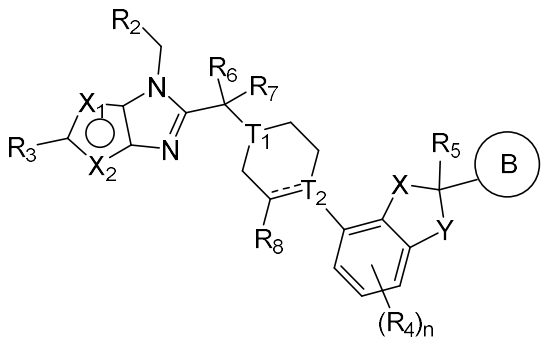
What is claimed is:

1. A compound of formula (P) or a pharmaceutically acceptable salt thereof,



(P)

wherein

--- is selected from a single bond and a double bond, and when T_2 is selected from N, --- is selected from a single bond;

T_1 and T_2 are selected from N and CR_9;

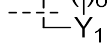
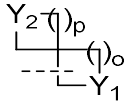
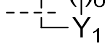
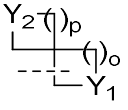
X and Y are each independently selected from CH_2, O-CH_2, NH, O, and C(=O);

X_1 and X_2 are each independently selected from CH, N, O, and S, and the CH is optionally substituted by one F, Cl, Br, and CH_3;

ring B is selected from 5- to 6-membered heteroaryl, and the 5- to 6-membered heteroaryl is optionally substituted by 1, 2, or 3 R_1;

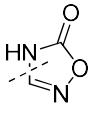
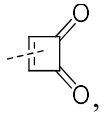
or, ring B is selected from phenyl, and the phenyl is optionally substituted by 1, 2, or 3 R_1, and in this case, X and Y are not simultaneously selected from O;

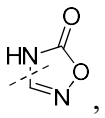
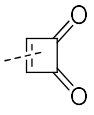
R_1 is selected from F, Cl, Br, I, OH, NH_2, CN, CH_3, and OCH_3;

R_2 is selected from  and , and the  and  are optionally substituted by 1, 2, or 3 R_a;

Y_1 and Y_2 are each independently selected from CH_2, NH, and O;

o and p are each independently selected from 0, 1, 2, and 3;

R_3 is selected from -C(=O)-NH-R_b, -C(=O)-R_b, -C(=O)-NH-S(=O)$_2$-R_b, -S(=O)$_2$-NH-R_b, -S(=O)$_2$-R_b, -P(=O)(R_b)$_2$, C_{1-3} alkyl, tetrazolyl, isoxazolyl, , and , and

the C_{1-3} alkyl, tetrazolyl, isoxazolyl, , and  are optionally substituted by 1, 2, or 3 R_b;

R_4 is selected from D, F, Cl, Br, I, and C_{1-3} alkyl, and the C_{1-3} alkyl is optionally substituted by 1, 2, or 3 R;

R_5 is selected from H, D, and CH_3, and the CH_3 is optionally substituted by 1, 2, or 3 R;

R_6, R_7, R_8, and R_9 are each independently selected from H, D, and C_{1-3} alkyl, and the C_{1-3} alkyl is optionally substituted by 1, 2, or 3 R;

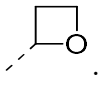
n is selected from 0, 1, and 2;

each R_a is independently selected from F, Cl, Br, and I;

each R_b is independently selected from OH, CN, C_{1-3} alkyl, C_{1-3} alkoxy, C_{1-3} alkylamino, and oxazolyl, and the C_{1-3} alkyl, C_{1-3} alkoxy, and oxazolyl are optionally substituted by 1, 2, or 3 R;

each R is independently selected from D, F, Cl, Br, and I.

2. The compound or the pharmaceutically acceptable salt thereof according to claim 1, wherein each R_b is independently selected from OH, CN, CH_3, CF_3, and OCH_3.

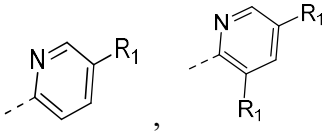
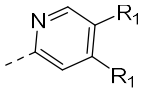
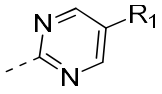
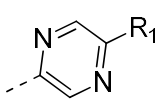
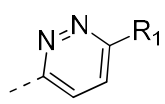
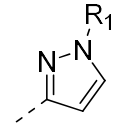
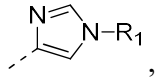
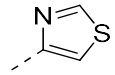
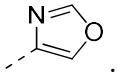
3. The compound or the pharmaceutically acceptable salt thereof according to claim 1, wherein R_2 is selected from  and , and the  and  are optionally substituted by 1, 2, or 3 R_a; or, R_2 is selected from  and .

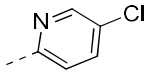
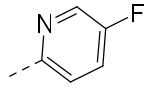
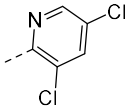
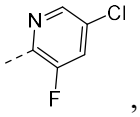
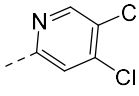
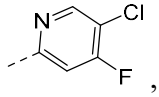
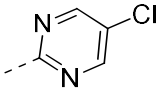
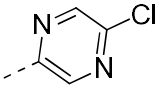
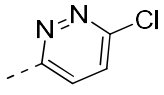
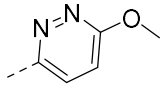
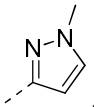
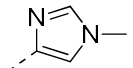
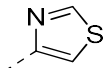
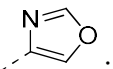
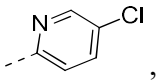
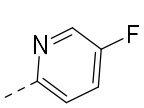
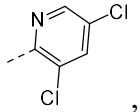
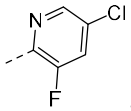
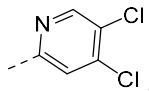
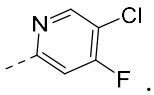
4. The compound or the pharmaceutically acceptable salt thereof according to claim 1 or 2, wherein R_3 is selected from -COOH, -C(=O)-NH-CN, -C(=O)-NH-OH, -C(=O)-NH-OCH_3, -C(=O)-CF_3, -S(=O)$_2$-NH-CH_3, and -S(=O)$_2$-OH; or, R_3 is selected from -COOH.

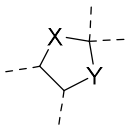
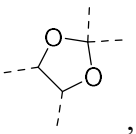
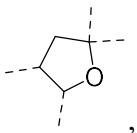
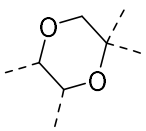
5. The compound or the pharmaceutically acceptable salt thereof according to claim 1, wherein R_4 is selected from F and CH_3.

6. The compound or the pharmaceutically acceptable salt thereof according to claim 1, wherein R_5 is selected from H, D, CH_3, CF_3, CHF_2, CHD_2, and CD_3; or, R_5 is selected from CH_3.

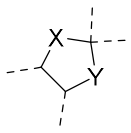
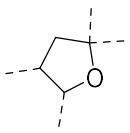
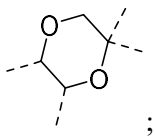
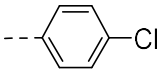
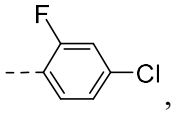
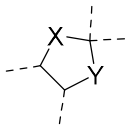
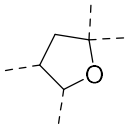
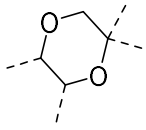
7. The compound or the pharmaceutically acceptable salt thereof according to claim 1, wherein R_6, R_7, R_8, and R_9 are each independently selected from H, D, and CH_3, and the CH_3 is optionally substituted by 1, 2, or 3 R; or, R_6, R_7, R_8, and R_9 are each independently selected from H, D, and CH_3.

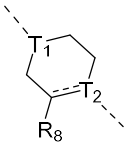
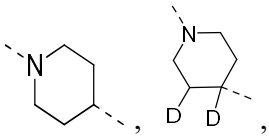
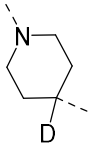
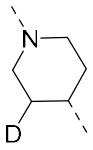
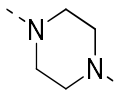
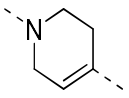
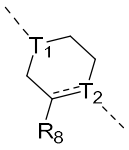
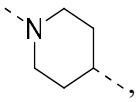
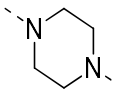
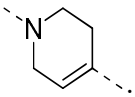
8. The compound or the pharmaceutically acceptable salt thereof according to claim 1, wherein ring B is selected from pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, thiazolyl, and oxazolyl, and the pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, thiazolyl, and oxazolyl are optionally substituted by 1, 2, or 3 R_1; or, ring B is selected from , , , , , , , , , and .

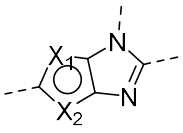
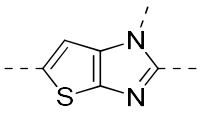
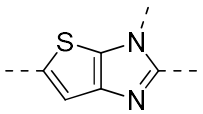
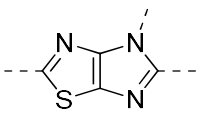
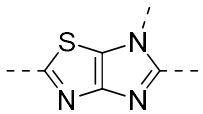
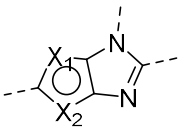
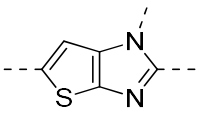
9. The compound or the pharmaceutically acceptable salt thereof according to claim 8, wherein ring B is selected from , , , , , , , , , , , , , and ; or, ring B is selected from , , , , , and .

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

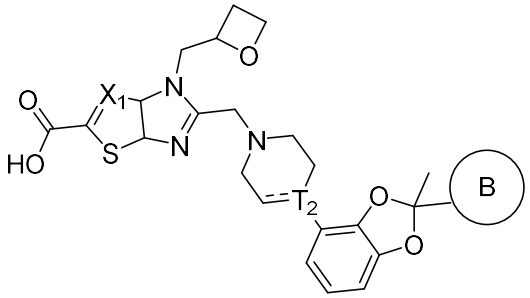
11. The compound or the pharmaceutically acceptable salt thereof according to claim

1, wherein ring B is phenyl, and the phenyl is optionally substituted by 1, 2, or 3 R_1, and the structural moiety  is selected from  and ; or, ring B is selected from  and , and the structural moiety  is selected from  and .

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

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

14. The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 10 or claim 13, wherein the compound is selected from:



(I-1) ,

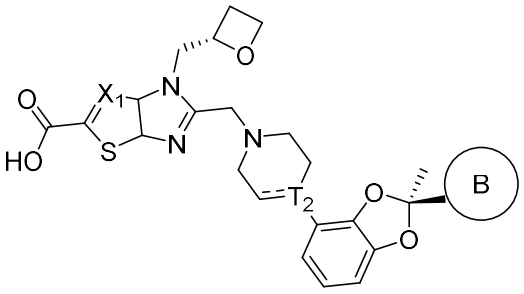
wherein

--- is selected from a single bond and a double bond, and when T_2 is selected from N, == is selected from a single bond;

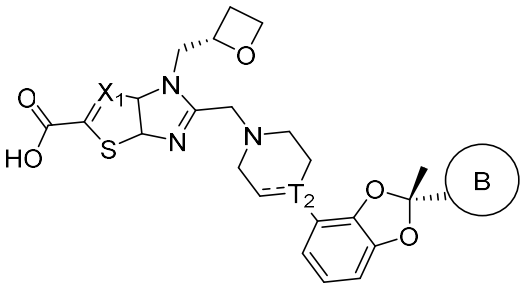
X_1 and T_2 are as defined in any one of claims 1 to 10 or claim 13;

ring B is as defined in any one of claims 1 to 10 or claim 13.

15. The compound or the pharmaceutically acceptable salt thereof according to claim 14, wherein the compound is selected from:



(I-1a) ,

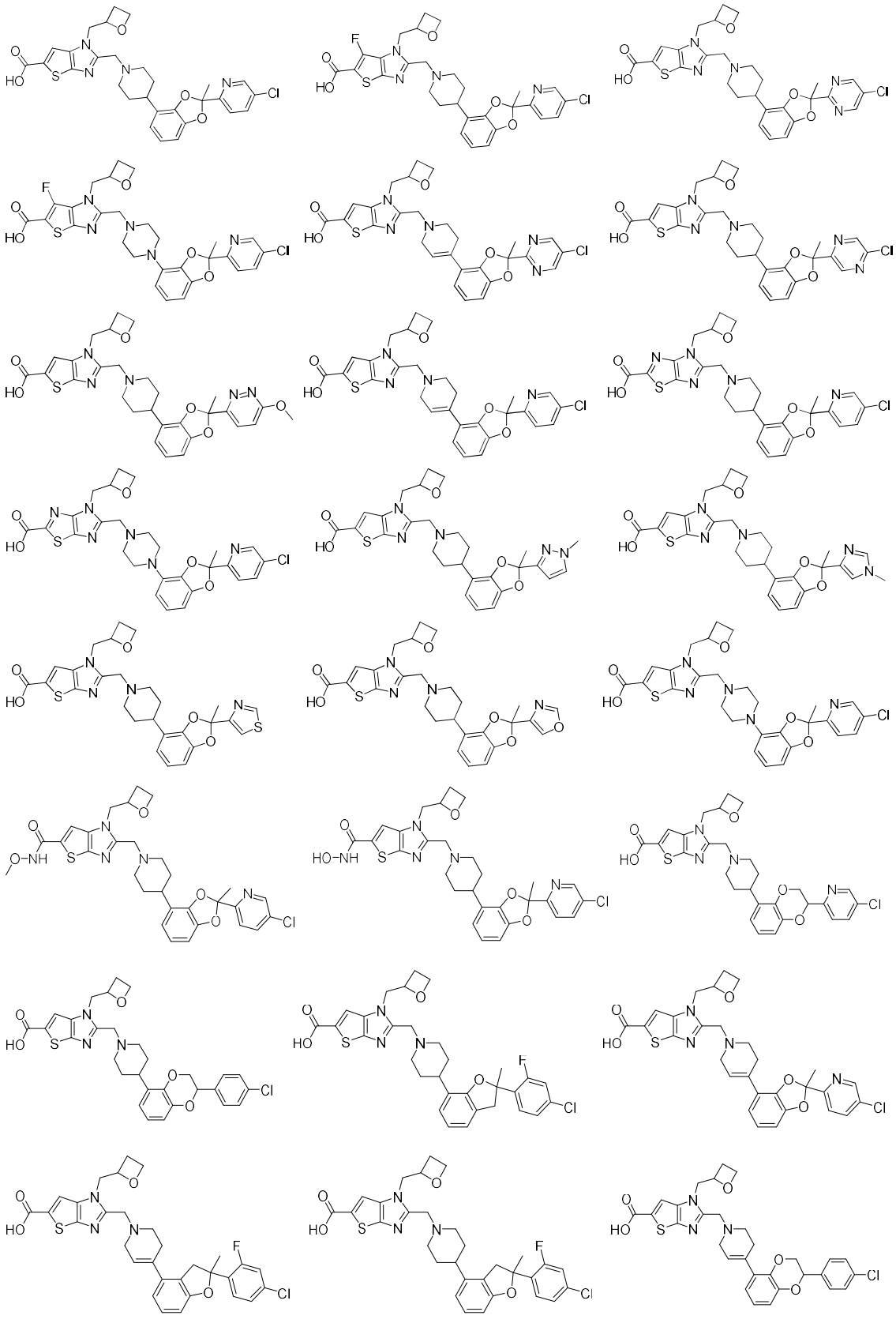


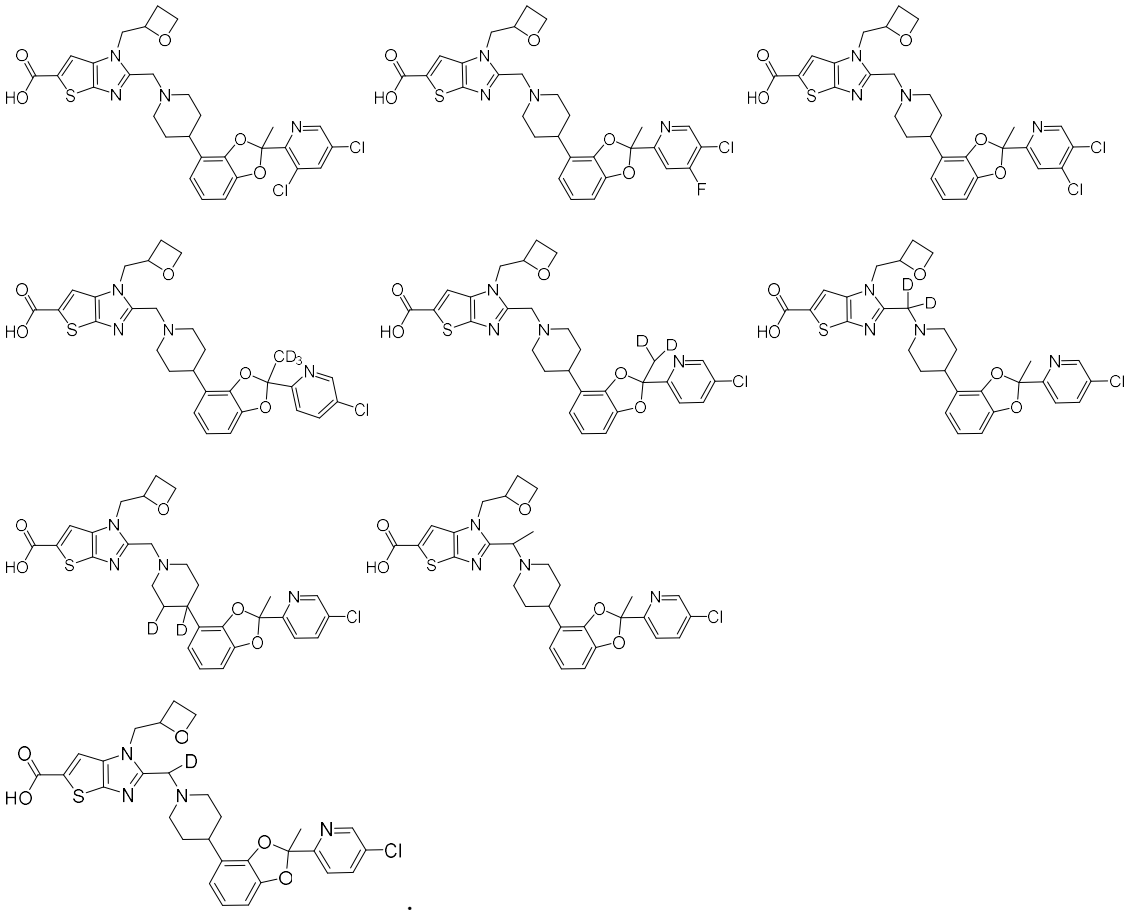
(I-1b) ,

wherein --- is selected from a single bond and a double bond, and when T_2 is selected from N, == is selected from a single bond;

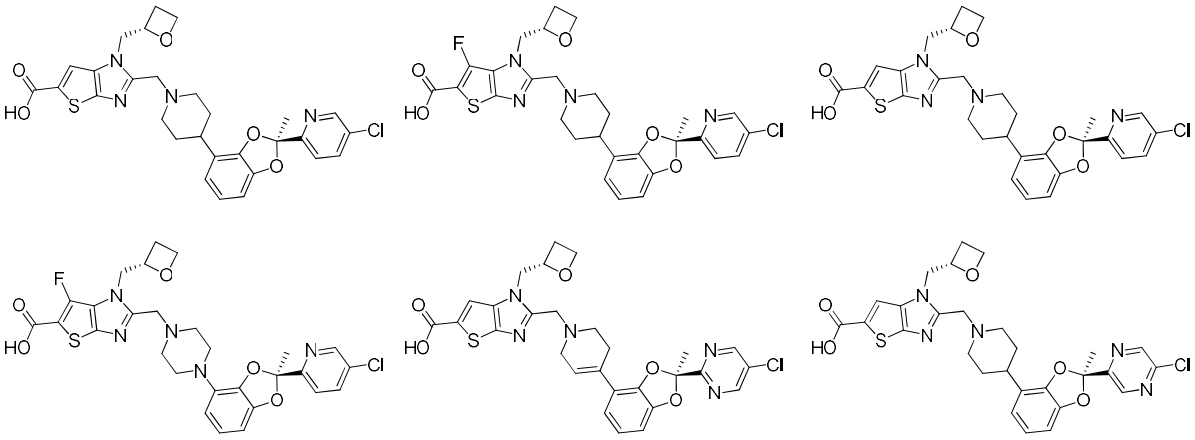
X_1, T_2, and ring B are as defined in claim 14.

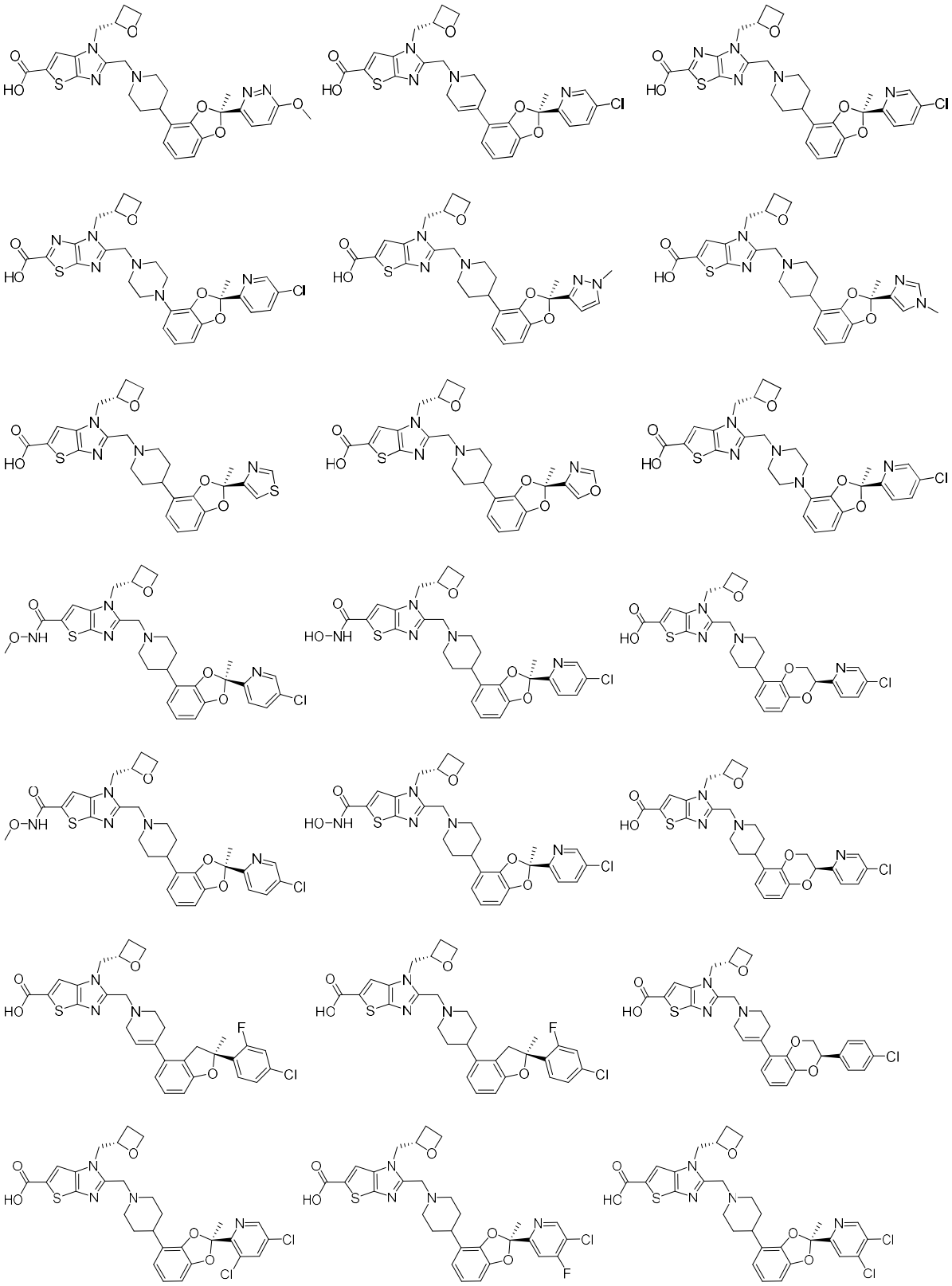
16. A compound of the following formula or a pharmaceutically acceptable salt thereof,

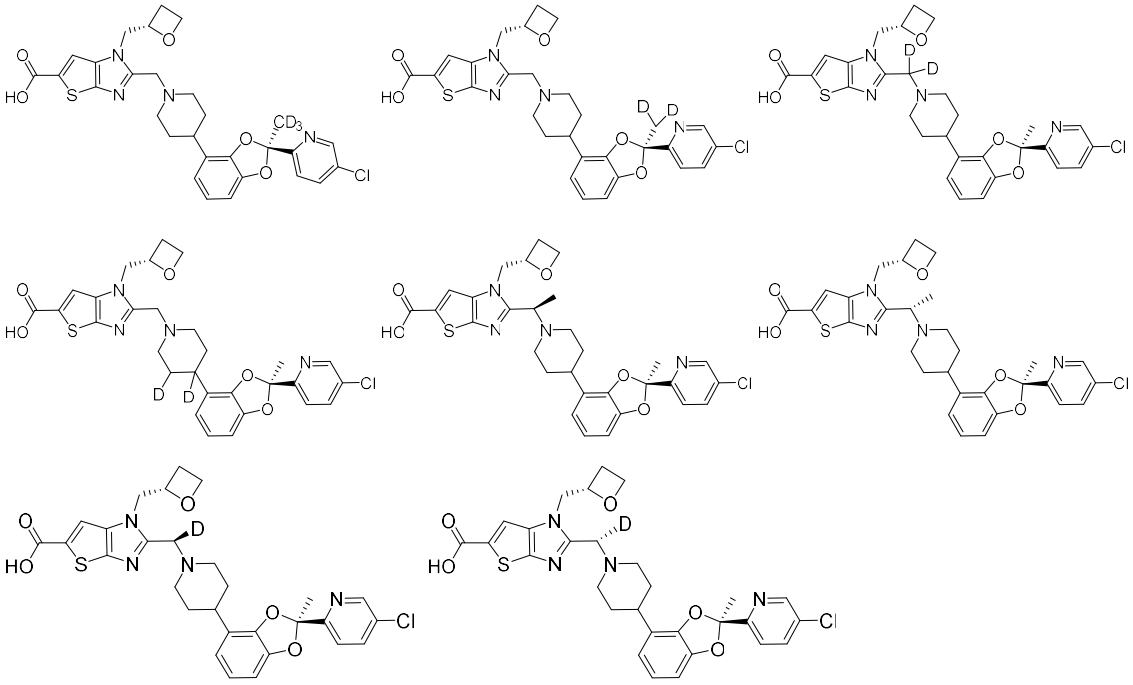


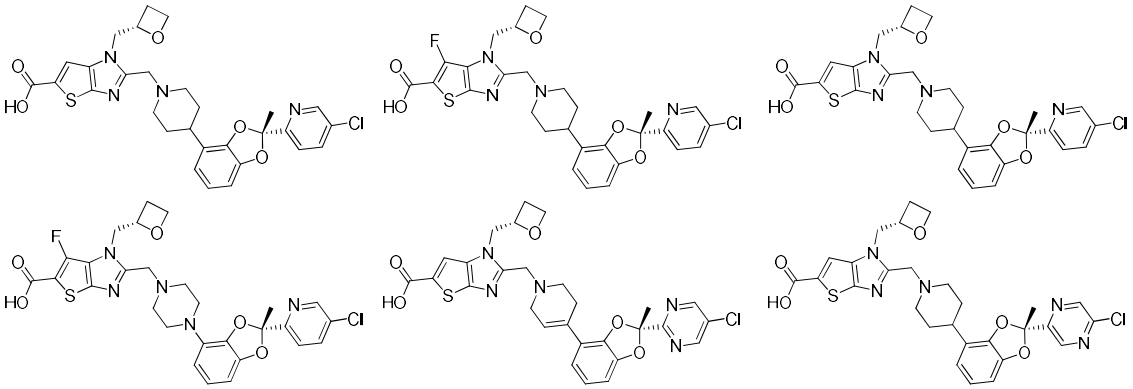


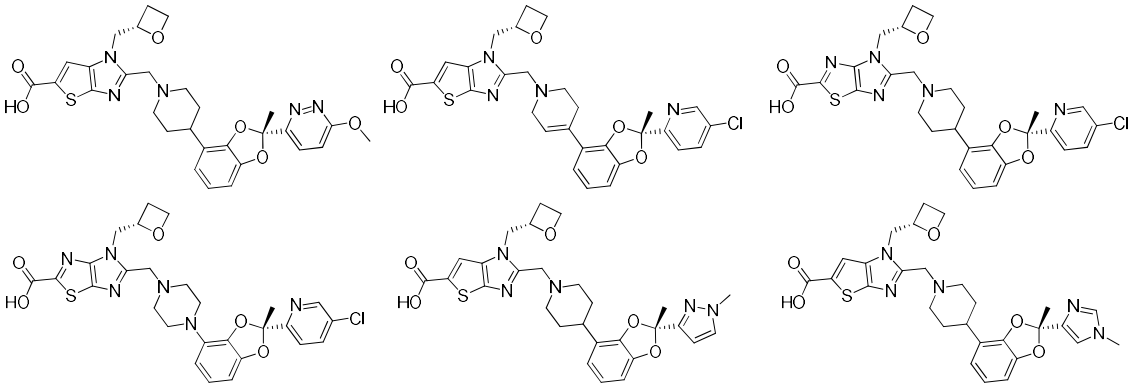
17. The compound or the pharmaceutically acceptable salt thereof according to claim 16, selected from,

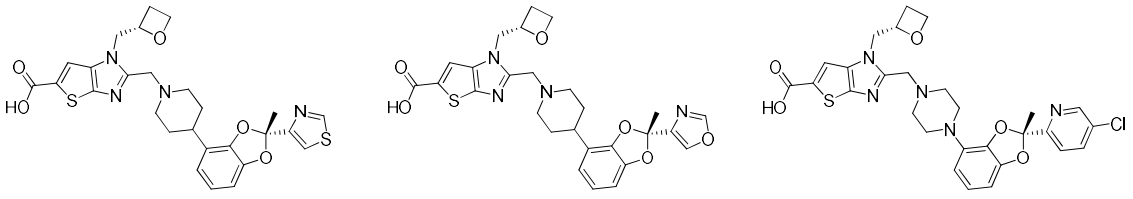


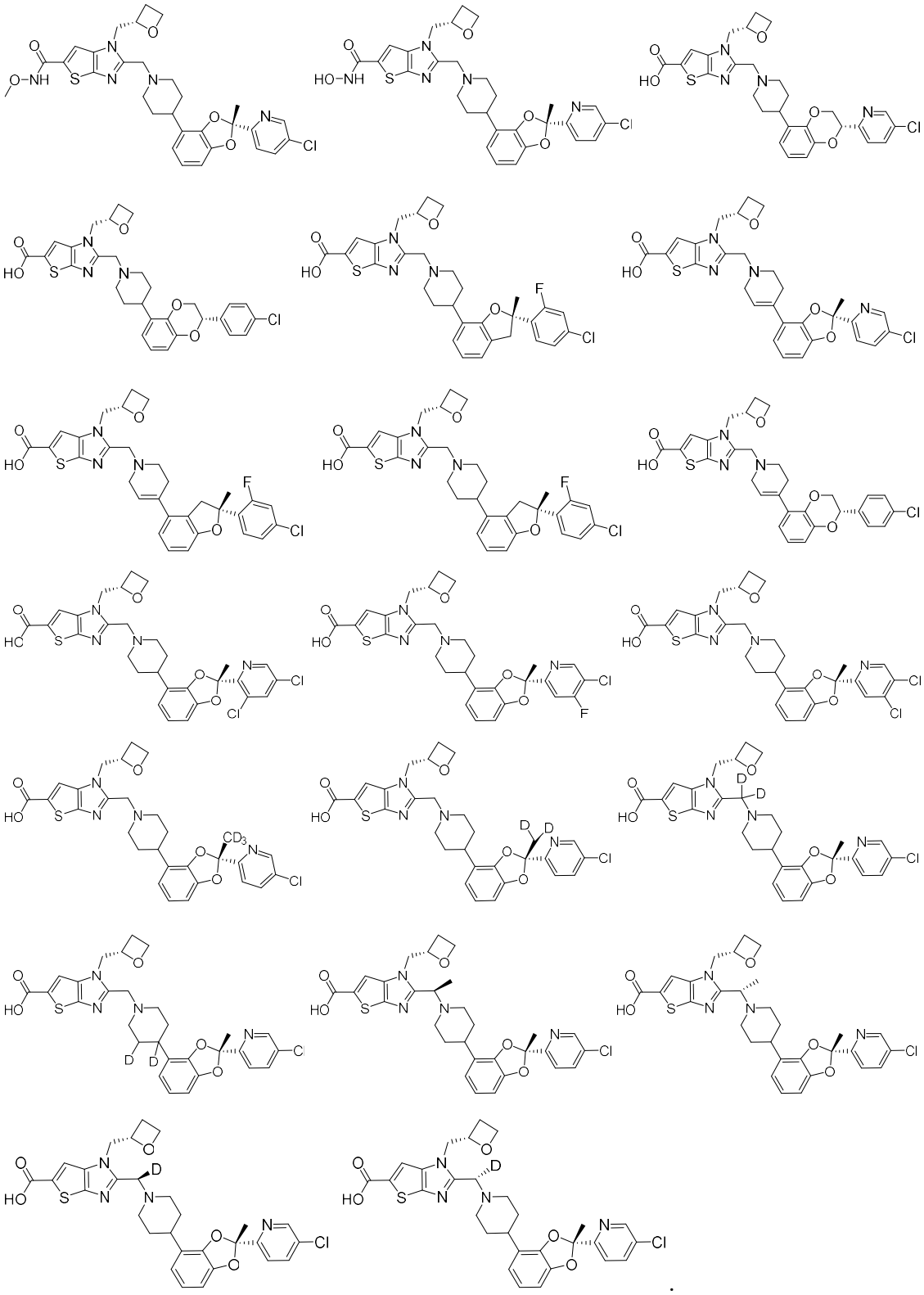












18. Use of the compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 17 in the manufacture of a medicament for treating diabetes.

19. The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 17 for use in therapy.