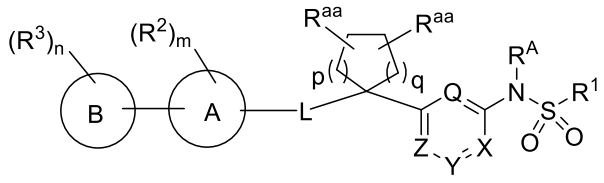
CLAIMS

1. A compound of formula (AAI):



(AAI)

,

or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof;

wherein:

any two R^{aa}, together with the atoms to which they are attached, form a ring C, wherein ring C is optionally further substituted by one or more R^4;

ring C is selected from the group consisting of a 6-membered aryl, a 3- to 5- membered cycloalkyl, a 5- to 7- membered heterocyclyl, and a 5- to 6- membered heteroaryl;

R^A is selected from the group consisting of a hydrogen atom and a C_{1-6} alkyl;

ring A is selected from the group consisting of a 6-membered aryl, a 5- to 6- membered heteroaryl, and a 5- to 7- membered heterocyclyl;

ring B is selected from the group consisting of a 6-membered aryl and a 5- to 10- membered heteroaryl;

L is selected from the group consisting of -C(=O)-, -C(=O)NR^a-, and -NR^bC(=O)-;

R^a and R^b are each independently selected from the group consisting of a hydrogen atom and a C_{1-6} alkyl;

X, Y, Z, and Q are each independently selected from the group consisting of N and CR^c; and at most two of X, Y, Z, and Q are simultaneously N atoms;

alternatively, X and Y, Z and Y each independently form a 5- to 6- membered heteroaryl or a 5- to 6- membered heterocyclyl; wherein the 5- to 6- membered heteroaryl or 5- to 6- membered heterocyclyl is optionally further substituted by one or more substituents selected from the group

consisting of halogen, hydroxy, cyano, and 3- to 5- membered cycloalkyl;

R^c is selected from the group consisting of a hydrogen atom, halogen, hydroxy, cyano, C_{1-6} alkyl, and C_{1-6} alkoxy; wherein the C_{1-6} alkyl or C_{1-6} alkoxy is optionally further substituted by one or more substituents selected from the group consisting of halogen, hydroxy, cyano, and 3- to 5- membered cycloalkyl;

R^1 is selected from the group consisting of C_{1-6} alkyl and 3- to 5- membered cycloalkyl; wherein the C_{1-6} alkyl or 3- to 5- membered cycloalkyl is optionally further substituted by one or more substituents selected from the group consisting of halogen, hydroxy, cyano, 3- to 5- membered cycloalkyl, C_{1-6} alkyl, C_{1-6} haloalkyl, C_{1-6} alkoxy, and C_{1-6} haloalkoxy;

R^2 is each independently selected from the group consisting of a hydrogen atom, halogen, cyano, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy; wherein the C_{1-6} alkyl or C_{1-6} alkoxy is optionally further substituted by one or more substituents selected from the group consisting of halogen, hydroxy, cyano, C_{1-6} alkyl, and C_{1-6} alkoxy;

alternatively, two R^2, together with the same carbon atom to which they are attached, form a -C(O);

R^3 is each independently selected from the group consisting of a hydrogen atom, halogen, cyano, hydroxy, C_{1-6} alkyl, C_{1-6} alkoxy, 3- to 5- membered cycloalkyl, C_{2-6} alkenyl, SF_5, $-C(O)R^5$, $-C(O)OR^5$, $-NHC(O)R^5$, $-NHC(O)OR^5$, $-NR^6R^7$, $-C(O)NR^6R^7$, $-CH_2NHC(O)OR^5$, $-CH_2NR^6R^7$, and $-S(O)_rR^5$; wherein the alkyl, alkoxy, alkenyl, or cycloalkyl is optionally further substituted by one or more substituents selected from the group consisting of hydroxy, halogen, nitro, cyano, alkyl, alkoxy, haloalkyl, haloalkoxy, cycloalkyl, heterocyclyl, aryl, heteroaryl, =O, $-C(O)R^8$, $-C(O)OR^8$, $-OC(O)R^8$, $-NR^9R^{10}$, $-C(O)NR^9R^{10}$, $-SO_2NR^9R^{10}$, and $-NR^9C(O)R^{10}$;

R^4 is each independently selected from the group consisting of a hydrogen atom, cyano, halogen, alkyl, alkenyl, alkynyl, hydroxy, cycloalkyl, heterocyclyl, aryl, heteroaryl, $-OR^5$, $-C(O)R^5$, $-C(O)OR^5$, $-NHC(O)R^5$, $-NHC(O)OR^5$, $-NR^6R^7$, $-C(O)NR^6R^7$, $-S(O)_2NR^6R^7$, $-CH_2NHC(O)OR^5$, $-CH_2NR^6R^7$, and $-S(O)_rR^5$; wherein the alkyl, cycloalkyl, heterocyclyl, aryl, or heteroaryl is optionally further substituted by one or more substituents selected from the group consisting of hydroxy, halogen, nitro, cyano, alkyl, alkoxy, haloalkyl, haloalkoxy, cycloalkyl, heterocyclyl, aryl,

heteroaryl, =O, -C(O)R^8, -C(O)OR^8, -OC(O)R^8, -NR^9R^{10}, -C(O)NR^9R^{10}, -$SO_2NR^9R^{10}$, and -NR^9C(O)R^{10};

R^5 is each independently selected from the group consisting of a hydrogen atom, alkyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl, wherein the alkyl, cycloalkyl, heterocyclyl, aryl, or heteroaryl is optionally further substituted by one or more substituents selected from the group consisting of hydroxy, halogen, nitro, cyano, alkyl, alkoxy, haloalkyl, haloalkoxy, cycloalkyl, heterocyclyl, aryl, heteroaryl, =O, -C(O)R^8, -C(O)OR^8, -OC(O)R^8, -NR^9R^{10}, -C(O)NR^9R^{10}, -$SO_2NR^9R^{10}$, and -NR^9C(O)R^{10};

R^6 and R^7 are each independently selected from the group consisting of a hydrogen atom, hydroxy, alkyl, alkoxy, cycloalkyl, heterocyclyl, aryl, and heteroaryl, wherein the alkyl, alkoxy, cycloalkyl, heterocyclyl, aryl, or heteroaryl is optionally further substituted by one or more substituents selected from the group consisting of hydroxy, halogen, nitro, cyano, alkyl, alkoxy, cycloalkyl, heterocyclyl, aryl, heteroaryl, =O, -C(O)R^8, -C(O)OR^8, -OC(O)R^8, -NR^9R^{10}, -C(O)NR^9R^{10}, -$SO_2NR^9R^{10}$, and -NR^9C(O)R^{10};

alternatively, R^6 and R^7, together with the atoms to which they are attached, form a 4- to 8-membered heterocyclyl, wherein the 4- to 8- membered heterocyclyl contains one or more N, O, or S(O)r, and the 4- to 8- membered heterocyclyl is optionally further substituted by one or more substituents selected from the group consisting of hydroxy, halogen, nitro, cyano, alkyl, alkoxy, cycloalkyl, heterocyclyl, aryl, heteroaryl, =O, -C(O)R^8, -C(O)OR^8, -OC(O)R^8, -NR^9R^{10}, -C(O)NR^9R^{10}, -$SO_2NR^9R^{10}$, and -NR^9C(O)R^{10};

R^8, R^9, and R^{10} are each independently selected from the group consisting of a hydrogen atom, alkyl, amino, cycloalkyl, heterocyclyl, aryl, and heteroaryl, wherein the alkyl, cycloalkyl, heterocyclyl, aryl, or heteroaryl is optionally further substituted by one or more substituents selected from the group consisting of hydroxy, halogen, nitro, amino, cyano, alkyl, alkoxy, cycloalkyl, heterocyclyl, aryl, heteroaryl, carboxy, and carboxylate;

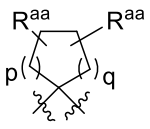
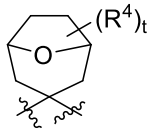
m is selected from the group consisting of 0, 1, and 2;

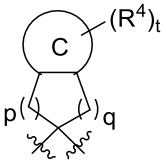
n is selected from the group consisting of 0, 1, and 2;

p is selected from the group consisting of 0, 1, and 2;

q is selected from the group consisting of 0, 1, and 2; and

r is each independently 0, 1, or 2.

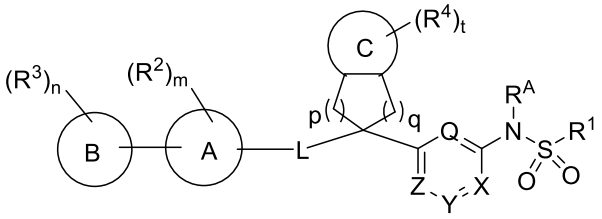
2. The compound or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof according to claim 1, wherein  is selected from the group consisting of 



and ;

wherein t is selected from the group consisting of 0, 1, and 2; and ring C, R^4, p, and q are as defined in claim 1.

3. The compound or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof according to claim 1 or 2, which is a compound of formula (AI):



(AI) ,

or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof;

wherein:

X, Y, Z, and Q are each independently selected from the group consisting of N and CR^c; and at most two of X, Y, Z, and Q are simultaneously N atoms;

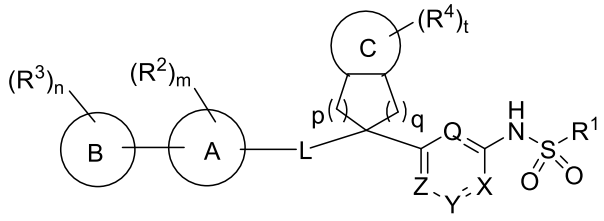
alternatively, Z and Y form a 5- to 6- membered heteroaryl, wherein the 5- to 6- membered heteroaryl is optionally further substituted by one or more substituents selected from the group consisting of halogen, hydroxy, cyano, and 3- to 5- membered cycloalkyl;

alternatively, X and Y form a 5- to 6- membered heteroaryl, wherein the 5- to 6- membered heteroaryl is optionally further substituted by one or more substituents selected from the group consisting of halogen, hydroxy, cyano, and 3- to 5- membered cycloalkyl;

t is selected from the group consisting of 0, 1, and 2; and

ring A, ring B, ring C, L, R^1 to R^4, R^A, p, q, m, and n are as defined in claim 1;

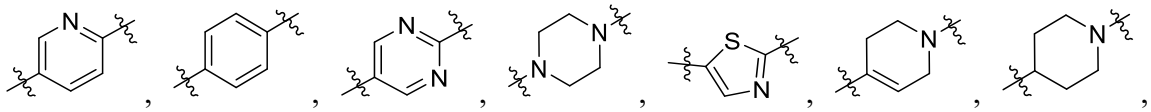
preferably, the compound or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof is a compound of formula (I):

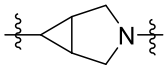


(I) ,

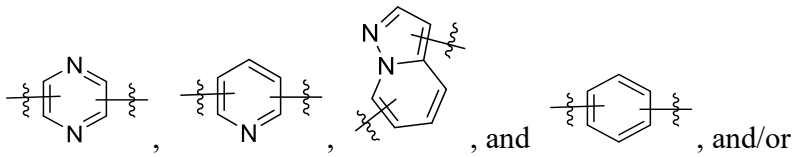
or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof.

4. The compound or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, wherein ring A is selected from the group consisting of:



and  ; and/or

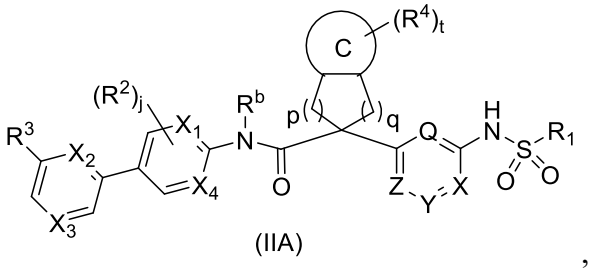
ring B is selected from the group consisting of:



, and , and/or

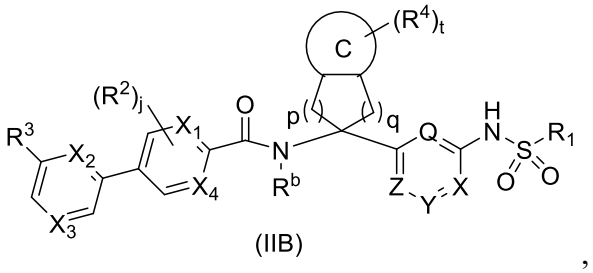
L is selected from the group consisting of -C(=O)-, -C(=O)NH-, and -NHC(=O)-.

5. The compound or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, which is a compound of formula (IIA) or (IIB):



(IIA)

,



(IIB)

,

or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof;

wherein each X_1 is independently selected from the group consisting of N and CR^d;

X_4 is each independently selected from the group consisting of N and CR^d;

R^b is each independently selected from the group consisting of a hydrogen atom and methyl;

R^d is each independently selected from the group consisting of a hydrogen atom, halogen, cyano, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} haloalkyl, and C_{1-6} haloalkoxy;

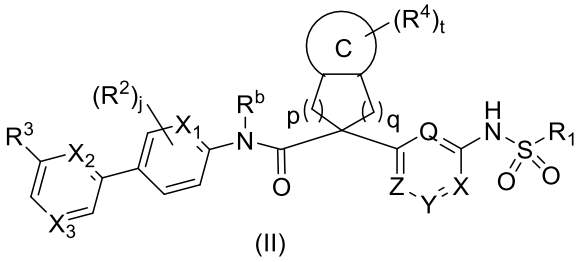
X_2 and X_3 are each independently selected from the group consisting of N and CR^e;

j is each independently selected from the group consisting of 0 and 1;

R^e is each independently selected from the group consisting of a hydrogen atom, halogen, cyano, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} haloalkyl, and C_{1-6} haloalkoxy; and

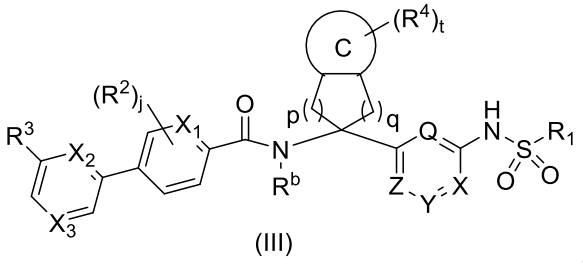
ring C, X, Y, Z, Q, R^1 to R^4, p, q, and t are as defined in claim 3.

6. The compound or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, which is a compound of formula (II) or (III):



(II)

,



(III)

,

or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof;

wherein each X_1 is independently selected from the group consisting of N and CR^d;

R^b is each independently selected from the group consisting of a hydrogen atom and methyl;

R^d is each independently selected from the group consisting of a hydrogen atom, halogen, cyano, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} haloalkyl, and C_{1-6} haloalkoxy;

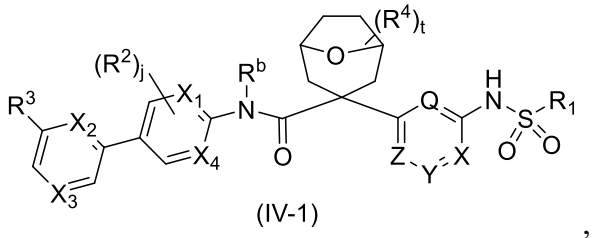
X_2 and X_3 are each independently selected from the group consisting of N and CR^e;

j is each independently selected from the group consisting of 0 and 1;

R^e is each independently selected from the group consisting of a hydrogen atom, halogen, cyano, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} haloalkyl, and C_{1-6} haloalkoxy; and

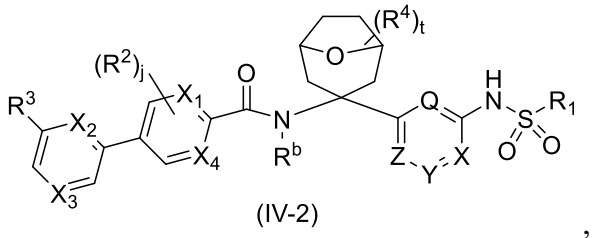
ring C, X, Y, Z, Q, R^1 to R^4, p, q, and t are as defined in claim 3.

7. The compound or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof according to claim 1 or 2, which is a compound of formula (IV-1) or (IV-2):



(IV-1)

,



(IV-2)

,

or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof;

wherein each X_1 is independently selected from the group consisting of N and CR^d;

X_4 is each independently selected from the group consisting of N and CR^d;

R^b is each independently selected from the group consisting of a hydrogen atom and methyl;

R^d is each independently selected from the group consisting of a hydrogen atom, halogen, cyano, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} haloalkyl, and C_{1-6} haloalkoxy;

X_2 and X_3 are each independently selected from the group consisting of N and CR^e;

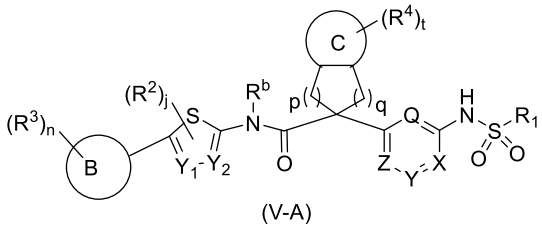
j is each independently selected from the group consisting of 0 and 1;

R^e is each independently selected from the group consisting of a hydrogen atom, halogen, cyano, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} haloalkyl, and C_{1-6} haloalkoxy;

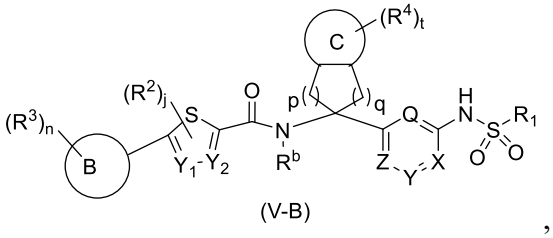
t is selected from the group consisting of 0, 1, and 2; and

X, Y, Z, Q, and R^1 to R^4 are as defined in claim 1.

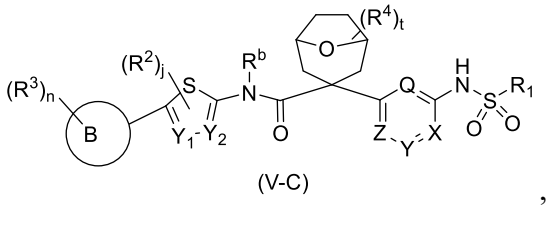
8. The compound or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, which is a compound of formula (V-A), (V-B), (V-C), or (V-D):



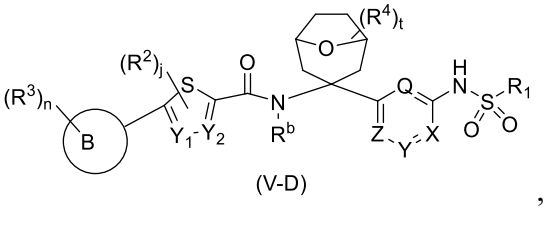
(V-A),



(V-B),



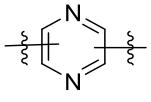
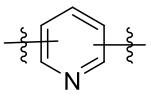
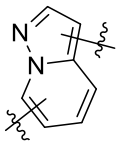
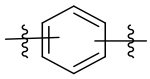
(V-C),



(V-D),

or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof;

wherein each R^b is independently selected from the group consisting of a hydrogen atom and methyl;

ring B is each independently selected from the group consisting of , , , and ;

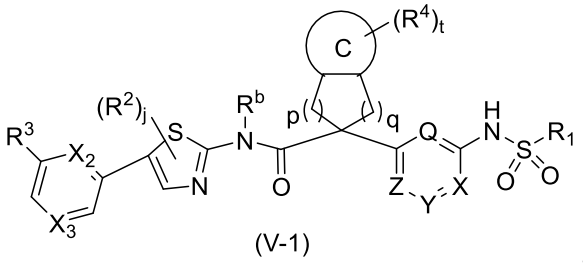
Y_1 and Y_2 are each independently selected from the group consisting of N and CH;

j is each independently selected from the group consisting of 0 and 1;

t is each independently selected from the group consisting of 0, 1, and 2; and

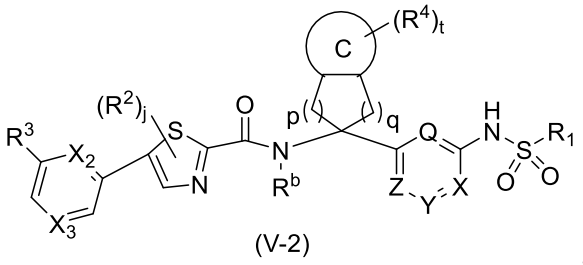
ring C, X, Y, Z, Q, R^1 to R^4, p, q, and n are as defined in claim 1;

prererably, the compound or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof is a compound of formula (V-1) or (V-2):



(V-1)

,



(V-2)

,

or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof,

wherein each R^b is independently selected from the group consisting of a hydrogen atom and methyl;

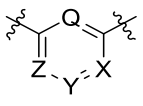
X_2 and X_3 are each independently selected from the group consisting of N and CR^e;

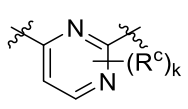
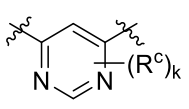
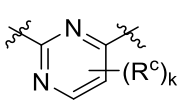
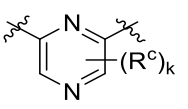
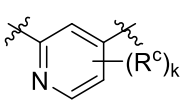
j is each independently selected from the group consisting of 0 and 1;

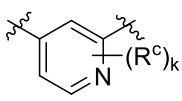
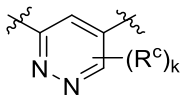
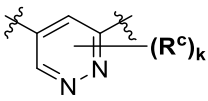
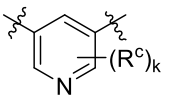
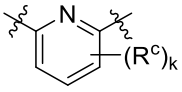
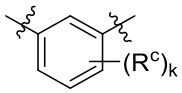
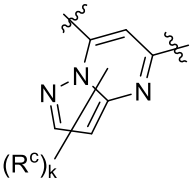
R^e is each independently selected from the group consisting of a hydrogen atom, halogen, cyano, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} haloalkyl, and C_{1-6} haloalkoxy;

t is selected from the group consisting of 0, 1, and 2 ; and

ring C, X, Y, Z, Q, R^1 to R^4, p and q are as defined in claim 1.

9. The compound or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 8, wherein  is selected from the group consisting of:


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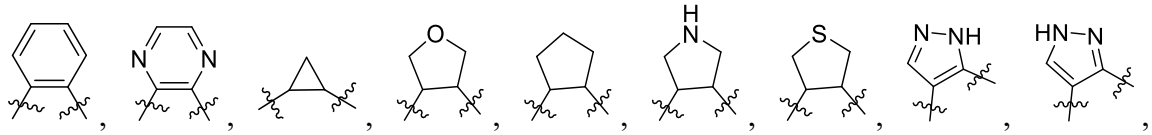
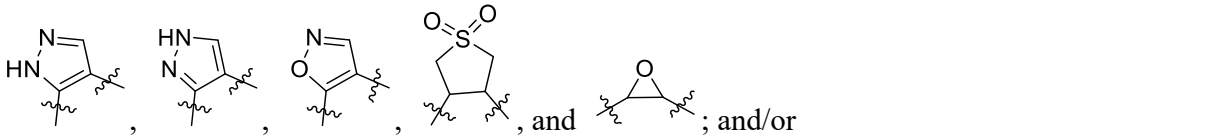








;

R^c is each independently selected from the group consisting of a hydrogen atom, halogen, cyano, C_{1-6} alkoxy, C_{1-6} haloalkyl, and C_{1-6} haloalkoxy; and

k is each independently selected from the group consisting of 0, 1, and 2; and/or

ring C is selected from the group consisting of:

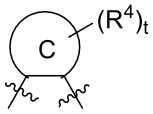
; and/or

R^4 is selected from the group consisting of a hydrogen atom, C_{1-6} alkyl, $-C(O)R^5$, $-C(O)NR^6R^7$, $-S(O)_2R^5$, and $-S(O)_2NR^6R^7$; wherein the C_{1-6} alkyl is optionally further substituted by one or more substituents selected from the group consisting of hydroxy, halogen, cyano, and $-C(O)OR^8$;

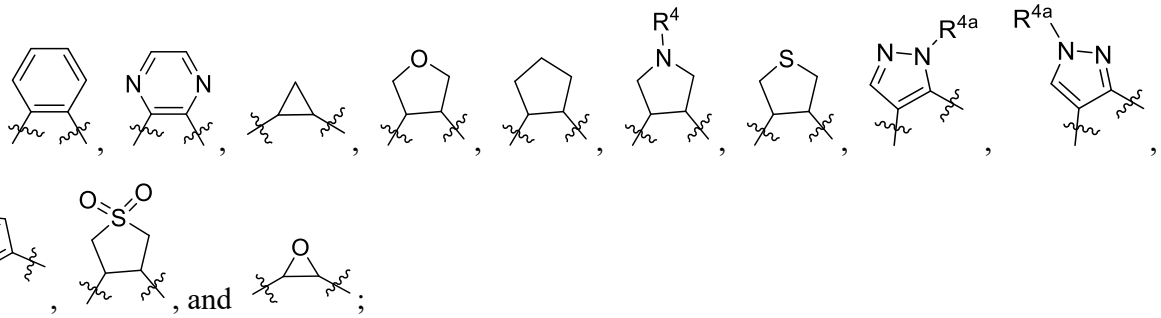
R^5 is each independently selected from the group consisting of C_{1-6} alkyl, 3- to 5- membered cycloalkyl, and 5- to 6- membered heteroaryl, wherein the C_{1-6} alkyl, 3- to 5- membered cycloalkyl, or 5- to 6- membered heteroaryl is optionally further substituted by one or more substituents selected from the group consisting of halogen and C_{1-6} alkoxy;

R^6 and R^7 are each independently selected from the group consisting of a hydrogen atom and C_{1-6} alkyl; and

R^8 is selected from the group consisting of a hydrogen atom and C_{1-6} alkyl ; and/or



is selected from the group consisting of:

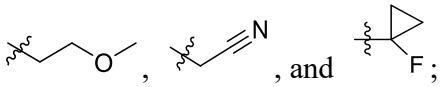


, and ;

wherein: R^{4a} is each independently selected from the group consisting of a hydrogen atom and C_{1-6} alkyl; and

R^4 is as defined in claim 1.

10. The compound or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 9, wherein R^1 is selected from the group consisting of C_{1-6} alkyl and 3- to 5- membered cycloalkyl, wherein the C_{1-6} alkyl or 3- to 5- membered cycloalkyl is optionally further substituted by one or more substituents selected from the group consisting of C_{1-3} alkyl, C_{1-3} alkoxy, halogen, hydroxy, and cyano; preferably, R^1 is selected from the group consisting of cyclopropyl, methyl, ethyl, isopropyl, difluoromethyl, trifluoromethyl, ,



, and ;

and/or

R^2 is selected from the group consisting of a hydrogen atom, halogen, cyano, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} haloalkyl, and C_{1-6} haloalkoxy;

alternatively, two R^2, together with the same carbon atom to which they are attached, form a -C(O)-.

11. The compound or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof

according to any one of claims 1 to 10,

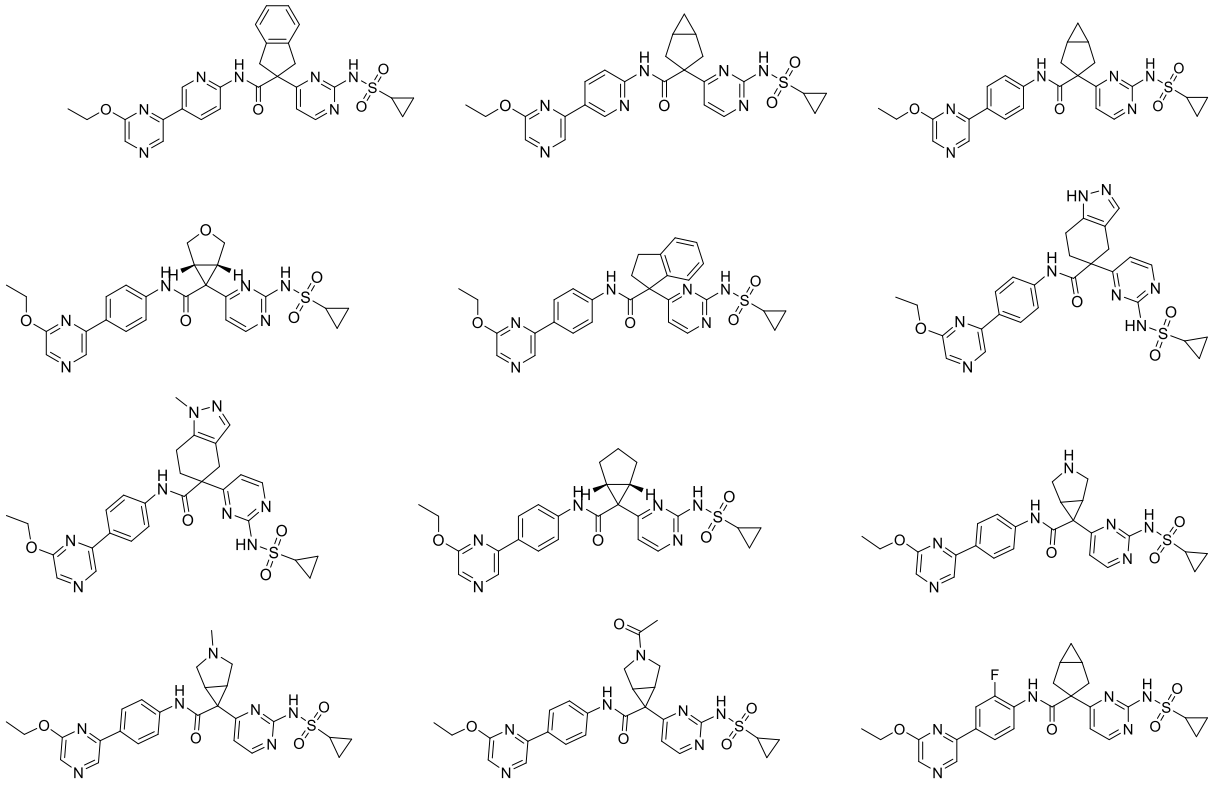
wherein R^3 is selected from the group consisting of a hydrogen atom, halogen, cyano, hydroxy, C_{1-6} alkyl, C_{1-6} alkoxy, 3 to 5- membered cycloalkyl, SF_5, C_{1-6} haloalkyl, and C_{1-6} haloalkoxy; preferably, R^3 is selected from the group consisting of chloro, trifluoromethoxy, methyl, ethyl, and ethoxy; and/or

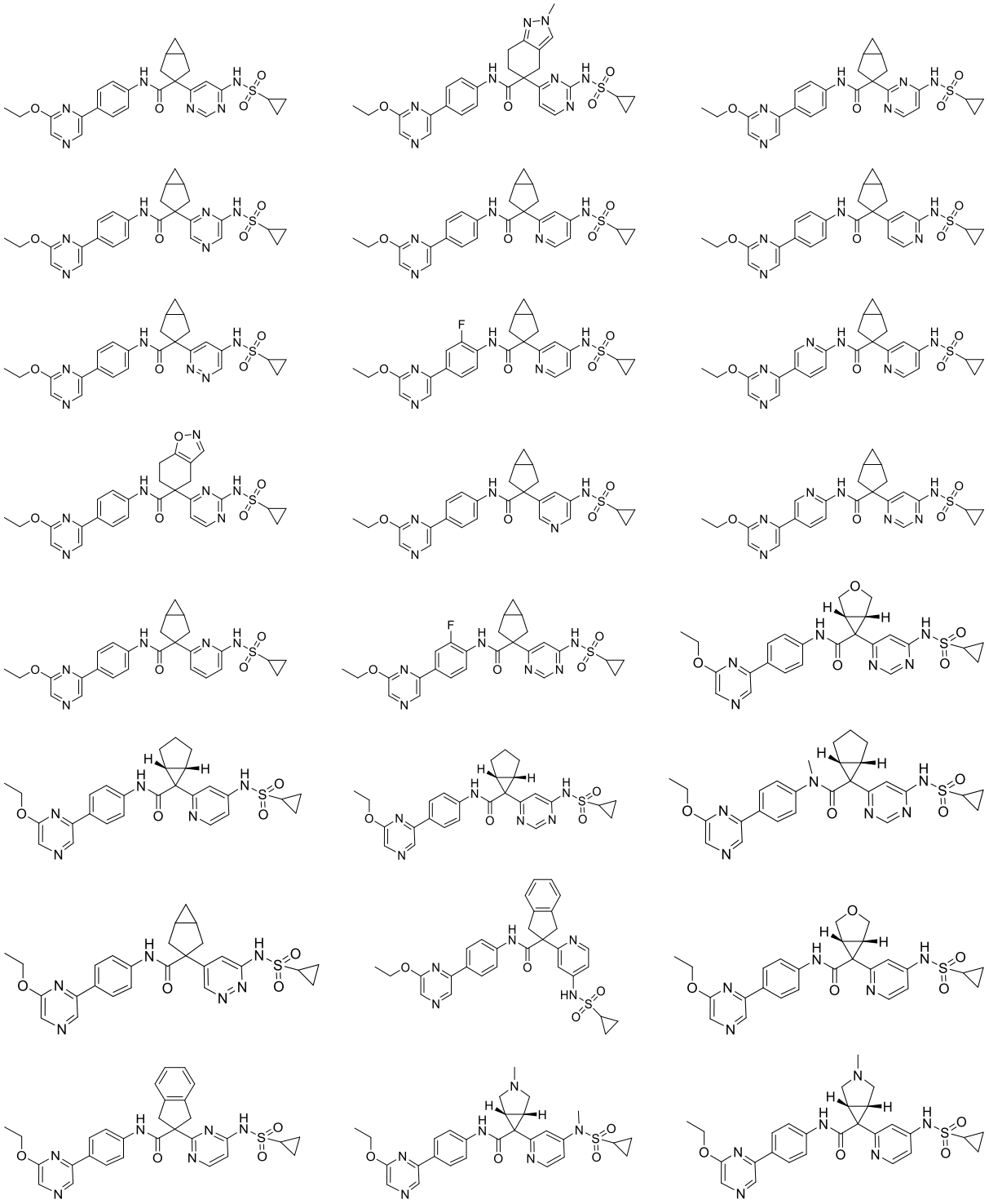
p is 0 and q is 0; or

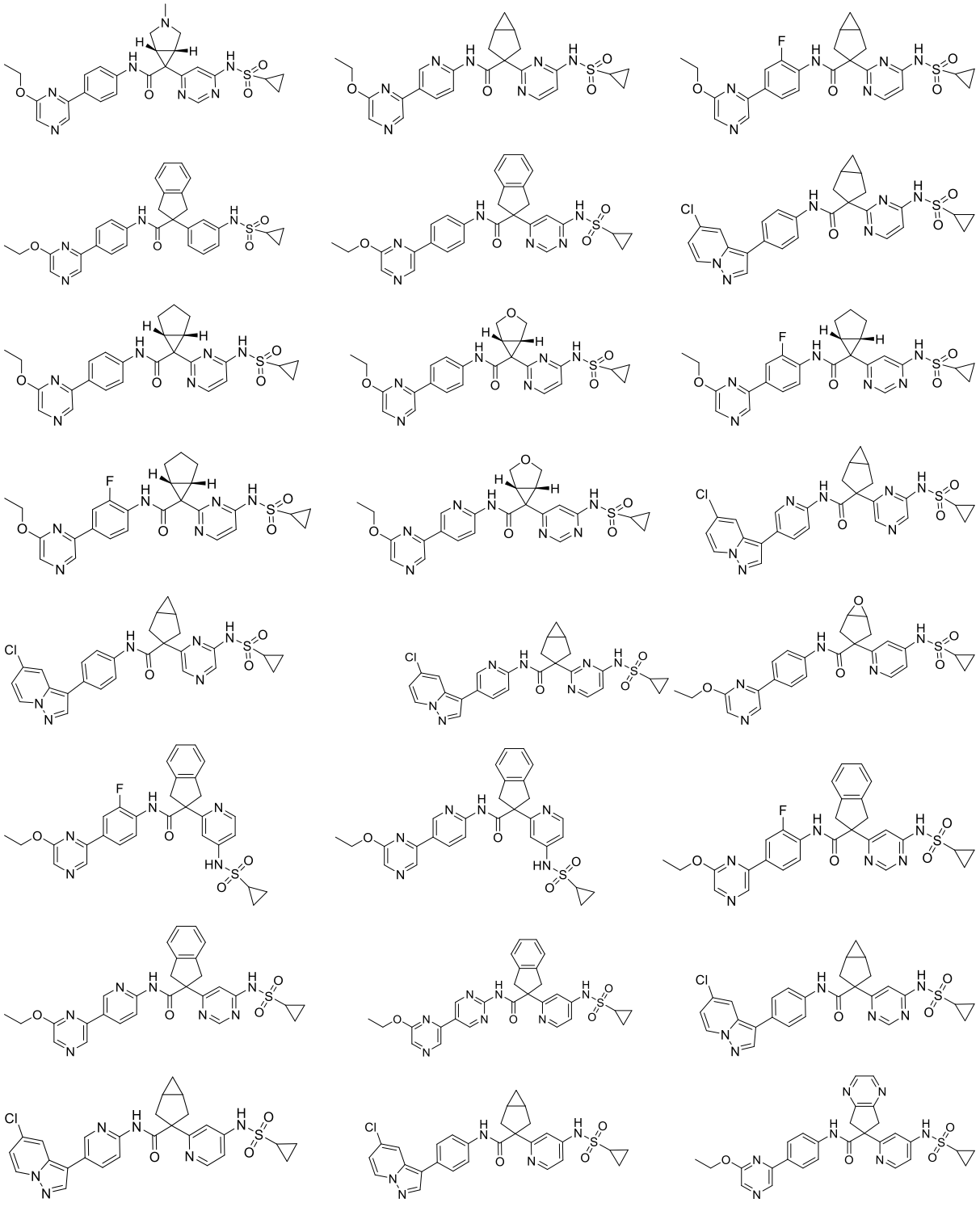
p is 1 and q is 1 or 2; or

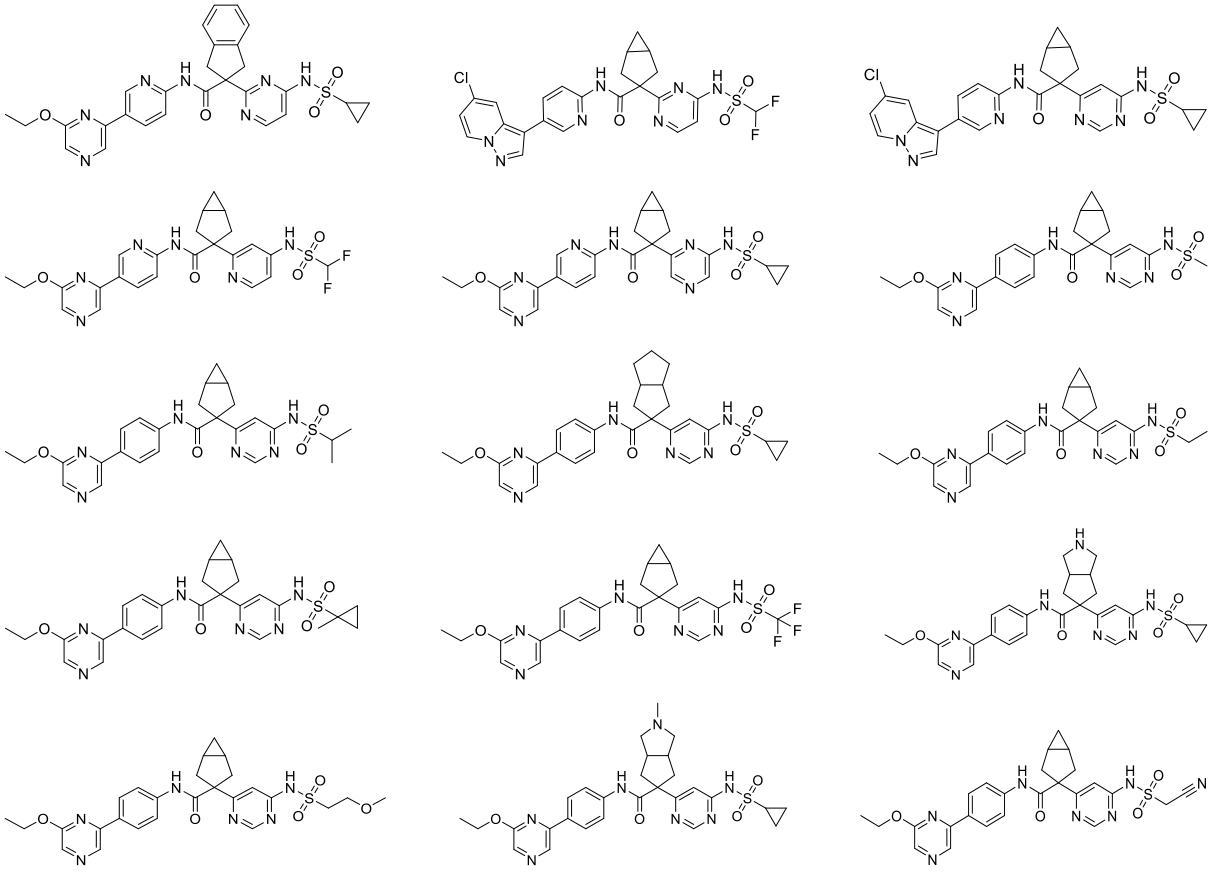
p is 2 and q is 0, 1, or 2.

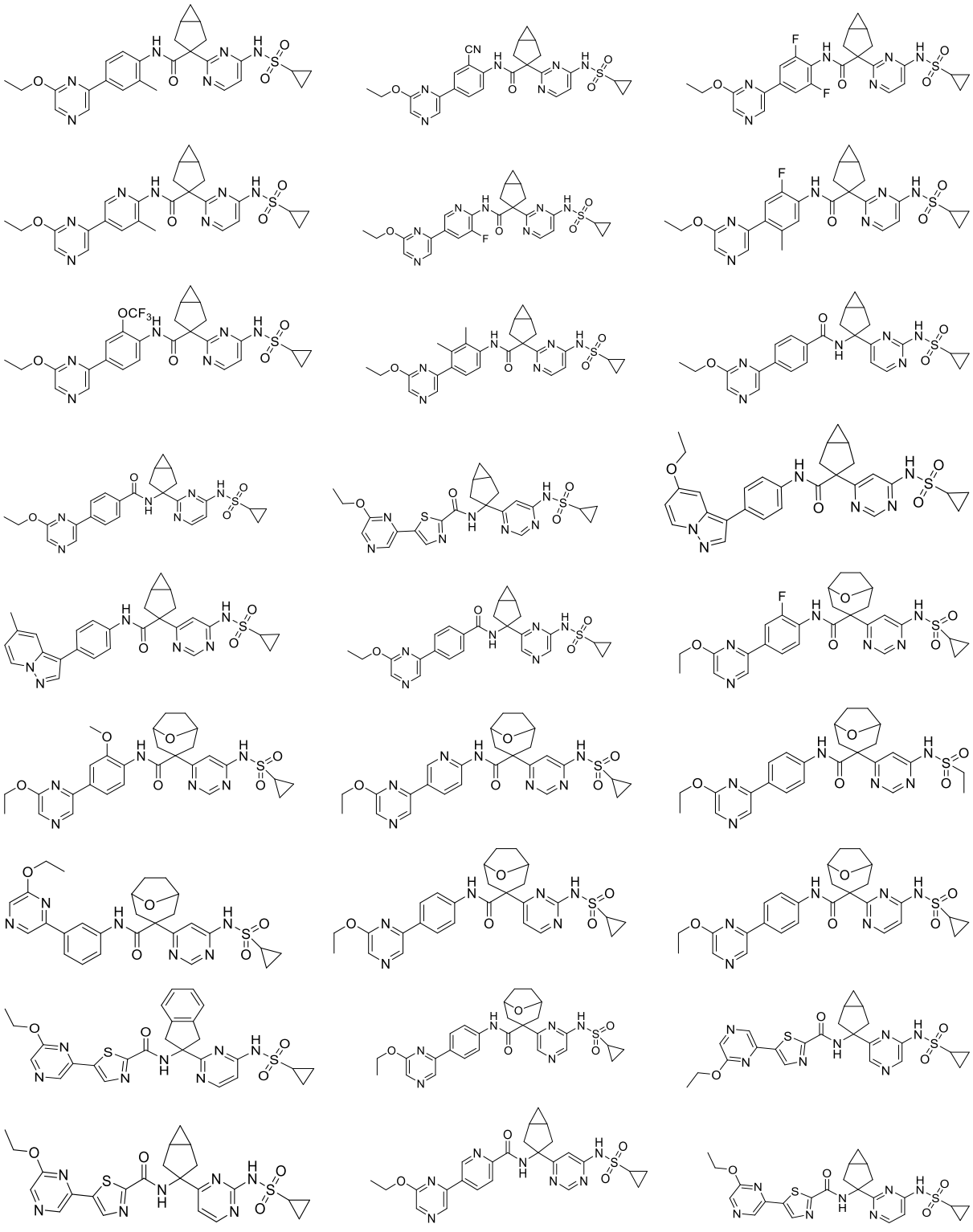
12. The compound or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 11, wherein the compound is:

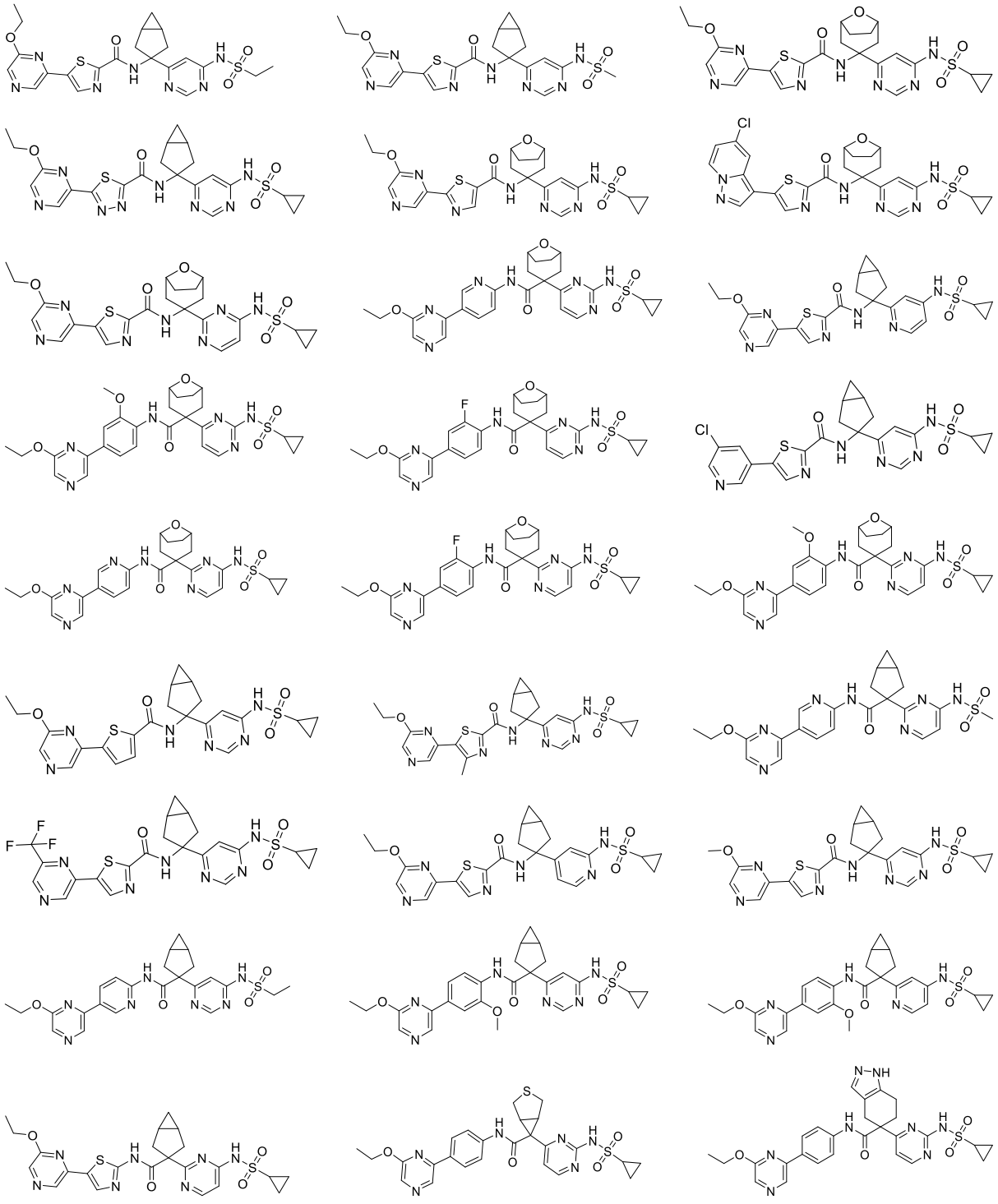


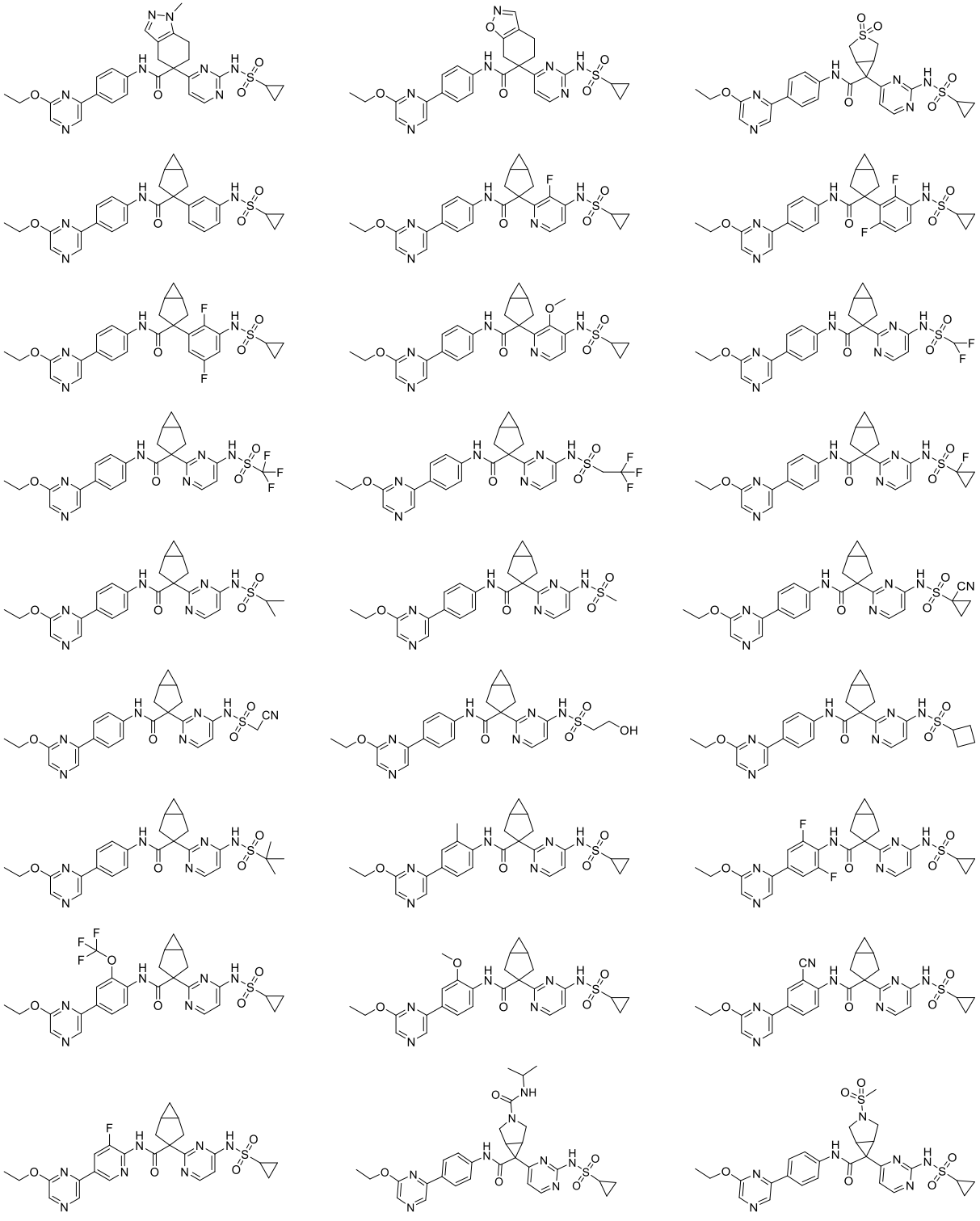


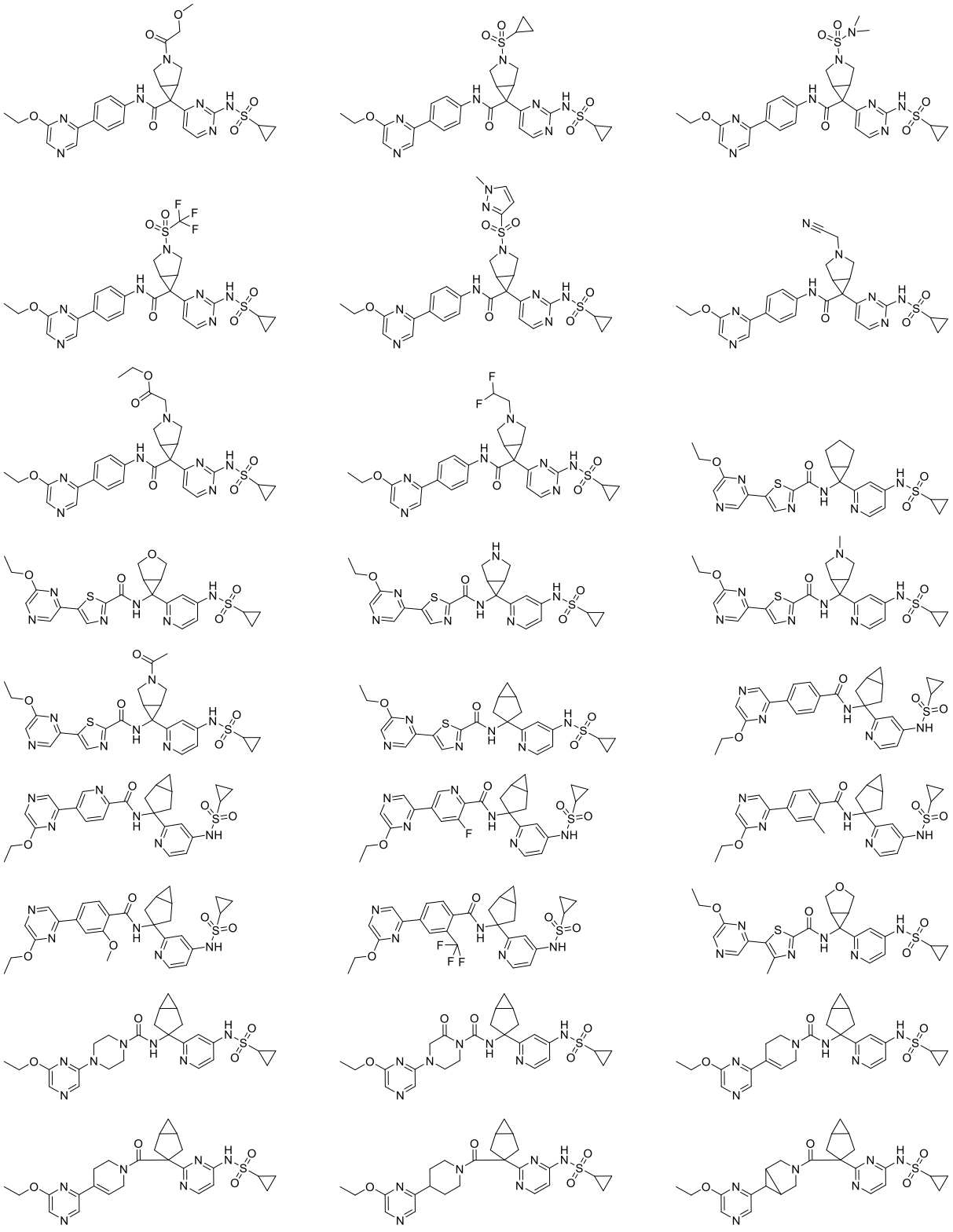


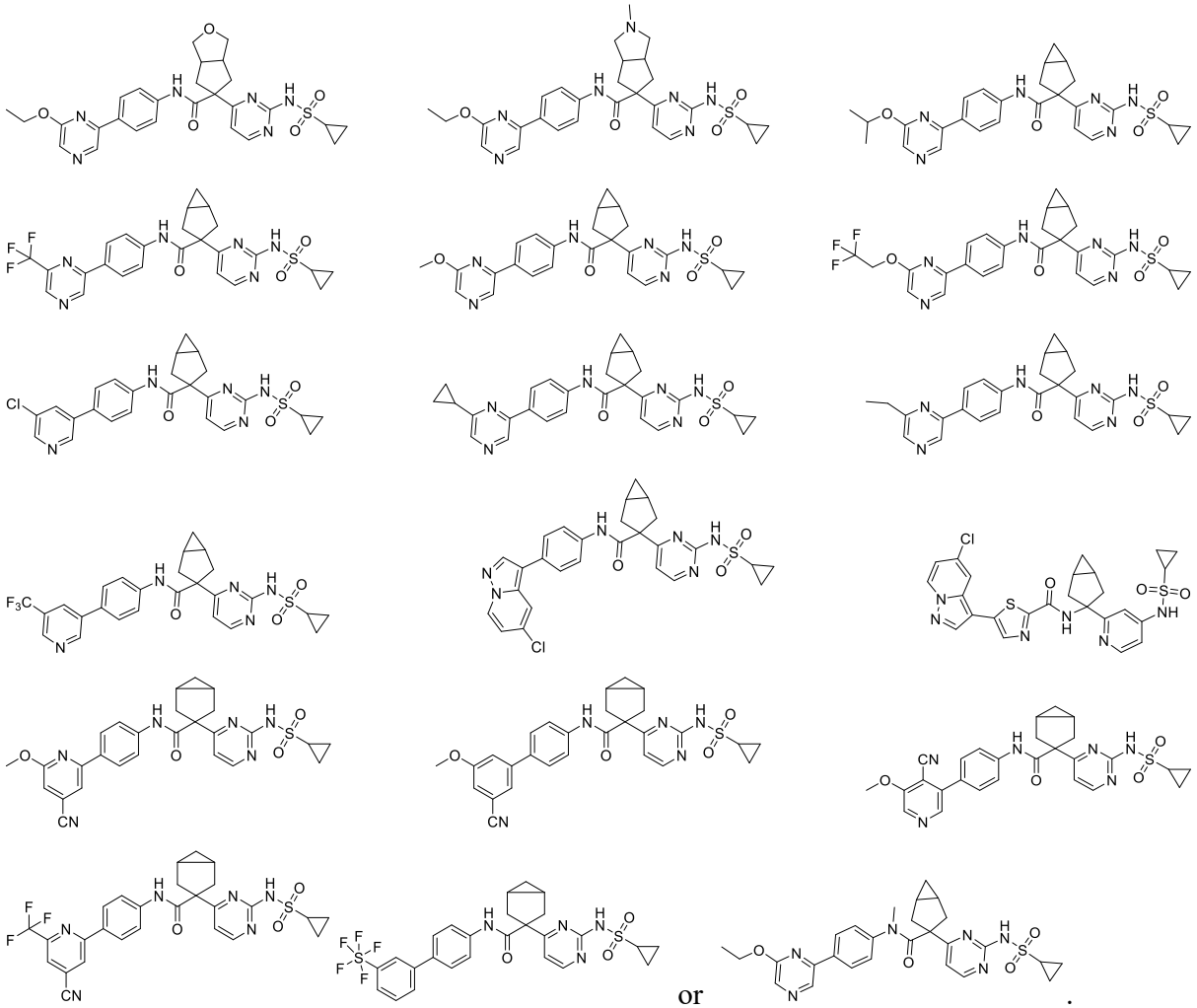












or

.

13. A pharmaceutical composition comprising an effective dose of the compound or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 12, and a pharmaceutically acceptable carrier.

14. Use of the compound or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 12, or the pharmaceutical composition according to claim 13, in the manufacture of a CTPS1 inhibitor.

15. Use of the compound or a stereoisomer, a tautomer, or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 12, or the pharmaceutical composition according to claim 13, in the manufacture of a medicament for treating a disease mediated by CTPS1; preferably,

the disease mediated by CTPS1 is lymphoma or solid tumor;

preferably, the lymphoma is relapsed/refractory B-cell and T-cell lymphoma; more preferably, the relapsed/refractory B-cell and T-cell lymphoma is mantle cell lymphoma, diffuse large B-cell lymphoma, peripheral T-cell lymphoma, cutaneous T-cell lymphoma, or indolent B-cell lymphoma; and/or

the solid tumor is preferably pancreatic cancer.