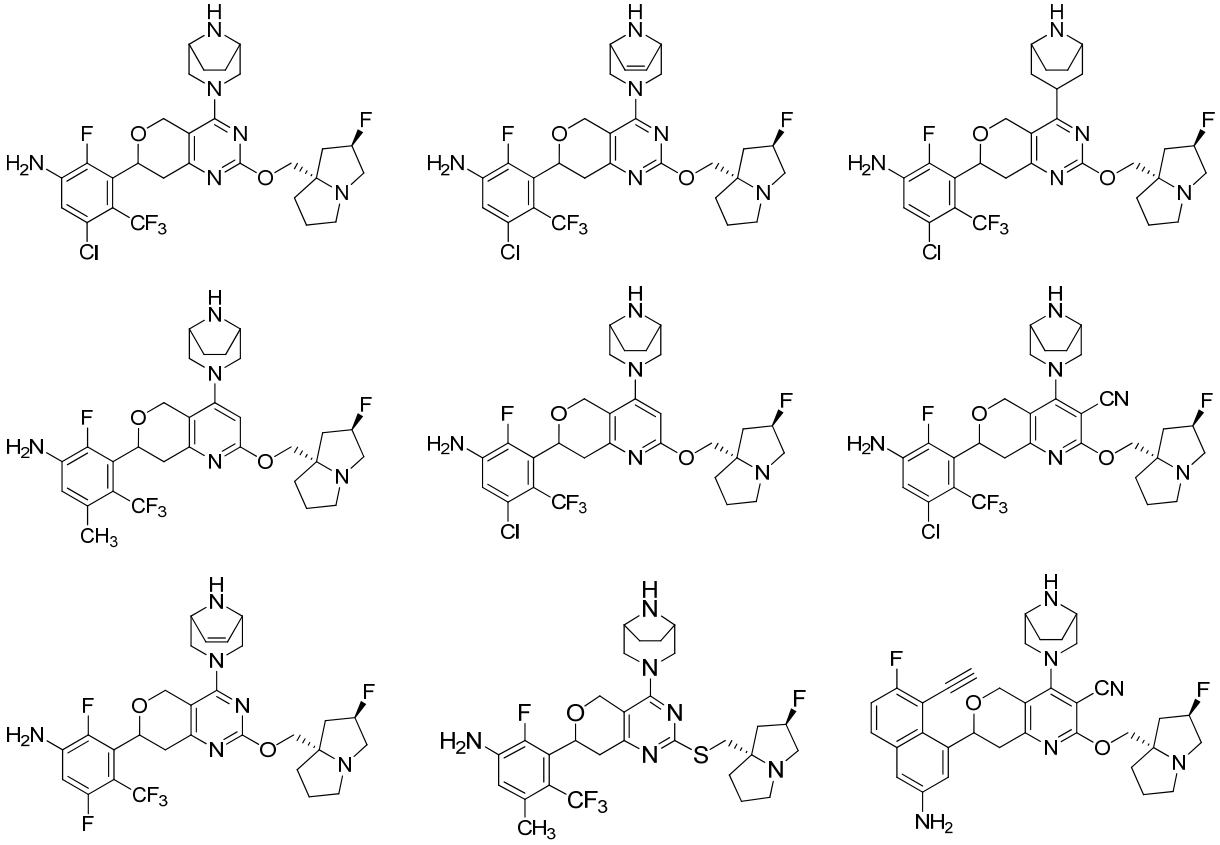


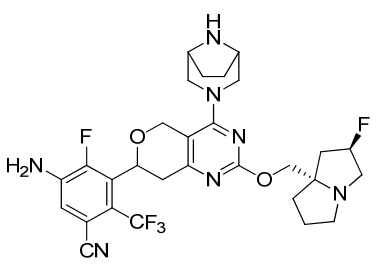
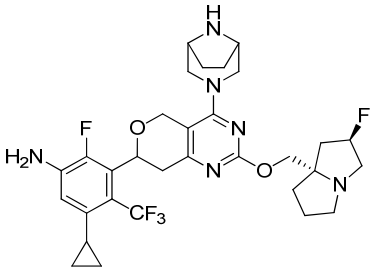
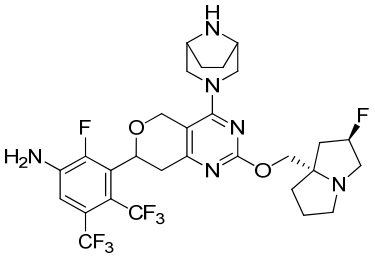
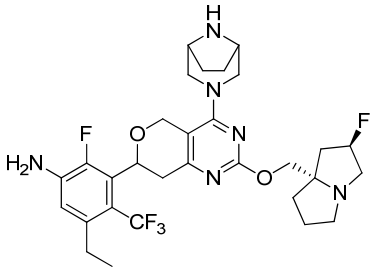
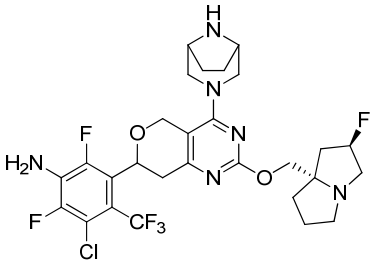
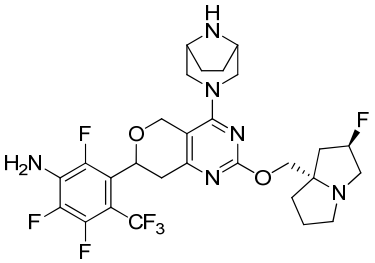
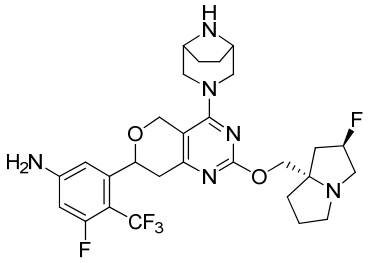
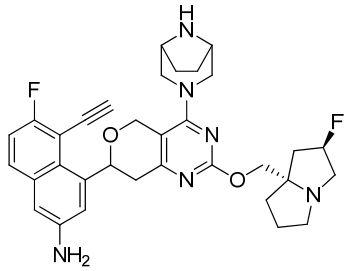
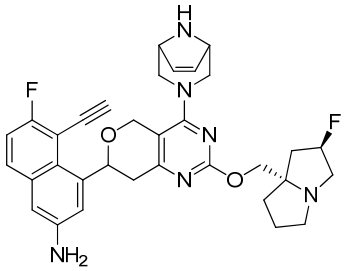
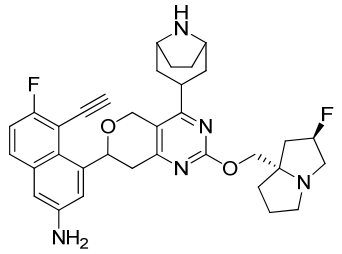
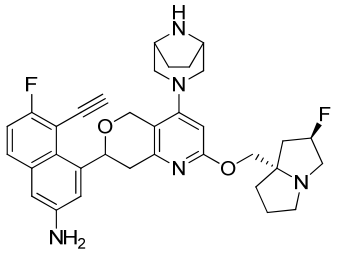
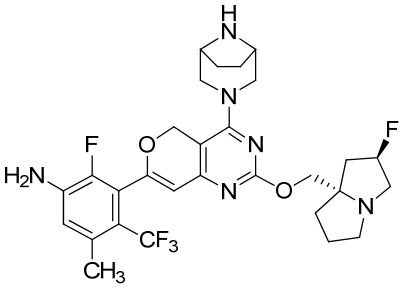
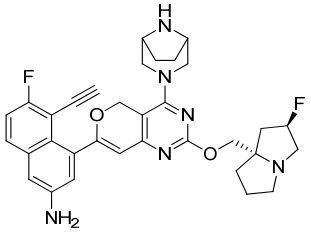
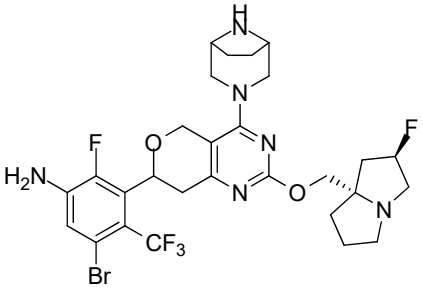
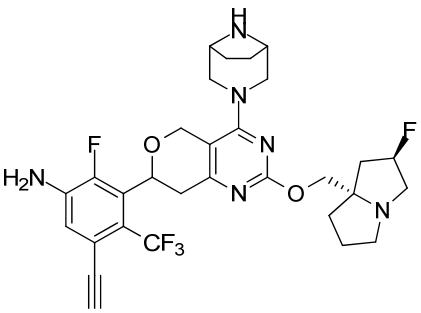
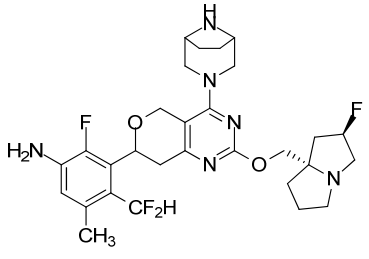
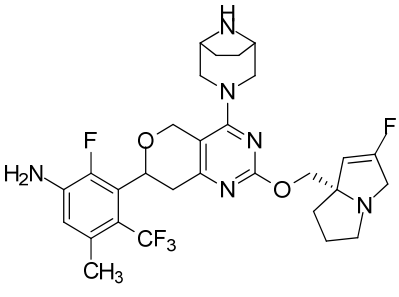
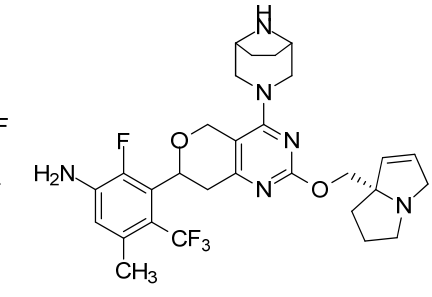


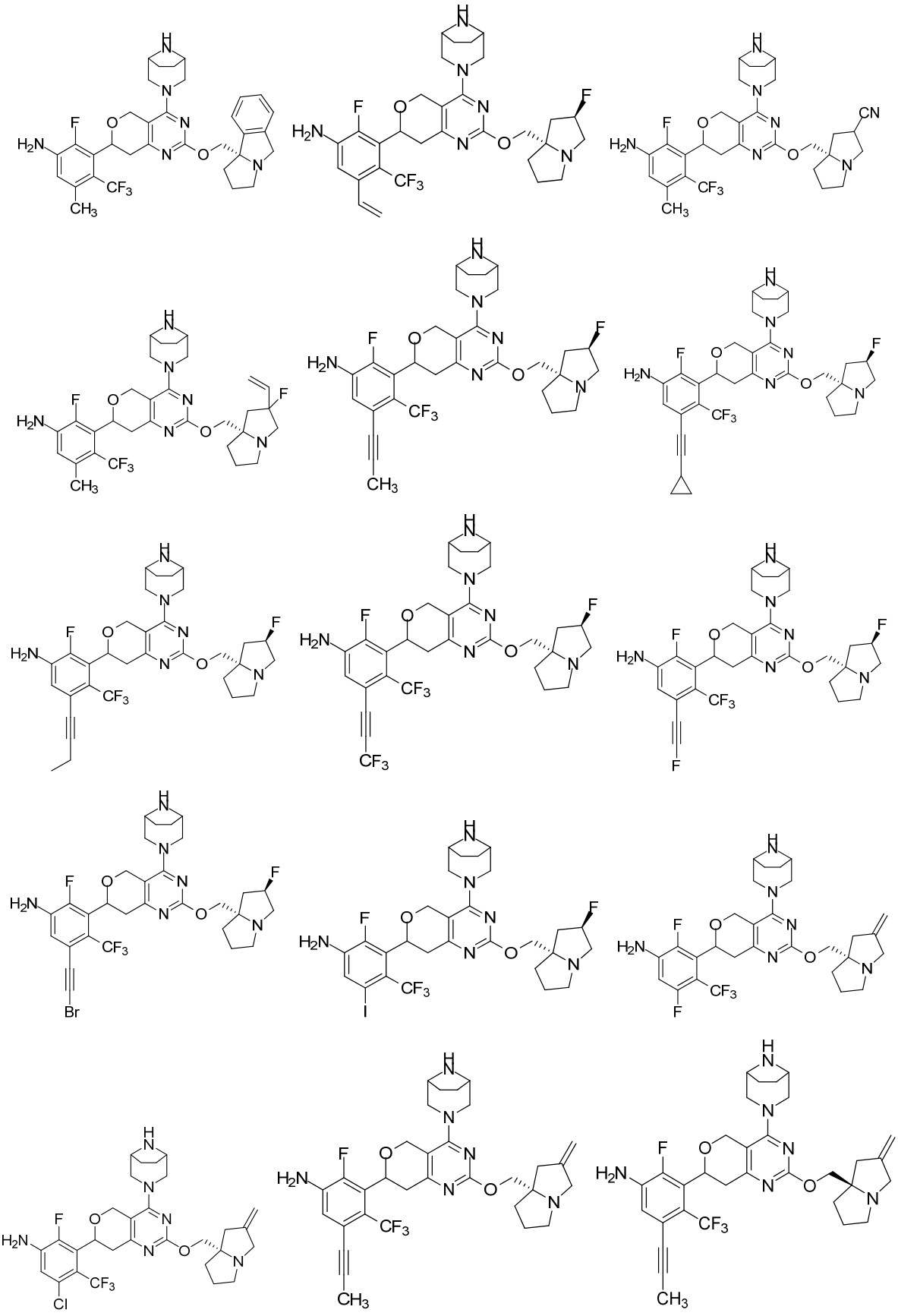


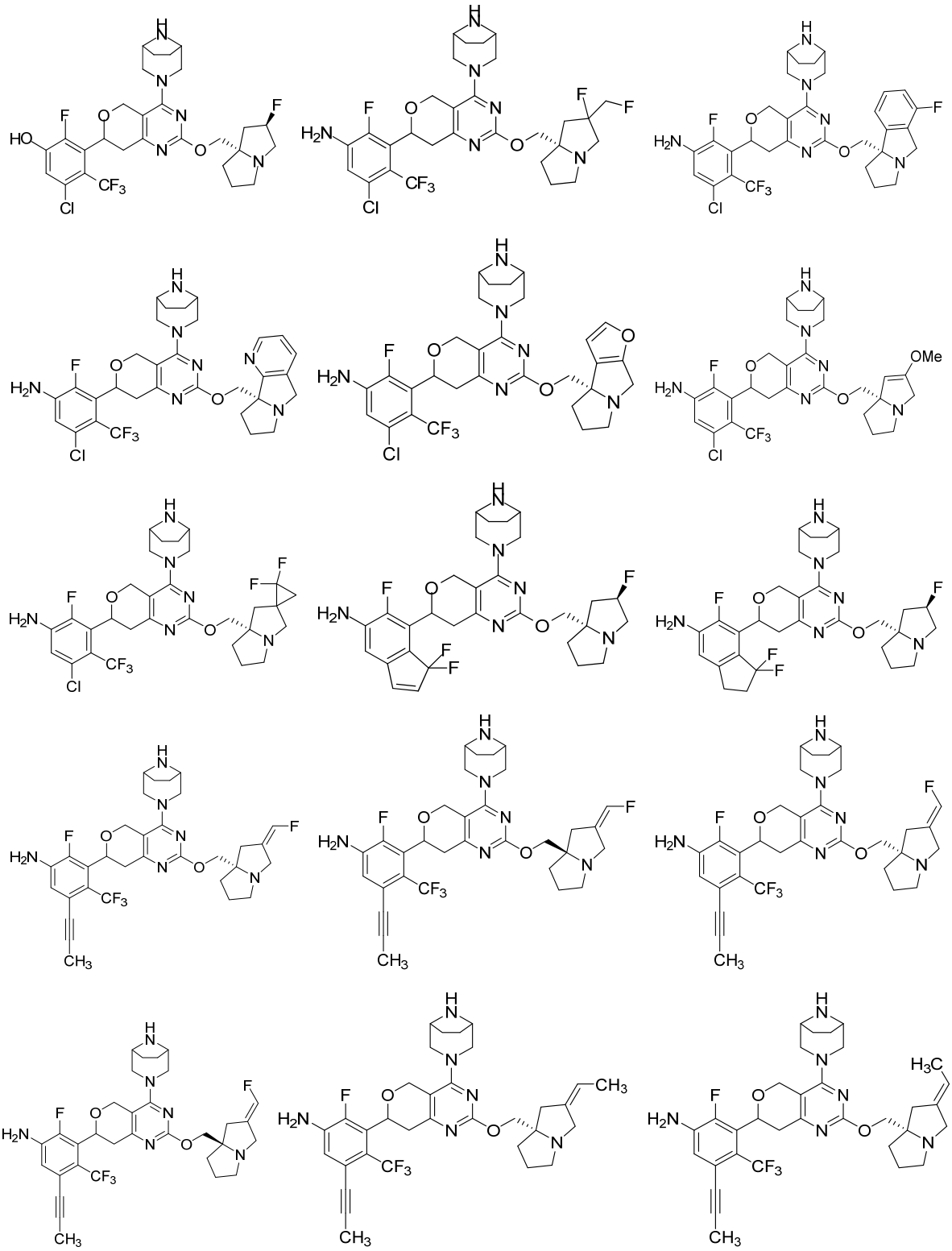


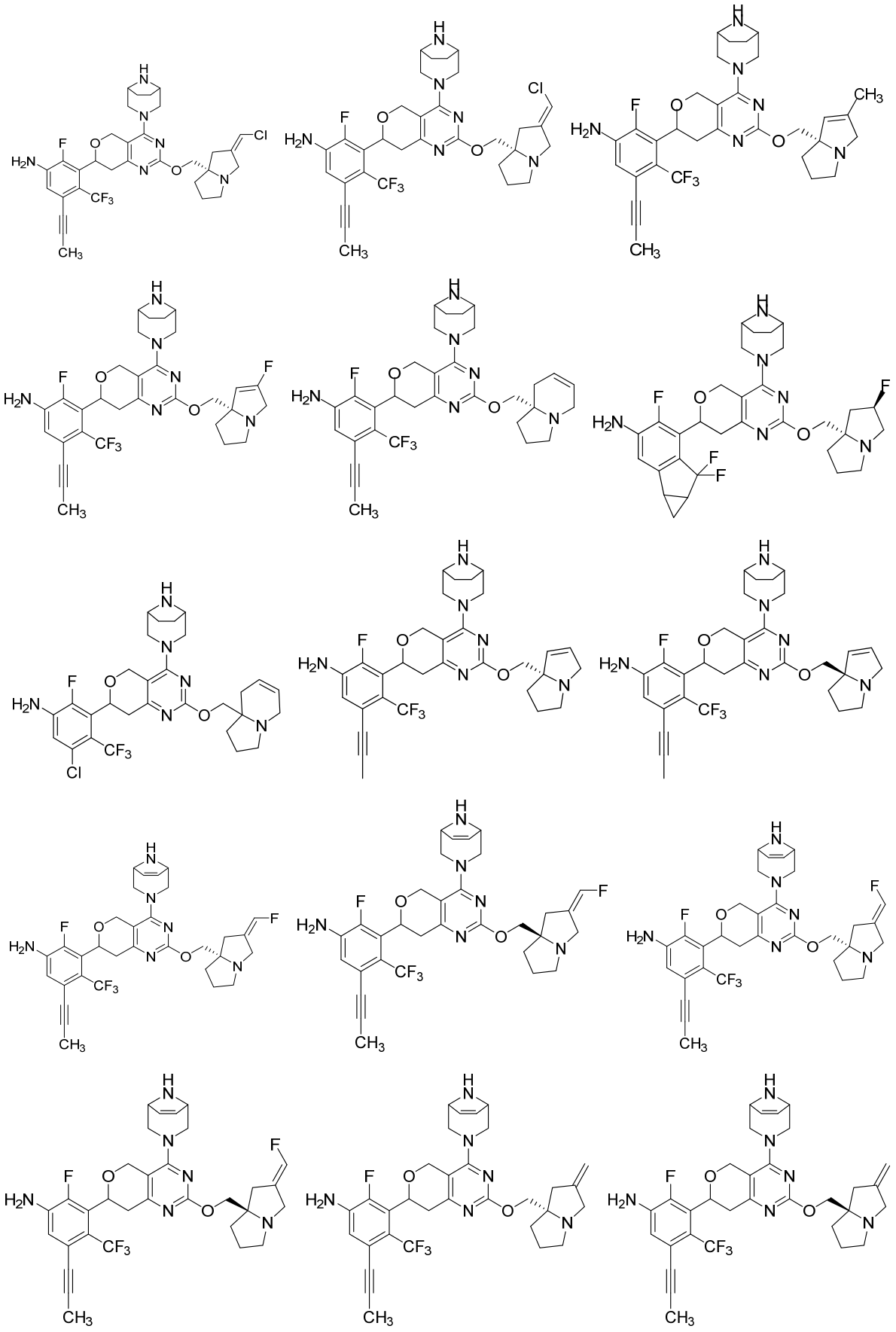
17. The compound according to claim 16 or a pharmaceutically acceptable salt thereof, wherein the compound is selected from:

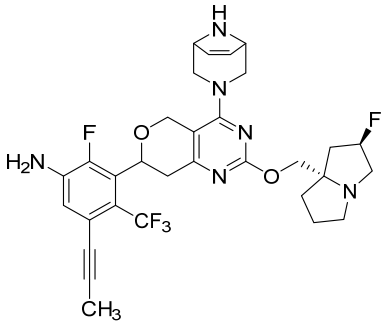
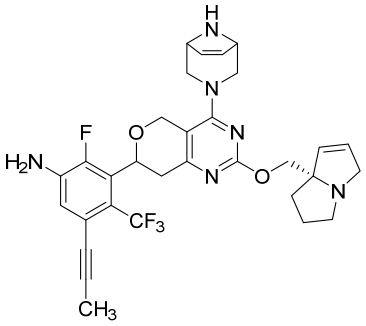
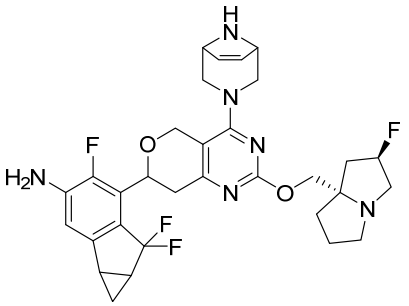
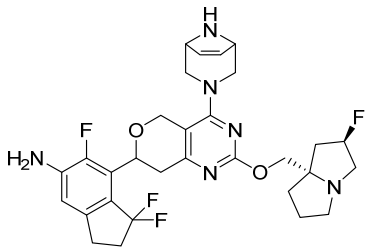
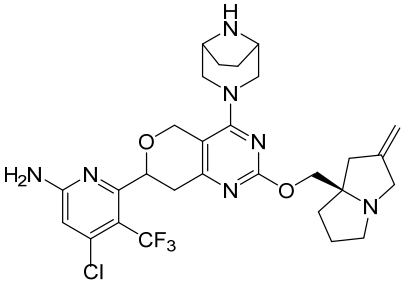
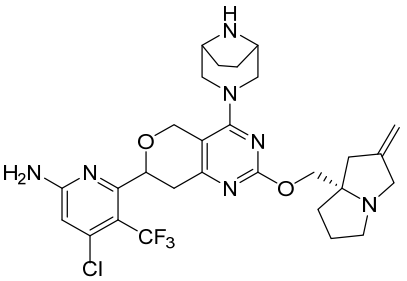
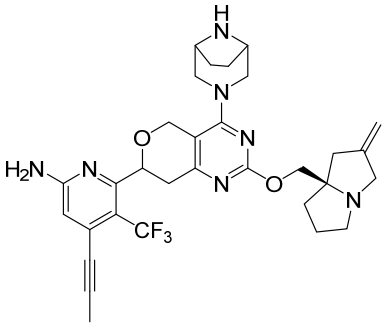
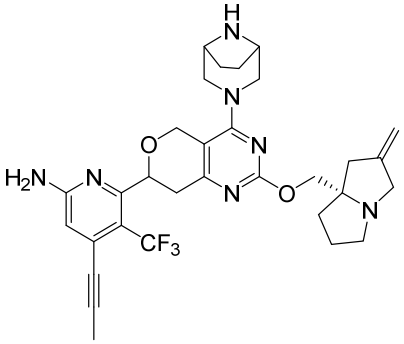
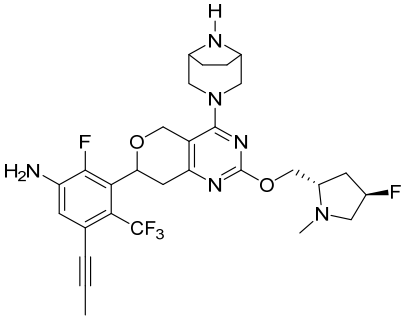
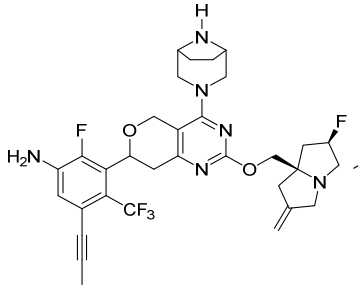
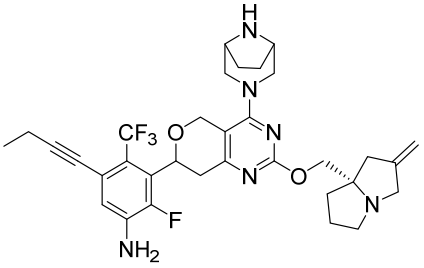
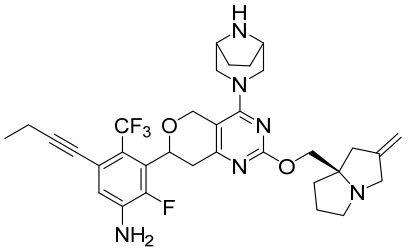
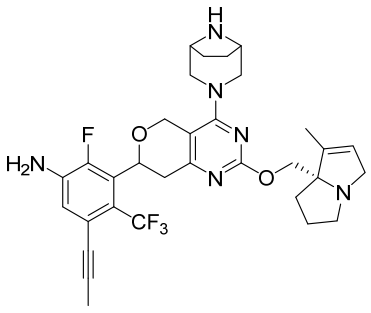
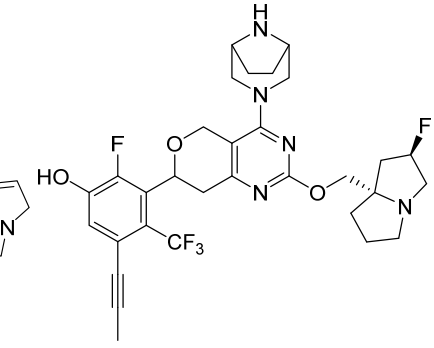
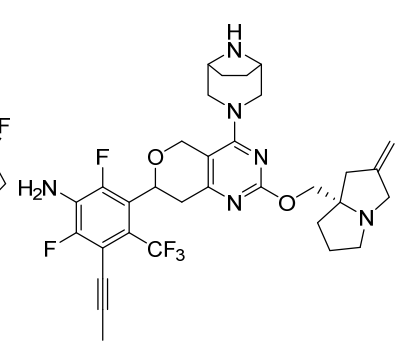


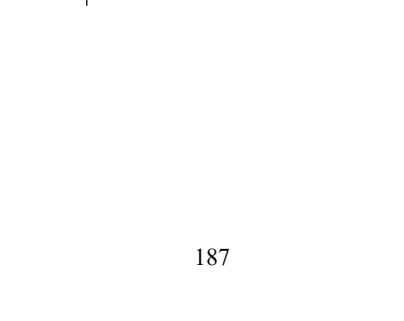



















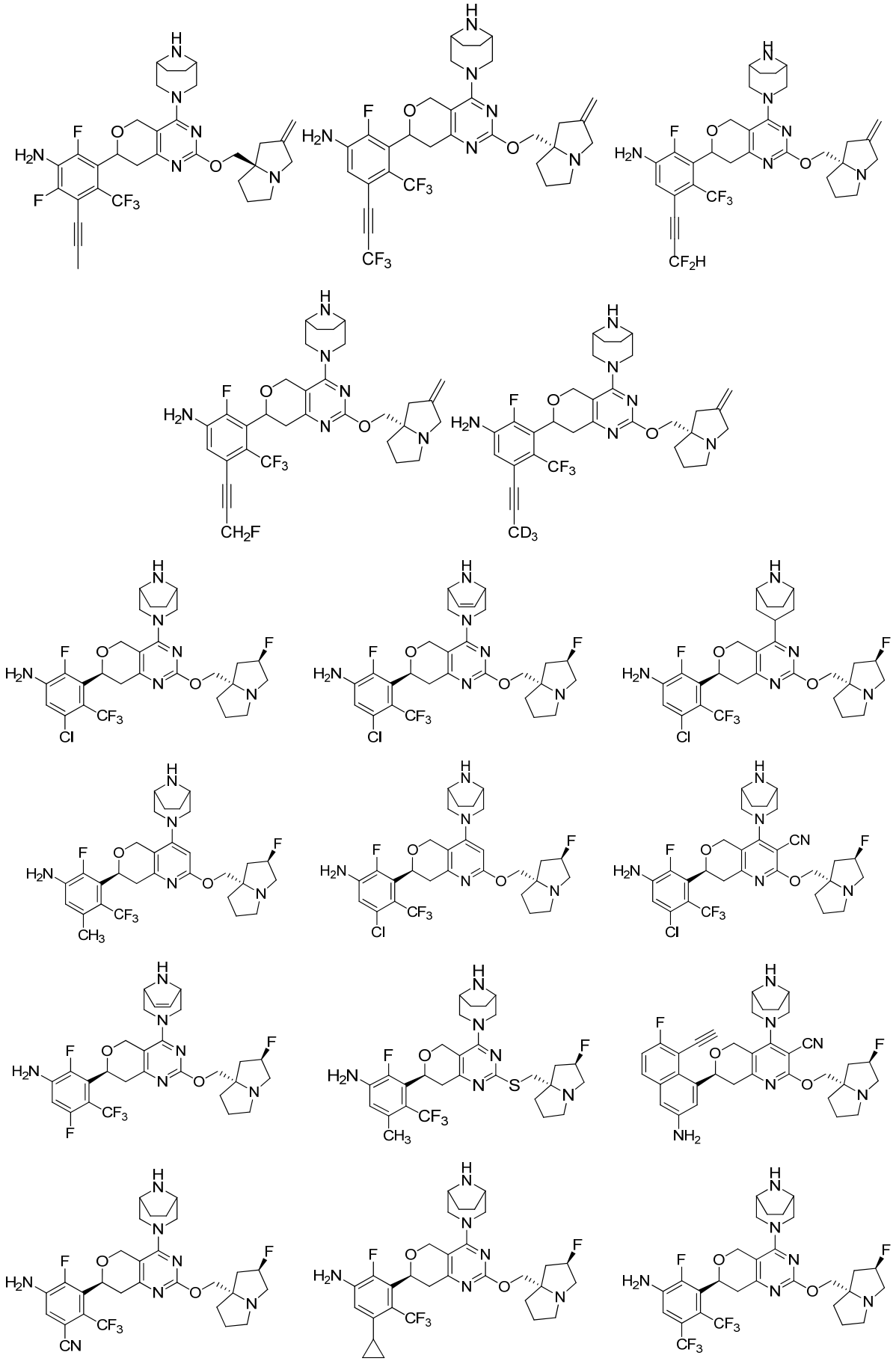


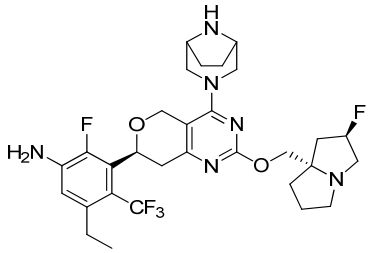
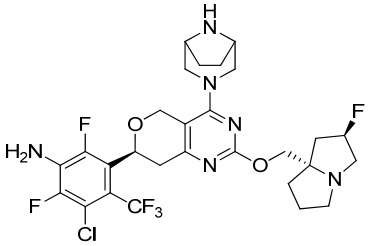
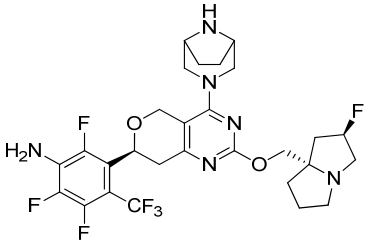
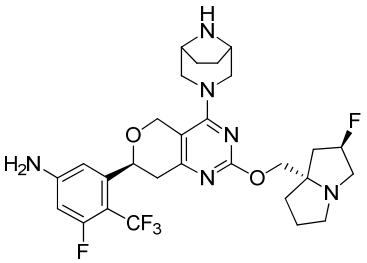
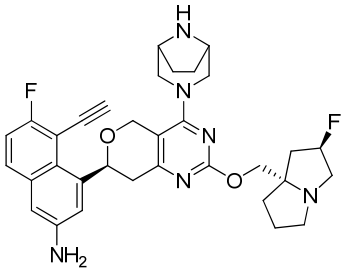
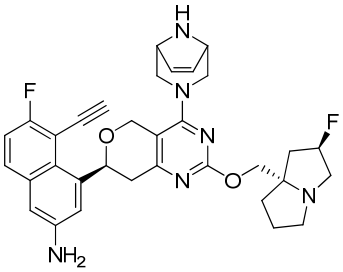
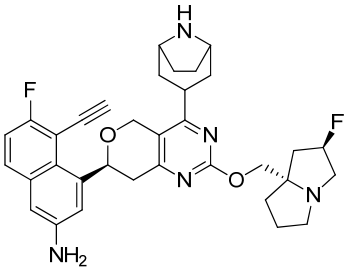
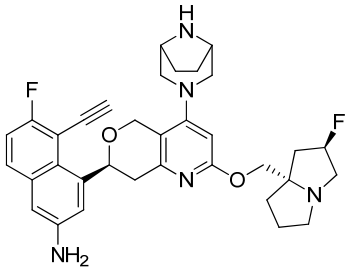
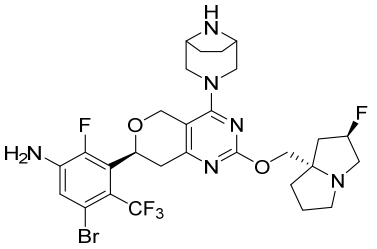
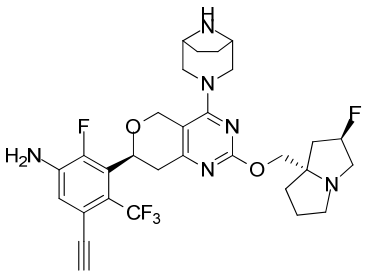
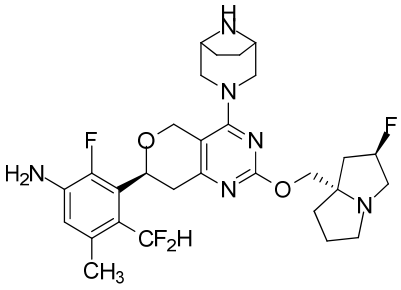
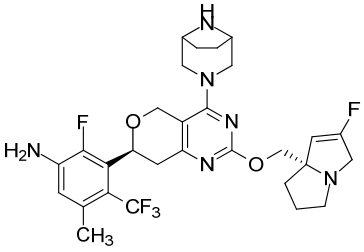
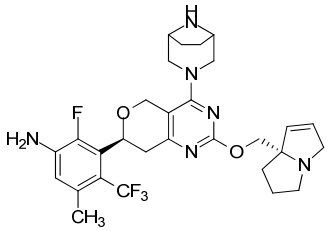
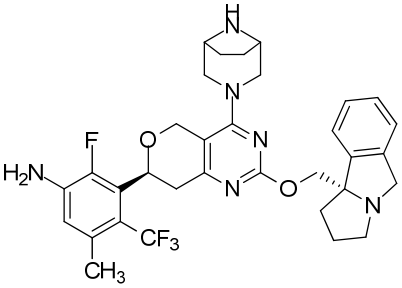
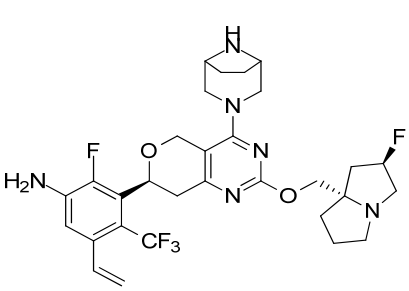


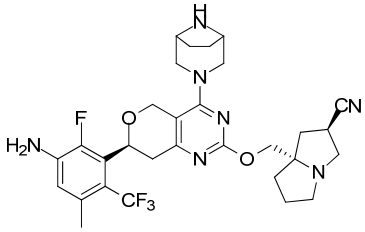
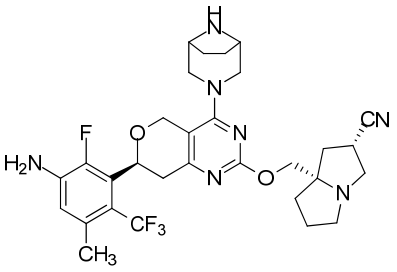
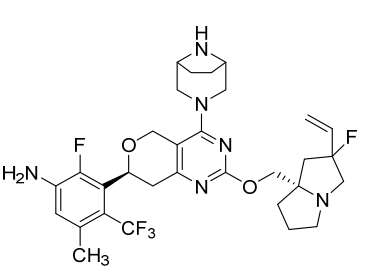


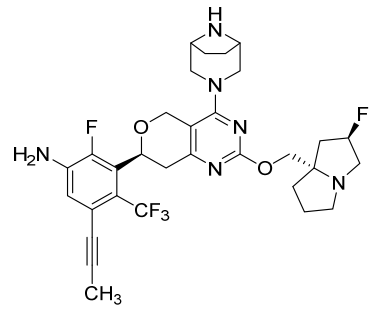
















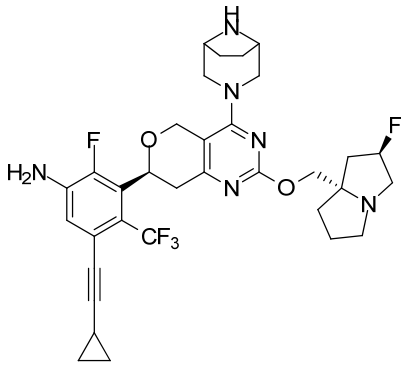


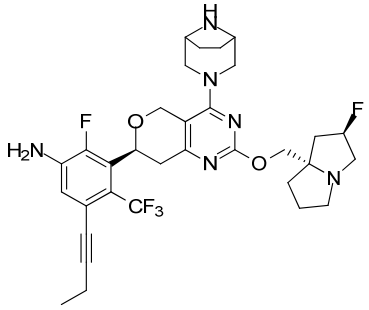


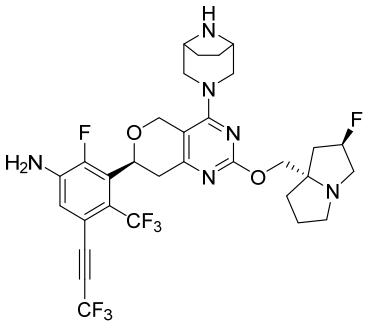
















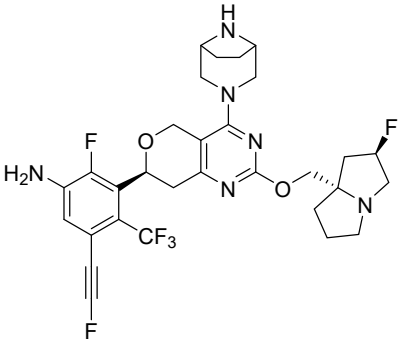




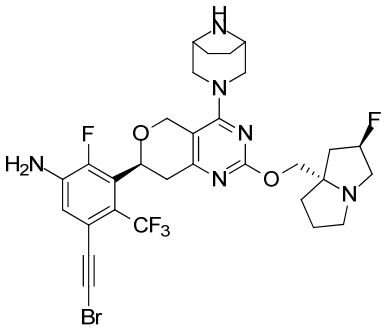


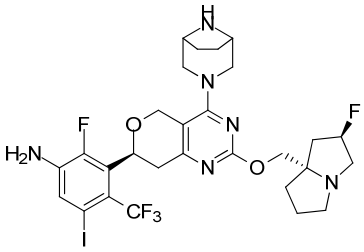


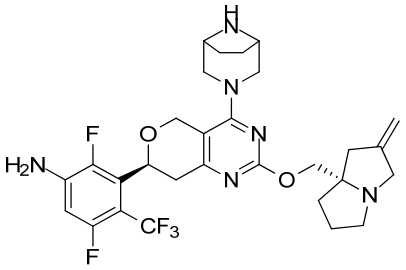


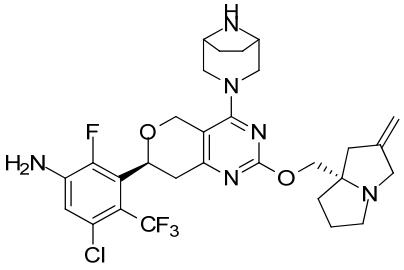


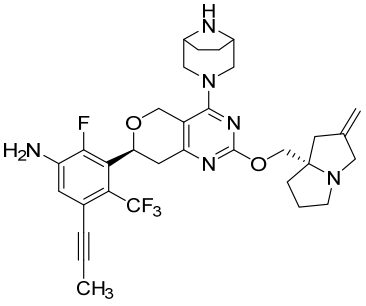


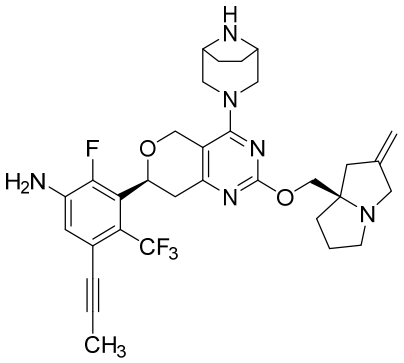


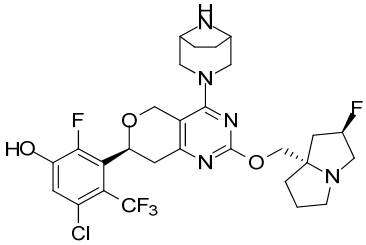


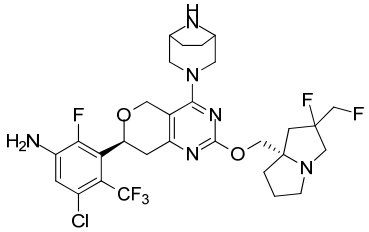


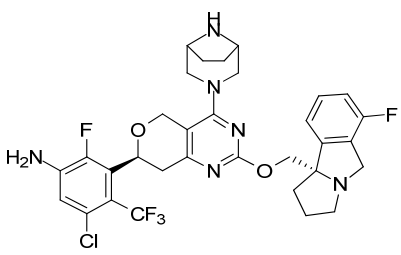


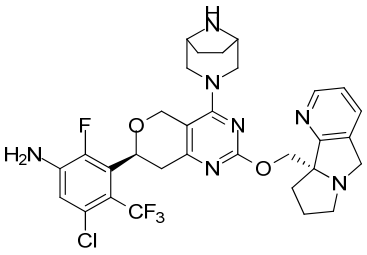


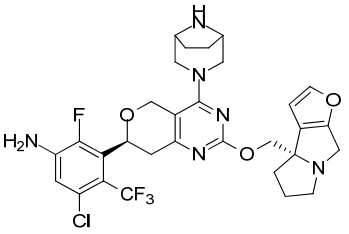


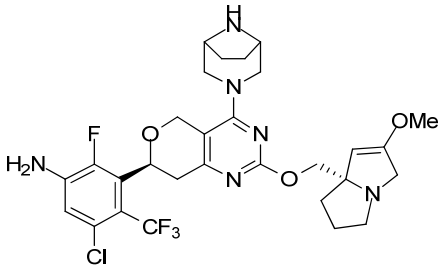


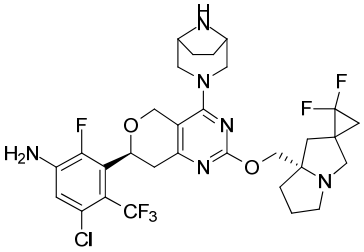


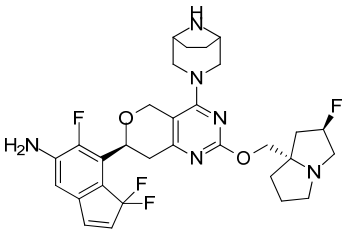


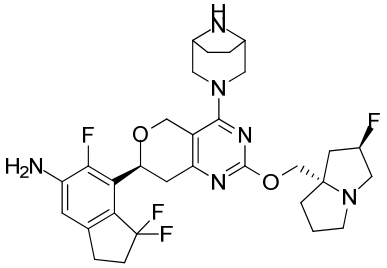


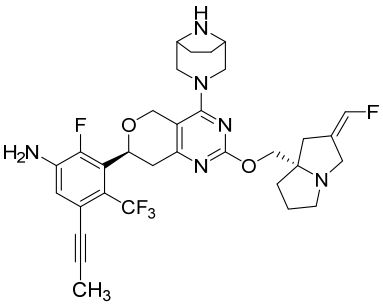


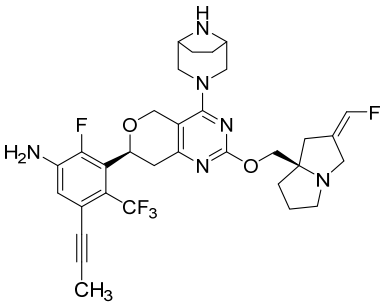


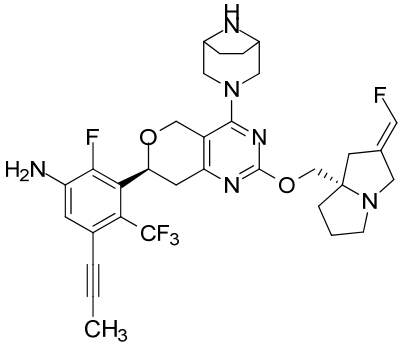


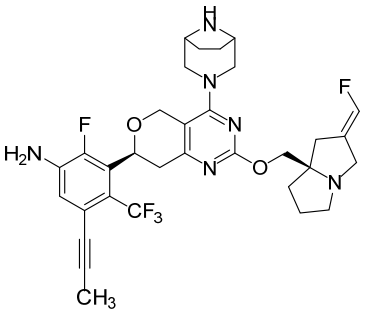


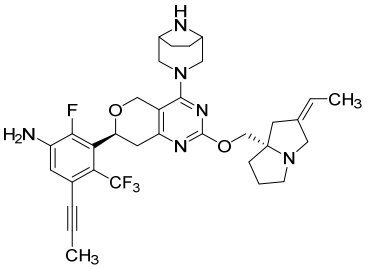


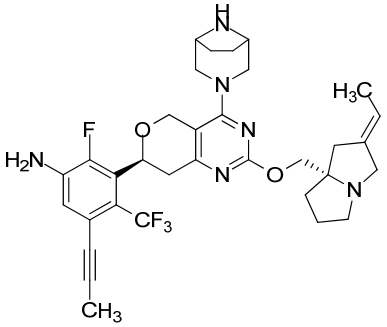


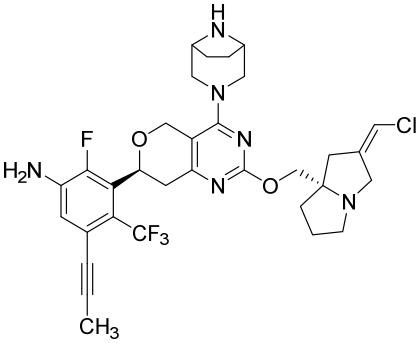


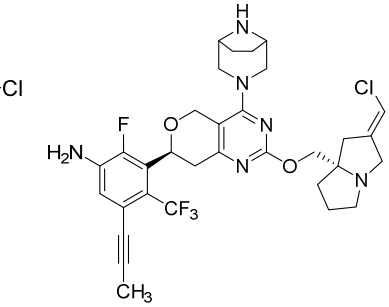


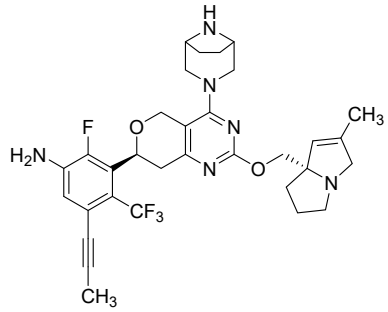
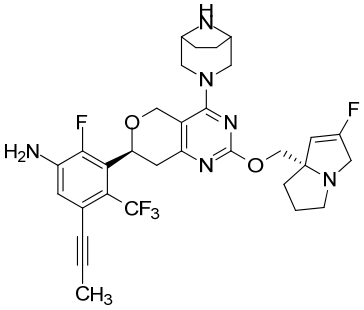
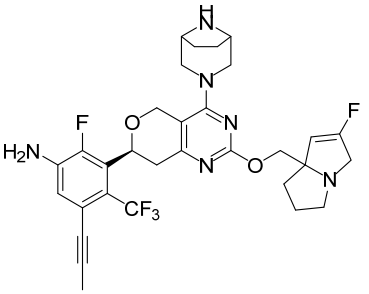
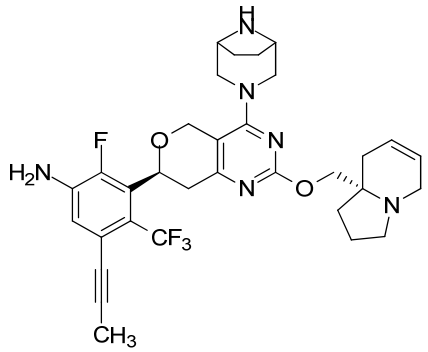
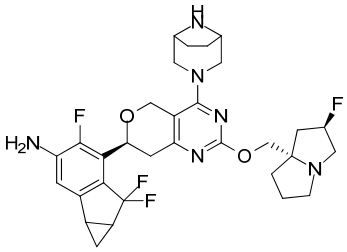
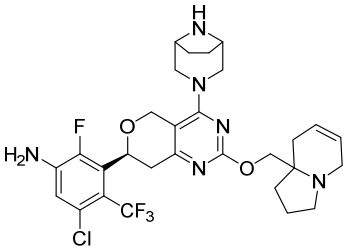
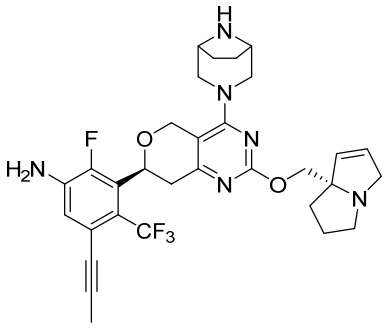
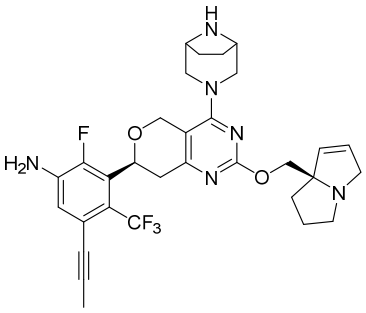
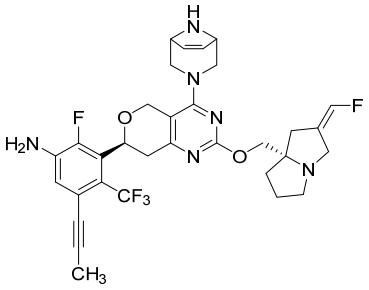
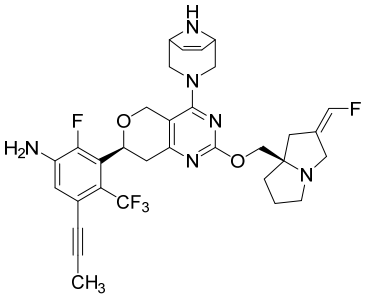
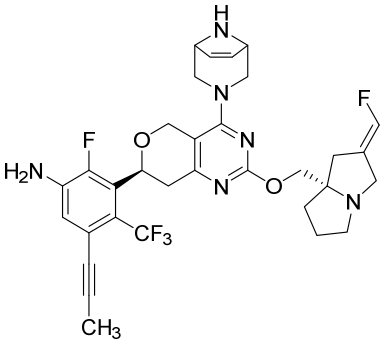
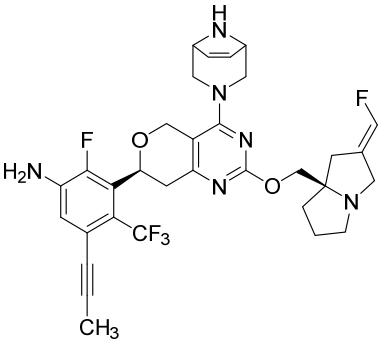
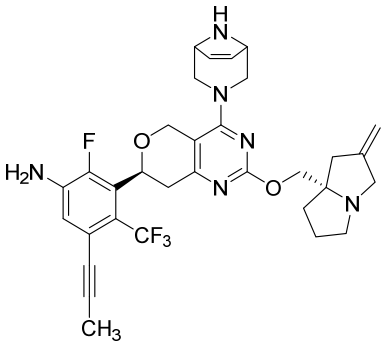
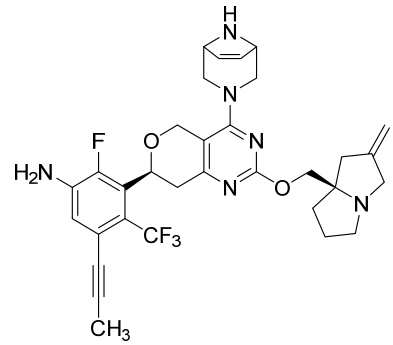
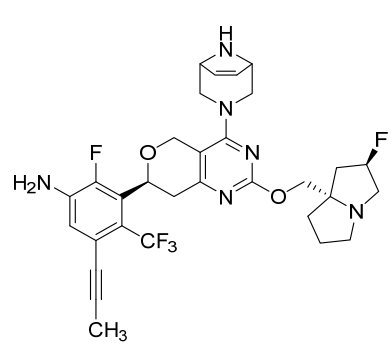


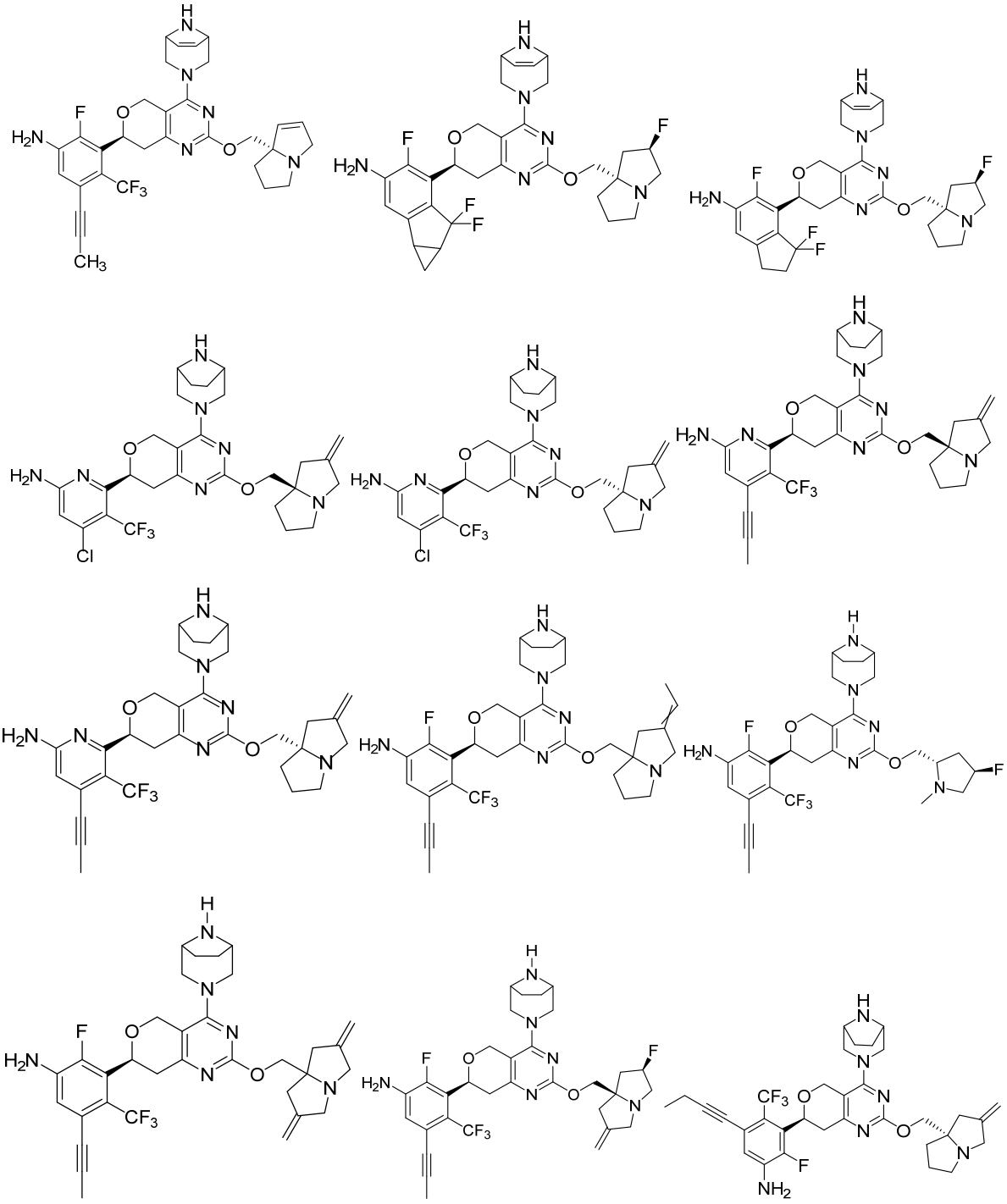


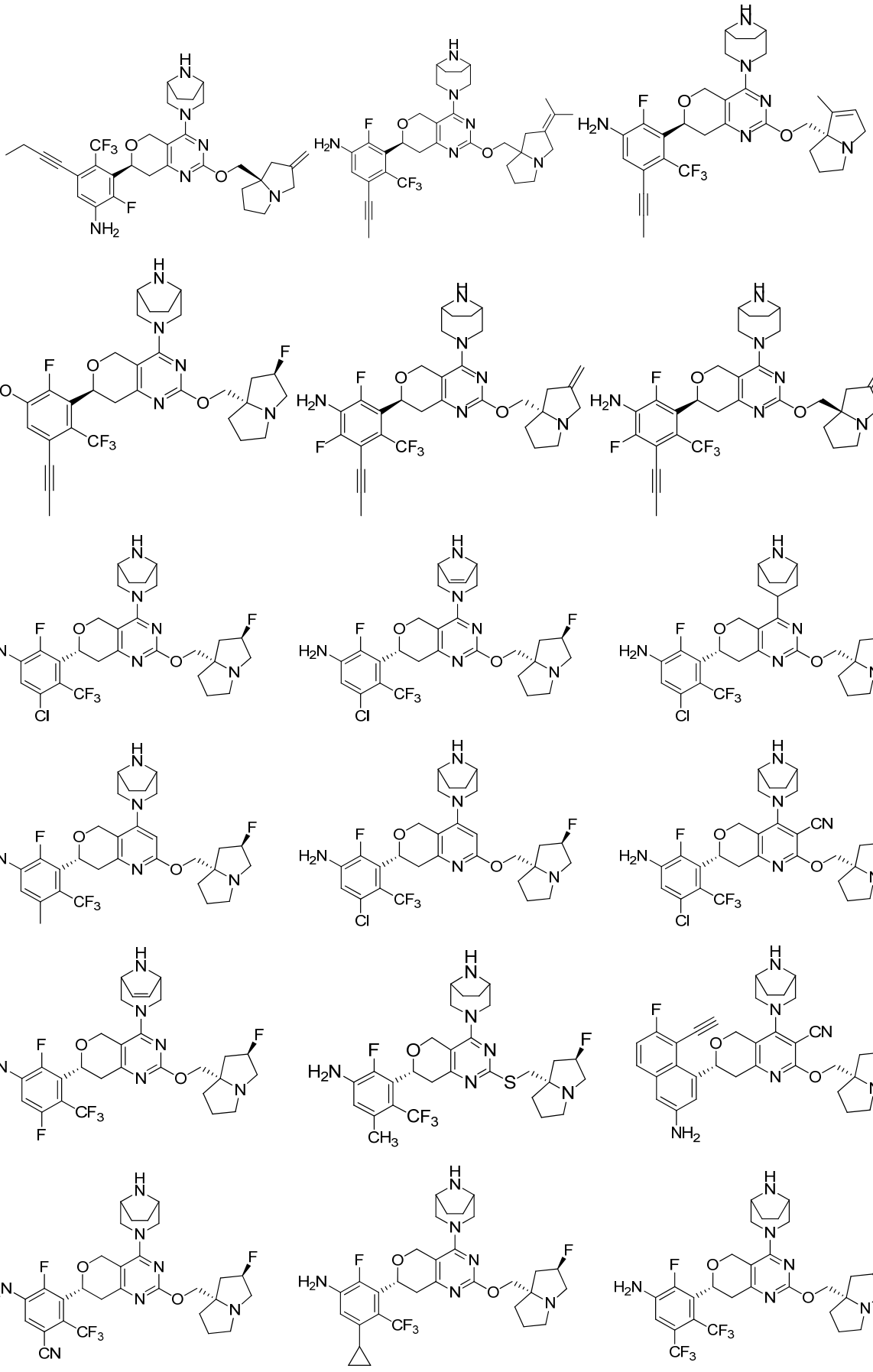


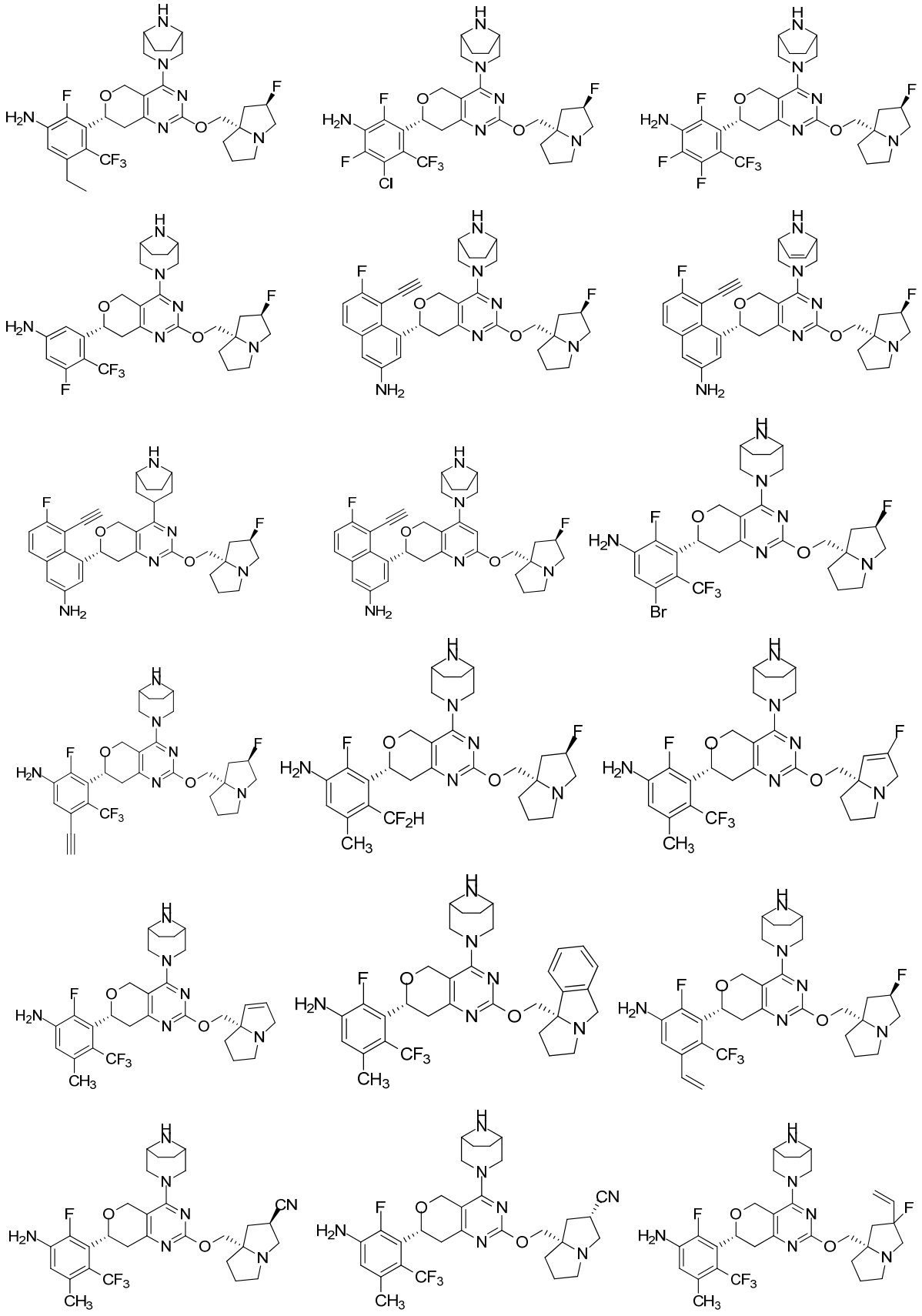


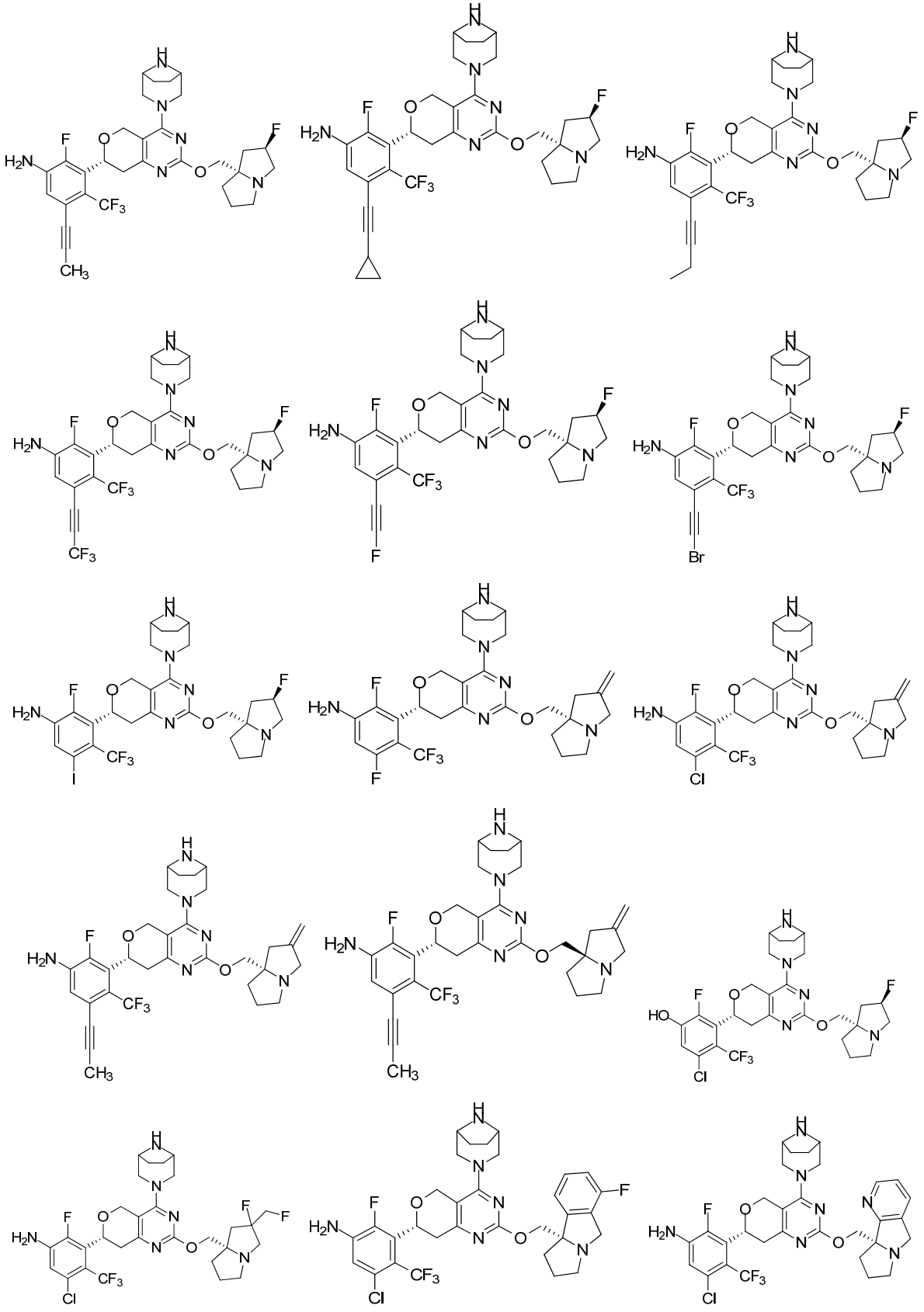


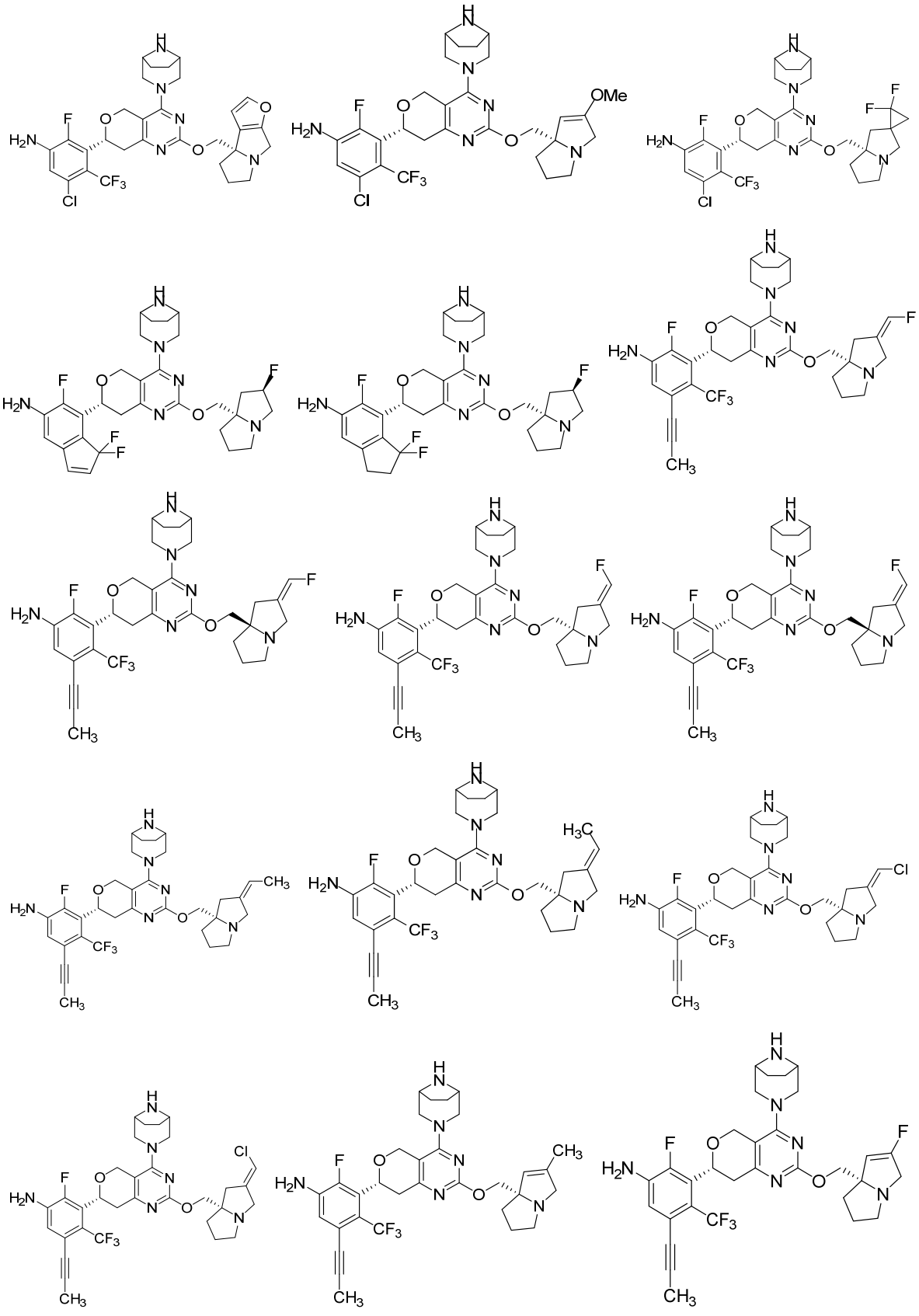
















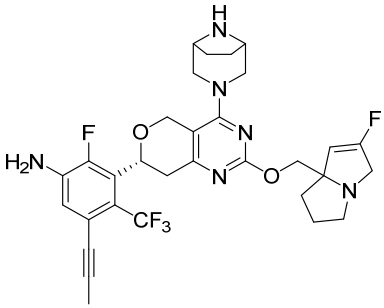
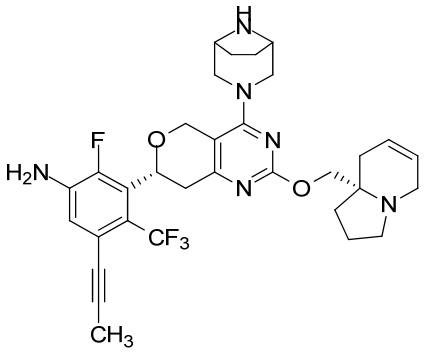
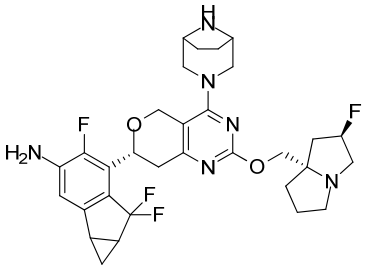
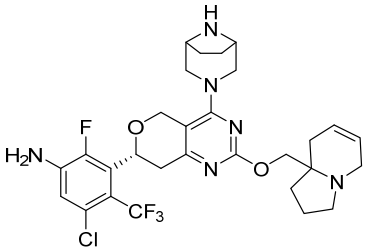
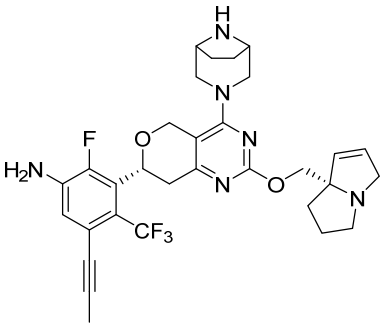
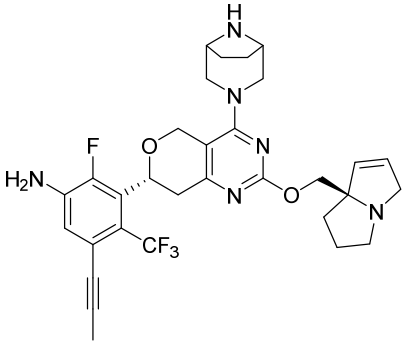
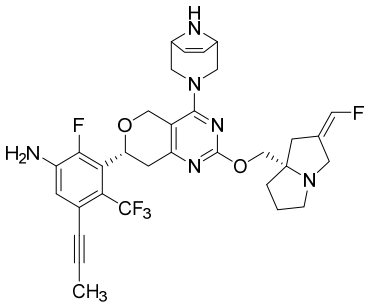
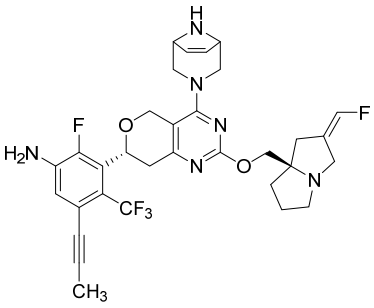
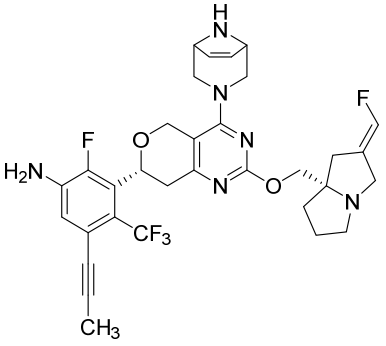
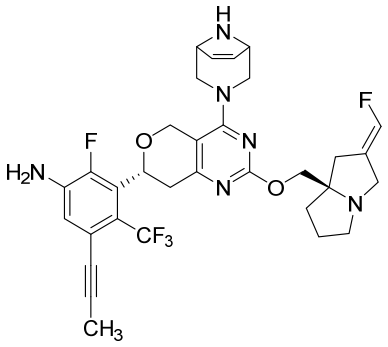
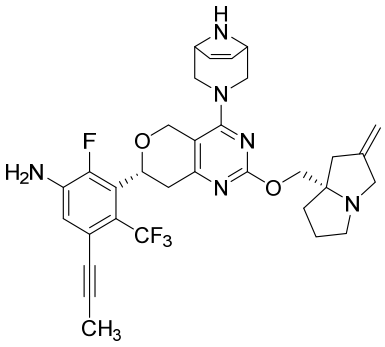
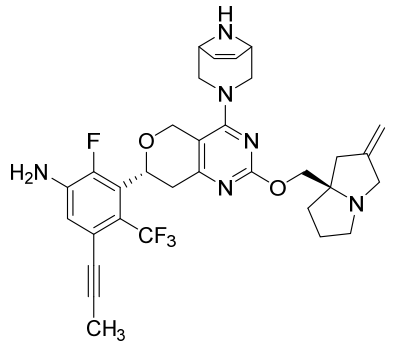
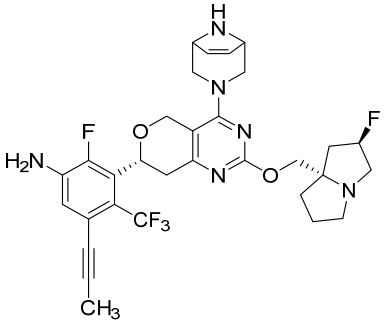
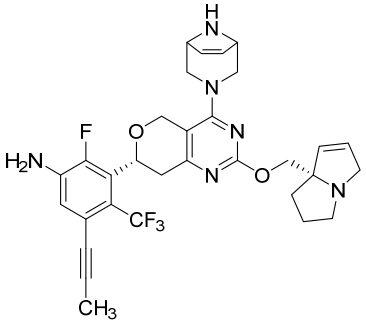
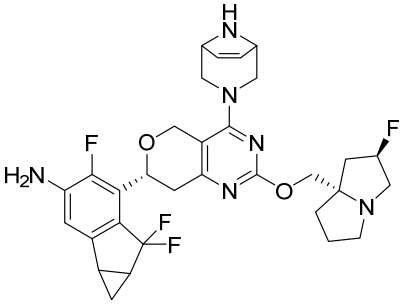


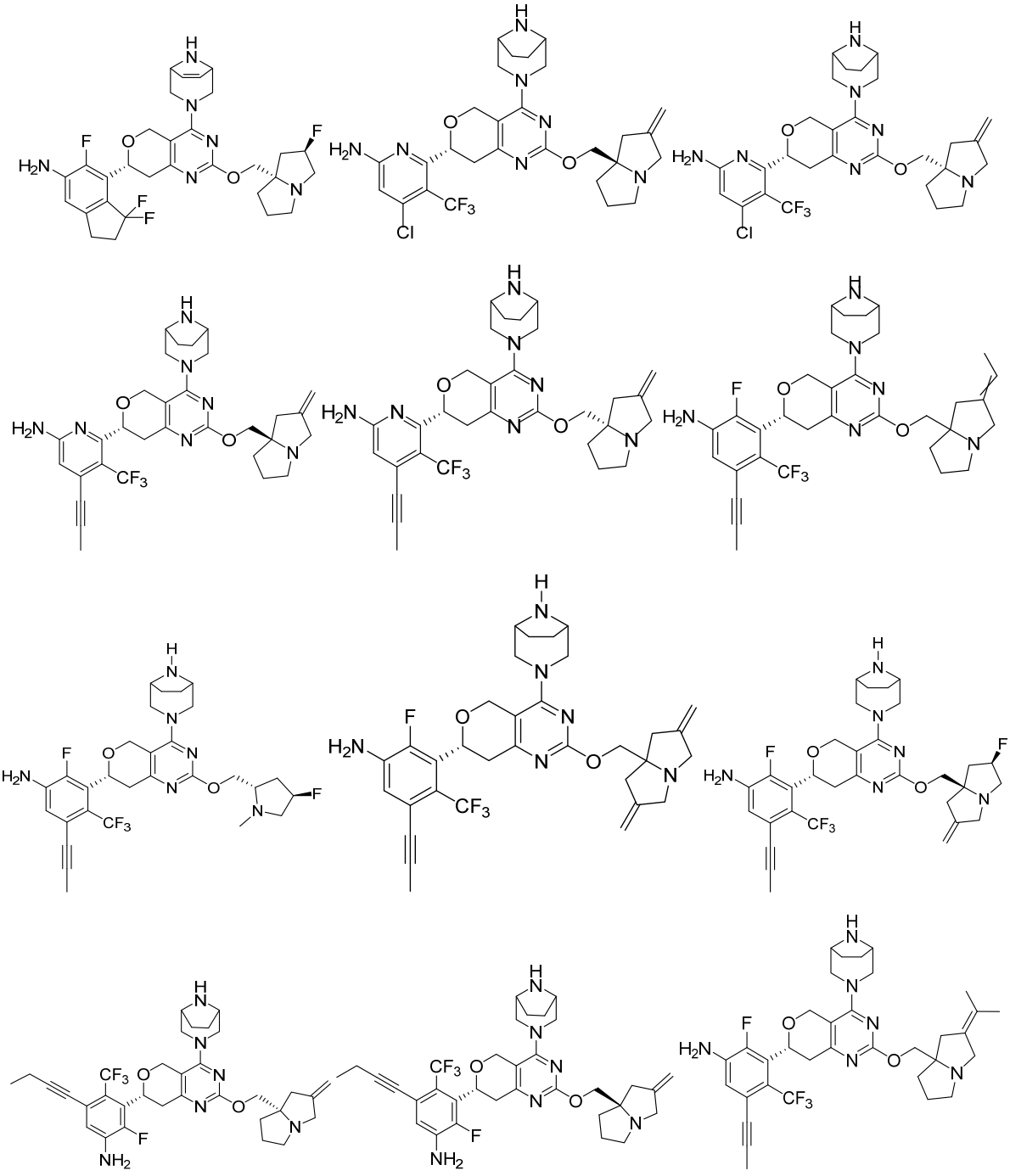


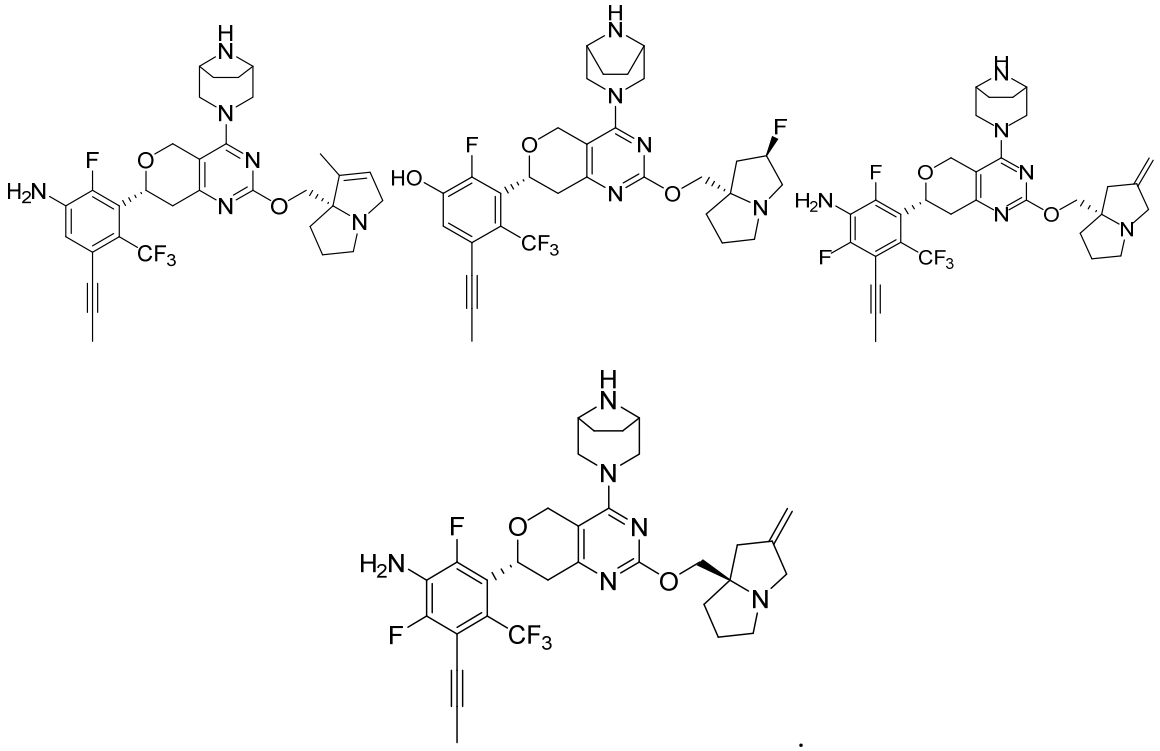










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18. A medicament, comprising the compound according to any one of claims 1-17 or a pharmaceutically acceptable salt thereof.

19. Use of the compound according to any one of claims 1-17 or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for treating a disease,

- wherein the disease is a disease associated with $KRAS^{G12D}$ mutation;
- alternatively, wherein the disease is a disease associated with a tumor;
- alternatively, wherein the disease is colon cancer.

20. A compound according to any one of claims 1-17 or a pharmaceutically acceptable salt thereof or a medicament according to claim 18, for use in treating a disease,

- wherein the disease is a disease associated with $KRAS^{G12D}$ mutation;
- alternatively, wherein the disease is a disease associated with a tumor;
- alternatively, wherein the disease is colon cancer.