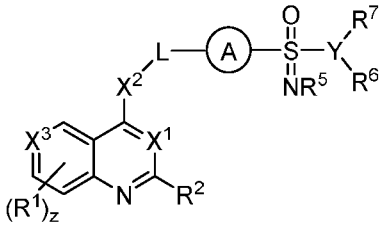
CLAIMS

WHAT IS CLAIMED IS:

1. A compound represented by the structure of Formula (I):



(I),

or a pharmaceutically acceptable salt thereof, wherein:

X^1 is selected from N and $C(R^3)$;

X^2 is absent or selected from O, S, $C(R^8)_2$, $N(R^4)$, and C_{3-6} carbocycle optionally substituted with one or more substituents independently selected from R^9;

X^3 is selected N and $C(R^{3'})$;

Y is selected from N and C(H);

R^1 is selected from:

halogen, $-OR^{11}$, $-SR^{11}$, $-N(R^{11})_2$, $-C(O)R^{11}$, $-C(O)N(R^{11})_2$, $-N(R^{11})C(O)R^{11}$, $-C(O)OR^{11}$, $-OC(O)R^{11}$, $-S(O)R^{11}$, $-S(O)_2R^{11}$, $-S(O)_2N(R^{11})_2$, $-N(R^{11})S(O)_2R^{11}$, $-S(O)(NR^{11})R^{11}$, $-S(NR^{11})_2R^{11}$, $-NO_2$, and -CN; and

C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, each of which is optionally substituted with one or more substituents independently selected from halogen, $-OR^{11}$, $-SR^{11}$, $-N(R^{11})_2$, $-C(O)R^{11}$, $-C(O)N(R^{11})_2$, $-N(R^{11})C(O)R^{11}$, $-C(O)OR^{11}$, $-OC(O)R^{11}$, $-S(O)R^{11}$, $-S(O)_2R^{11}$, $-S(O)_2N(R^{11})_2$, $-N(R^{11})S(O)_2R^{11}$, $-S(O)(NR^{11})R^{11}$, $-S(NR^{11})_2R^{11}$, $-NO_2$, =O, =S, $=N(R^{11})$, -CN, C_{3-6} carbocycle and 3- to 6-membered heterocycle;

R^2 is selected from:

hydrogen, halogen, $-OR^{11}$, $-SR^{11}$, $-N(R^{11})_2$, $-C(O)R^{11}$, $-C(O)N(R^{11})_2$, $-N(R^{11})C(O)R^{11}$, $-C(O)OR^{11}$, $-OC(O)R^{11}$, $-S(O)R^{11}$, $-S(O)_2R^{11}$, $-S(O)_2N(R^{11})_2$, $-N(R^{11})S(O)_2R^{11}$, $-S(O)(NR^{11})R^{11}$, $-S(NR^{11})_2R^{11}$, $-NO_2$, and -CN; and

C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, each of which is optionally substituted with one or more substituents independently selected from halogen, $-OR^{11}$, $-SR^{11}$, $-N(R^{11})_2$, $-C(O)R^{11}$, $-C(O)N(R^{11})_2$, $-N(R^{11})C(O)R^{11}$, $-C(O)OR^{11}$, $-OC(O)R^{11}$, $-S(O)R^{11}$, $-S(O)_2R^{11}$, $-S(O)_2N(R^{11})_2$, $-N(R^{11})S(O)_2R^{11}$, $-S(O)(NR^{11})R^{11}$, $-S(NR^{11})_2R^{11}$, $-NO_2$, =O, =S, $=N(R^{11})$, -CN, C_{3-6} carbocycle and 3- to 6-membered heterocycle;

R^3 is selected from:

hydrogen, halogen, $-OR^{11}$, $-SR^{11}$, $-N(R^{11})_2$, $-C(O)R^{11}$, $-C(O)N(R^{11})_2$, $-N(R^{11})C(O)R^{11}$, $-C(O)OR^{11}$, $-OC(O)R^{11}$, $-S(O)R^{11}$, $-S(O)_2R^{11}$, $-S(O)_2N(R^{11})_2$, $-N(R^{11})S(O)_2R^{11}$, $-S(O)(NR^{11})R^{11}$, $-S(NR^{11})_2R^{11}$, $-NO_2$, and -CN; and

C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, each of which is optionally substituted with one or more substituents independently selected from halogen, OR^{11}, $-SR^{11}$, $-N(R^{11})_2$, $-C(O)R^{11}$, $-C(O)N(R^{11})_2$, $-N(R^{11})C(O)R^{11}$, $-C(O)OR^{11}$, $-OC(O)R^{11}$, $-S(O)R^{11}$, $-S(O)_2R^{11}$, $-S(O)_2N(R^{11})_2$, $-N(R^{11})S(O)_2R^{11}$, $-S(O)(NR^{11})R^{11}$, $-S(NR^{11})_2R^{11}$, $-NO_2$, =O, =S, $=N(R^{11})$, -CN, C_{3-6} carbocycle and 3- to 6-membered heterocycle;

$R^{3'}$ is selected from:

hydrogen, halogen, $-OR^{11}$, $-SR^{11}$, $-N(R^{11})_2$, $-C(O)R^{11}$, $-C(O)N(R^{11})_2$, $-N(R^{11})C(O)R^{11}$, $-C(O)OR^{11}$, $-OC(O)R^{11}$, $-S(O)R^{11}$, $-S(O)_2R^{11}$, $-S(O)_2N(R^{11})_2$, $-N(R^{11})S(O)_2R^{11}$, $-S(O)(NR^{11})R^{11}$, $-S(NR^{11})_2R^{11}$, $-NO_2$, and -CN; and

C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, each of which is optionally substituted with one or more substituents independently selected from halogen, OR^{11}, $-SR^{11}$, $-N(R^{11})_2$, $-C(O)R^{11}$, $-C(O)N(R^{11})_2$, $-N(R^{11})C(O)R^{11}$, $-C(O)OR^{11}$, $-OC(O)R^{11}$, $-S(O)R^{11}$, $-S(O)_2R^{11}$, $-S(O)_2N(R^{11})_2$, $-N(R^{11})S(O)_2R^{11}$, $-S(O)(NR^{11})R^{11}$, $-S(NR^{11})_2R^{11}$, $-NO_2$, =O, =S, $=N(R^{11})$, -CN, C_{3-6} carbocycle and 3- to 6-membered heterocycle;

L is absent or selected from methylene optionally substituted with one or more substituents selected from halogen, $-OR^{21}$, $-SR^{21}$, $-N(R^{21})_2$, $-C(O)R^{21}$, $-C(O)N(R^{21})_2$, $-N(R^{21})C(O)R^{21}$, $-C(O)OR^{21}$, $-OC(O)R^{21}$, $-S(O)R^{21}$, $-S(O)_2R^{21}$, $-NO_2$, and -CN;

Ring A is selected from an optionally substituted C_{3-10} carbocycle and optionally substituted 3- to 10-membered heterocycle wherein substituents on Ring A are independently selected at each occurrence from:

halogen, $-OR^{31}$, $-SR^{31}$, $-N(R^{31})_2$, $-C(O)R^{31}$, $-C(O)N(R^{31})_2$, $N(R^{31})C(O)R^{31}$, $-C(O)OR^{31}$, $-OC(O)R^{31}$, $-S(O)R^{31}$, $-S(O)_2R^{31}$, $-NO_2$, =O, -CN, and C_{1-5} haloalkyl; and

C_{1-5} alkyl C_{2-5} alkenyl, C_{2-5} alkynyl, each of which is optionally substituted with one or more substituents independently selected from halogen, $-OR^{31}$, $-SR^{31}$, $-N(R^{31})_2$, $-C(O)R^{31}$, $-C(O)N(R^{31})_2$, $-N(R^{31})C(O)R^{31}$, $-C(O)OR^{31}$, $-OC(O)R^{31}$, $-S(O)R^{31}$, $-S(O)_2R^{31}$, $-NO_2$, =O, and -CN;

R^4 is selected from hydrogen, C_{1-5} alkyl, and C_{3-6} carbocycle wherein C_{1-5} alkyl and C_{3-6} carbocycle are optionally substituted with one or more substituents independently selected from R^9;

R^5, R^6, and R^7 are each independently selected from hydrogen, optionally substituted C_{1-6} alkyl, optionally substituted C_{3-12} carbocycle, and optionally substituted 3- to 12-membered heterocycle; or

R^5 and R^6 come together to form an optionally substituted 5- to 8-membered heterocycle, and R^7 is selected from hydrogen, optionally substituted C_{1-6} alkyl, optionally substituted C_{3-12} carbocycle and optionally substituted 3- to 12-membered heterocycle; or

R^6 and R^7 come together to form an optionally substituted 5- to 8-membered heterocycle, and R^5 is selected from hydrogen, optionally substituted C_{1-6} alkyl, optionally substituted C_{3-12} carbocycle and optionally substituted 3- to 12-membered heterocycle;

wherein the substituents on R^5, R^6, and R^7 or rings formed therefrom are independently selected at each occurrence from:

halogen, $-OR^{41}$, $-SR^{41}$, $-N(R^{41})_2$, $-C(O)R^{41}$, $-C(O)N(R^{41})_2$, $-N(R^{41})C(O)R^{41}$, $-N(R^{41})C(O)OR^{41}$, $-C(O)OR^{41}$, $-OC(O)R^{41}$, $-S(O)R^{41}$, $-S(O)_2R^{41}$, $-S(O)_2N(R^{41})_2$, $-N(R^{41})S(O)_2R^{41}$, $-S(O)(NR^{41})R^{41}$, $-S(NR^{41})_2R^{41}$, $-NO_2$, =O, =S, $=N(R^{41})$, and -CN; and

C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, each of which is optionally substituted with one or more substituents independently selected from halogen, $-OR^{41}$, $-SR^{41}$, $-N(R^{41})_2$, $-C(O)R^{41}$, $-C(O)N(R^{41})_2$, $-N(R^{41})C(O)R^{41}$, $-N(R^{41})C(O)OR^{41}$, $-C(O)OR^{41}$, $-OC(O)R^{41}$, $-S(O)R^{41}$, $-S(O)_2R^{41}$, $-S(O)_2N(R^{41})_2$, $-N(R^{41})S(O)_2R^{41}$, $-S(O)(NR^{41})R^{41}$, $-S(NR^{41})_2R^{41}$, $-NO_2$, =O, =S, $=N(R^{41})$, -CN, C_{3-12} carbocycle and 3- to 12-membered heterocycle;

C_{3-12} carbocycle and 3- to 12-membered heterocycle each of which is optionally substituted with one or more substituents independently selected from halogen, $-OR^{41}$, $-SR^{41}$, $-N(R^{41})_2$, $-C(O)R^{41}$, $-C(O)N(R^{41})_2$, $-N(R^{41})C(O)R^{41}$, $-N(R^{41})C(O)OR^{41}$, $-C(O)OR^{41}$, $-OC(O)R^{41}$, $-S(O)R^{41}$, $-S(O)_2R^{41}$, $-S(O)_2N(R^{41})_2$, $-N(R^{41})S(O)_2R^{41}$, $-S(O)(NR^{41})R^{41}$, $-S(NR^{41})_2R^{41}$, $-NO_2$, =O, =S, $=N(R^{41})$, -CN, C_{1-6} alkyl, C_{1-6} haloalkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-12} carbocycle and 3- to 12-membered heterocycle;

each R^8 is independently selected from:

hydrogen, halogen, $-OR^{51}$, $-SR^{51}$, $-N(R^{51})_2$, $-NO_2$, and -CN; and

C_{1-5} alkyl optionally substituted with one or more substituents independently selected from halogen, $-OR^{51}$, $-SR^{51}$, $-N(R^{51})_2$, $-NO_2$, and -CN;

each R^9 is independently selected from:

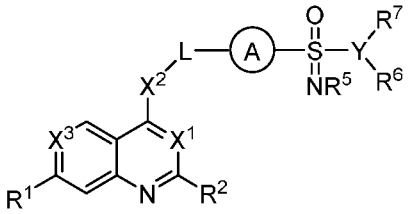
halogen, $-OR^{61}$, $-SR^{61}$, $-N(R^{61})_2$, $-NO_2$, and -CN; and

C_{1-5} alkyl optionally substituted with one or more substituents independently selected from halogen, $-OR^{61}$, $-SR^{61}$, $-N(R^{61})_2$, $-NO_2$, and -CN;

each R^{11}, R^{21}, 3^{31}, R^{41}, R^{51}, and R^{61} is independently selected from: hydrogen; and C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, C_{3-8} carbocycle, and 3- to 8-membered heterocycle, each of which is optionally substituted with one or more substituents independently selected from halogen, -OH, -CN, $-NO_2$, $-NH_2$, =O, =S, C_{1-5} alkyl, $-C_{1-5}$ haloalkyl, and $-O-C_{1-5}$ alkyl; and

z is selected from 0-3.

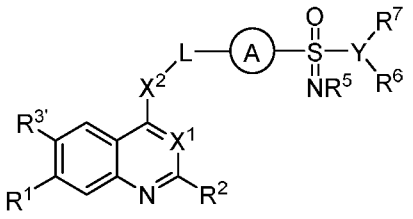
2. The compound or salt of claim 1, wherein X^1 is $C(R^3)$.
3. The compound or salt of claim 2, wherein X^1 is CH.
4. The compound or salt of claim 1, wherein X^1 is N.
5. The compound or salt of any one of claims 1 to 4, wherein X^2 is O or $N(R^4)$.
6. The compound or salt of claim 5, wherein X^2 is O.
7. The compound or salt of claim 5, wherein X^2 is $C(R^8)$.
8. The compound or salt of any one of claims 1 to 7, wherein X^3 is $C(R^{3'})$.
9. The compound or salt of claim 8, wherein X^3 is C(H).
10. The compound or salt of any one of claims 1 to 7, wherein X^3 is N.
11. The compound or salt of any one of claims 1 to 10, wherein each R^1 is independently selected from halogen, $-OR^{11}$, $-SR^{11}$, $-N(R^{11})_2$, $-C(O)N(R^{11})_2$, $N(R^{11})C(O)R^{11}$, $-C(O)OR^{11}$, $-OC(O)R^{11}$,-CN and C_{1-5} alkyl optionally substituted with one or more substituents independently selected from halogen, $-OR^{11}$, and -CN.
12. The compound or salt of claim 11, wherein each R^1 is independently selected from halogen, $-OCH_3$, -CN and C_{1-5} alkyl optionally substituted with one or more substituents independently selected from halogen, $-OCH_3$, and -CN.
13. The compound or salt of claim 12, wherein each R^1 is $-OCH_3$.
14. The compound or salt of any one of claims 1 to 13, wherein z is 1.
15. The compound or salt of claim 14, wherein the compound of Formula (I) is represented by Formula (IA):



(IA).

16. The compound or salt of any one of claims 1 to 13, wherein z is 1 and X^3 is $C(R^{3'})$.

17. The compound or salt of claim 16, wherein the compound of Formula (I) is represented by Formula (IB):



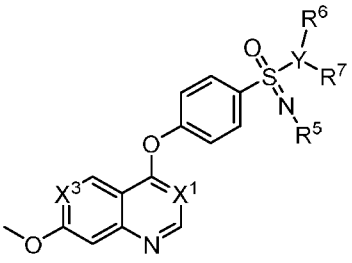
(IB).

18. The compound or salt of any one of claims 1 to 17, wherein R^2 is hydrogen .
19. The compound or salt of any one of claims 1 to 18, wherein L is absent.
20. The compound or salt of any one of claims 1 to 19, wherein L is methylene optionally substituted with one or more substituents selected from halogen, $-OR^{21}$, $-N(R^{21})_2$, $-C(O)R^{21}$, $-C(O)N(R^{21})_2$, $N(R^{21})C(O)R^{21}$, $-C(O)OR^{21}$, $-OC(O)R^{21}$, $-S(O)R^{21}$, $-S(O)_2R^{21}$, and -CN.
21. The compound or salt of claim 20, wherein L is methylene.
22. The compound or salt of any one of claims 1 to 21, wherein Ring A is selected from optionally substituted C_{3-6} carbocycle and optionally substituted 3- to 6-membered heterocycle.
23. The compound or salt of claim 22, wherein Ring A is selected from optionally substituted C_6 carbocycle and optionally substituted 6-membered heterocycle.
24. The compound or salt of claim 23, wherein Ring A is selected from an optionally substituted aryl and optionally substituted 6-membered heteroaryl wherein substituents on Ring A are independently selected at each occurrence from: halogen, $-OR^{31}$, $-N(R^{31})_2$, $-C(O)R^{31}$, $-C(O)N(R^{31})_2$, $N(R^{31})C(O)R^{31}$, $-C(O)OR^{31}$, $-OC(O)R^{31}$, -CN, and C_{1-5} haloalkyl; and

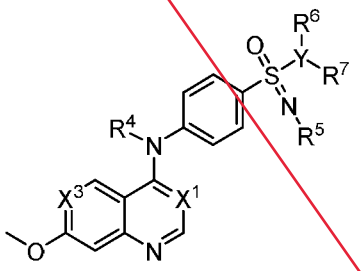
C_{1-5} alkyl optionally substituted with one or more substituents independently selected from halogen, $-OR^{31}$, =O, and -CN.

25. The compound or salt of claim 24, Ring A is an optionally substituted phenyl or optionally substituted pyridyl.
26. The compound or salt of any one of claims 1 to 25, wherein Y is N.
27. The compound or salt of any one of claims 1 to 25, wherein Y is C(H).

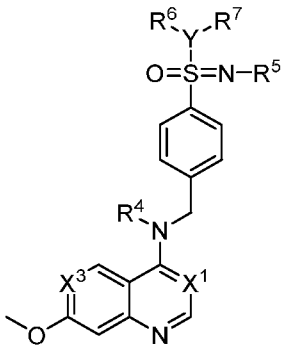
28. The compound or salt of any one of claims 1 to 4, wherein the compound of Formula (I) is selected from Formula (IC), (ID), and (IE):



(IC),

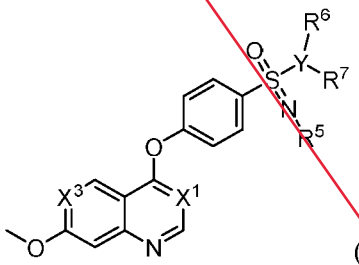


(ID),



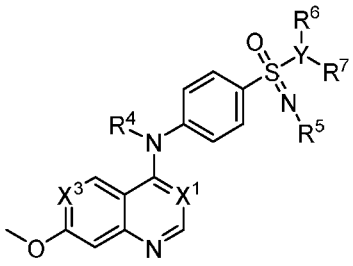
(IE).

29. The compound or salt of claim 28, wherein the compound of Formula (I) is represented by Formula (IC):



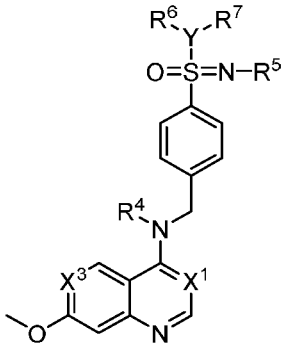
(IC).

30. The compound or salt of claim 28, wherein the compound of Formula (I) is represented by Formula (ID):



(ID).

31. The compound or salt claim 28, wherein the compound of Formula (I) is represented by Formula (IE):



(IE).

32. The compound or salt of any one of claims 1 to 31, wherein R^5, R^6, and R^7 are each independently selected from hydrogen, optionally substituted C_{1-6} alkyl, optionally substituted C_{3-12} carbocycle and optionally substituted 3- to 12-membered heterocycle, wherein substituents on C_{1-6} alkyl, C_{3-12} carbocycle and 3- to 12-membered heterocycle are independently selected at each occurrence from halogen, $-OR^{41}$, $-N(R^{41})_2$, $-C(O)R^{41}$, $-C(O)N(R^{41})_2$, $-N(R^{41})C(O)R^{41}$, $-N(R^{41})C(O)OR^{41}$, $-C(O)OR^{41}$, $-OC(O)R^{41}$, =O, and -CN; and C_{1-5} alkyl optionally substituted with one or more substituents independently selected from halogen, $-OR^{41}$, $-N(R^{41})_2$, =O, and -CN; and phenyl or 6-membered heteroaryl, each of which is optionally substituted with one or more substituents independently selected from halogen, $-OR^{41}$, $-N(R^{41})_2$, =O, =S, -CN, C_{1-6} alkyl, C_{1-6} haloalkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, phenyl and 6-membered heteroaryl.

33. The compound or salt of claim 32, wherein two of R^5, R^6 and R^7 are hydrogen and the other of R^5, R^6 and R^7 is selected from hydrogen, optionally substituted C_{1-6} alkyl, optionally substituted C_{3-12} carbocycle and optionally substituted 3- to 12-membered heterocycle.

34. The compound or salt of claim 32, wherein two of R^5, R^6 and R^7 are hydrogen and the other of R^5, R^6 and R^7 is selected from optionally substituted C_{1-4} alkyl, optionally substituted C_{3-10} carbocycle and optionally substituted 3- to 10-membered heterocycle.

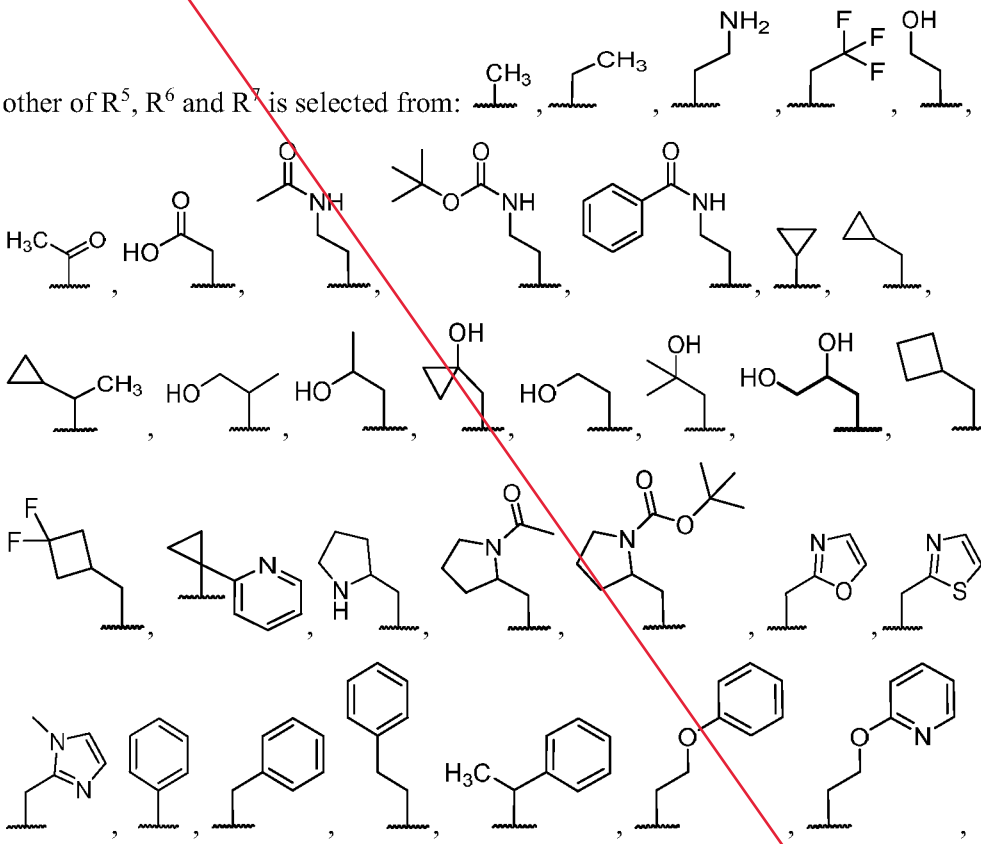
35. The compound or salt of any one of claims 1 to 31, wherein two of R^5, R^6 and R^7 are hydrogen and the other of R^5, R^6 and R^7 is selected from methyl, ethyl, propyl, butyl, cyclopropyl, phenyl, and 9 or 10-membered heterocycle, wherein methyl, ethyl, propyl, cyclopropyl, phenyl, and 9 or 10-membered heterocycle are optionally substituted by one or more substituents independently selected from:

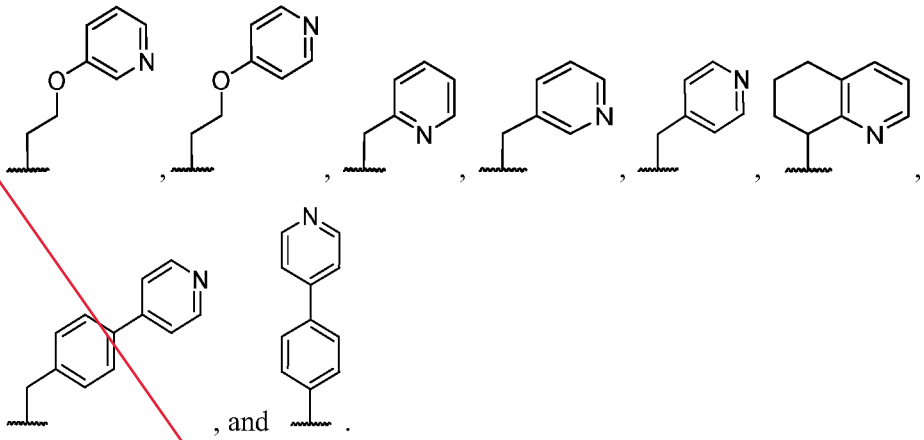
halogen, $-OR^{41}$, $-N(R^{41})_2$, $-C(O)R^{41}$, $-C(O)N(R^{41})_2$, $-N(R^{41})C(O)R^{41}$, $-N(R^{41})C(O)OR^{41}$, $-C(O)OR^{41}$, =O, and -CN; and

C_{1-5} alkyl optionally substituted with one or more substituents independently selected from halogen, $-OR^{41}$, $-N(R^{41})_2$, $-C(O)R^{41}$, $-C(O)N(R^{41})_2$, $-N(R^{41})C(O)R^{41}$, $-N(R^{41})C(O)OR^{41}$, $-C(O)OR^{41}$, =O, and -CN, C_{3-12} carbocycle and 3- to 12-membered heterocycle;

C_{3-6} carbocycle and 3- to 6-membered heterocycle each of which is optionally substituted with one or more substituents independently selected from halogen, $-OR^{41}$, $-N(R^{41})_2$, $-C(O)R^{41}$, $-C(O)OR^{41}$, -CN, C_{1-6} alkyl, C_{1-6} haloalkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-12} carbocycle and 3- to 12-membered heterocycle.

36. The compound or salt of claim 33, wherein two of R^5, R^6 and R^7 are hydrogen and the other of R^5, R^6 and R^7 is selected from:





, and .

37. The compound or salt of any one of claims 28 to 36, wherein R^5 and R^6 are each hydrogen.

38. The compound or salt of claim 37, wherein R^7 is selected from optionally substituted C_{1-4} alkyl, optionally substituted C_{3-10} carbocycle and optionally substituted 3- to 10-membered heterocycle.

39. The compound or salt of claim 38, wherein R^7 is C_{1-4} alkyl optionally substituted with one or more substituents selected from halogen, $-OR^{41}$, $-N(R^{41})_2$, $-C(O)R^{41}$, $-C(O)N(R^{41})_2$, $-N(R^{41})C(O)R^{41}$, $-N(R^{41})C(O)OR^{41}$, $-C(O)OR^{41}$, =O, and -CN, C_{3-10} carbocycle and 3- to 10-membered heterocycle; and wherein C_{3-10} carbocycle and 3- to 10-membered heterocycle each of which is optionally substituted with one or more substituents independently selected from halogen, $-OR^{41}$, $-N(R^{41})_2$, $-C(O)R^{41}$, $-C(O)OR^{41}$, $-NO_2$, -CN, C_{1-6} alkyl, C_{1-6} haloalkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-12} carbocycle and 3- to 12-membered heterocycle.

40. The compound or salt of claim 39, wherein R^7 is C_{1-4} alkyl optionally substituted with one or more substituents selected from halogen, $-OR^{41}$, $-C(O)R^{41}$, $-C(O)OR^{41}$ and -CN.

41. The compound or salt of claim 40, wherein R^7 is C_{1-4} alkyl optionally substituted with one or more substituents selected from halogen, $-OR^{41}$ wherein R^{41} is selected from hydrogen and C_{1-5} alkyl optionally substituted with one or more substituents selected from halogen, -OH, -CN, and $-NO_2$.

42. The compound or salt of claim 41, wherein R^7 is C_{1-4} alkyl optionally substituted with one or more substituents selected from $-OR^{41}$ wherein R^{41} is selected from hydrogen and C_{1-5} alkyl optionally substituted with one or more substituents selected from halogen and -OH.

43. The compound or salt of claim 39 wherein R^7 is C_{1-4} alkyl optionally substituted with one or more substituents selected $-OR^{41}$ and C_{3-6} carbocycle wherein the C_{3-6} carbocycle is

optionally substituted with one or more substituents independently selected from halogen, $-OR^{41}$, $-NO_2$, -CN, C_{1-6} alkyl, and C_{1-6} haloalkyl.

44. The compound or salt of claim 43, wherein R^7 is C_{1-4} alkyl is substituted with one or more substituents selected $-OR^{41}$ wherein R^{41} is selected from hydrogen and C_{1-5} alkyl; and C_{3-6} carbocycle wherein C_{3-6} carbocycle is optionally substituted with one or more substituents independently selected from halogen, $-OR^{41}$, $-NO_2$, -CN, C_{1-3} alkyl, C_{1-3} haloalkyl.

45. The compound or salt of any one of claims 28 to 36, wherein R^6 and R^7 are each hydrogen.

46. The compound or salt of claim 45, wherein R^5 is selected from optionally substituted C_{1-4} alkyl, optionally substituted C_{3-10} carbocycle and optionally substituted 3- to 10-membered heterocycle.

47. The compound or salt of claim 46, wherein R^5 is C_{1-4} alkyl optionally substituted with one or more substituents selected from halogen, $-OR^{41}$, $-N(R^{41})_2$, $-C(O)R^{41}$, $-C(O)N(R^{41})_2$, $-N(R^{41})C(O)R^{41}$, $-N(R^{41})C(O)OR^{41}$, $-C(O)OR^{41}$, =O, and -CN, C_{3-10} carbocycle and 3- to 10-membered heterocycle; and wherein C_{3-10} carbocycle and 3- to 10-membered heterocycle each of which is optionally substituted with one or more substituents independently selected from halogen, $-OR^{41}$, $-N(R^{41})_2$, $-C(O)R^{41}$, $-C(O)OR^{41}$, $-NO_2$, -CN, C_{1-6} alkyl, C_{1-6} haloalkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-12} carbocycle and 3- to 12-membered heterocycle.

48. The compound or salt of claim 47, wherein R^5 is C_{1-4} alkyl optionally substituted with one or more substituents selected from halogen, $-OR^{41}$, $-C(O)R^{41}$, $-C(O)OR^{41}$ and -CN.

49. The compound or salt of claim 48, wherein R^5 is C_{1-4} alkyl optionally substituted with one or more substituents selected from halogen, $-OR^{41}$ wherein R^{41} is selected from hydrogen and C_{1-5} alkyl optionally substituted with one or more substituents selected from halogen, -OH, -CN, and $-NO_2$.

50. The compound or salt of claim 49, wherein R^5 is C_{1-4} alkyl optionally substituted with one or more substituents selected from $-OR^{41}$ wherein R^{41} is selected from hydrogen and C_{1-5} alkyl optionally substituted with one or more substituents selected from halogen and -OH.

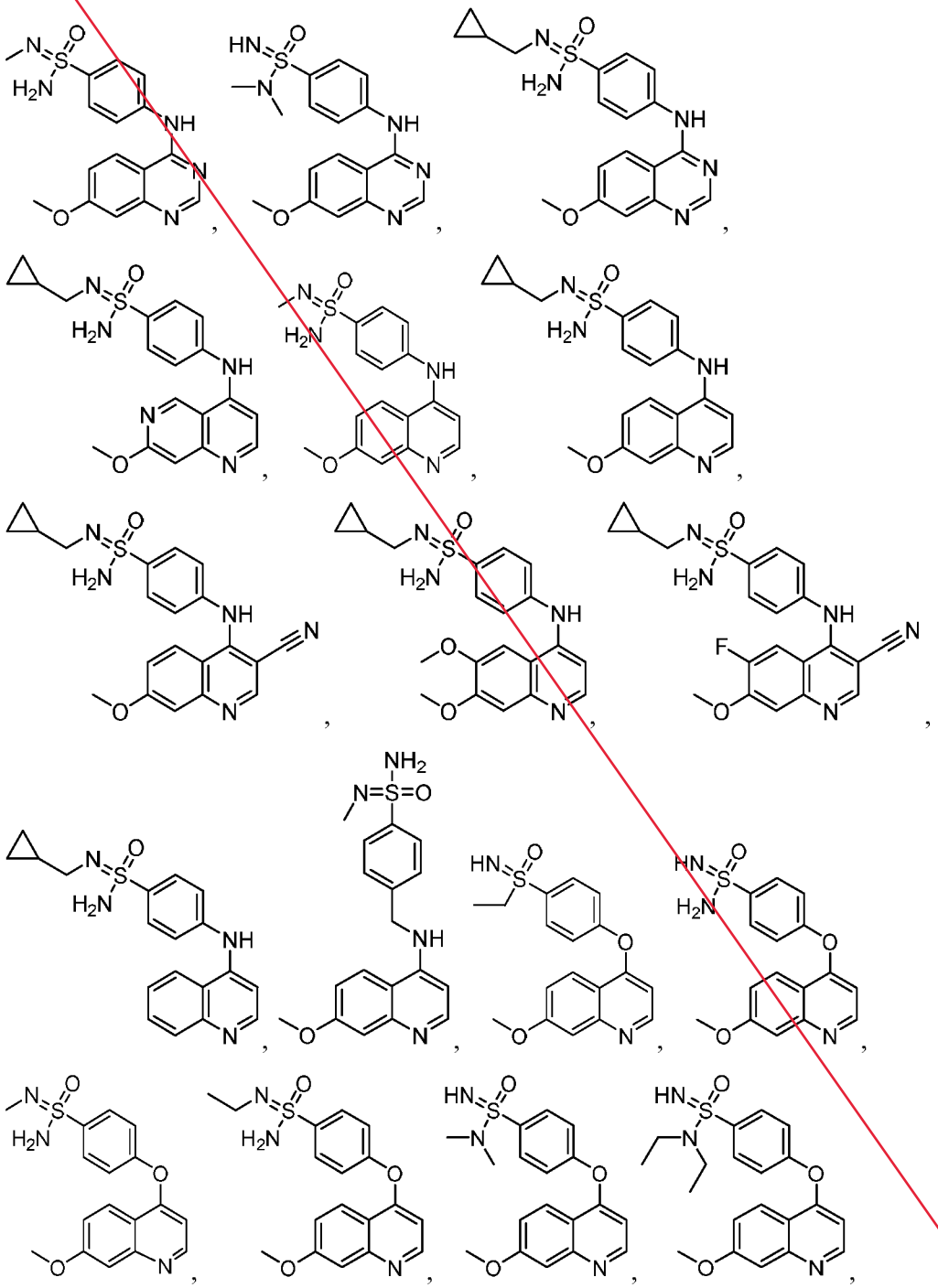
51. The compound or salt of claim 47 wherein R^5 is C_{1-4} alkyl optionally substituted with one or more substituents selected $-OR^{41}$ and C_{3-6} carbocycle wherein the C_{3-6} carbocycle is optionally substituted with one or more substituents independently selected from halogen, $-OR^{41}$, $-NO_2$, -CN, C_{1-6} alkyl, and C_{1-6} haloalkyl.

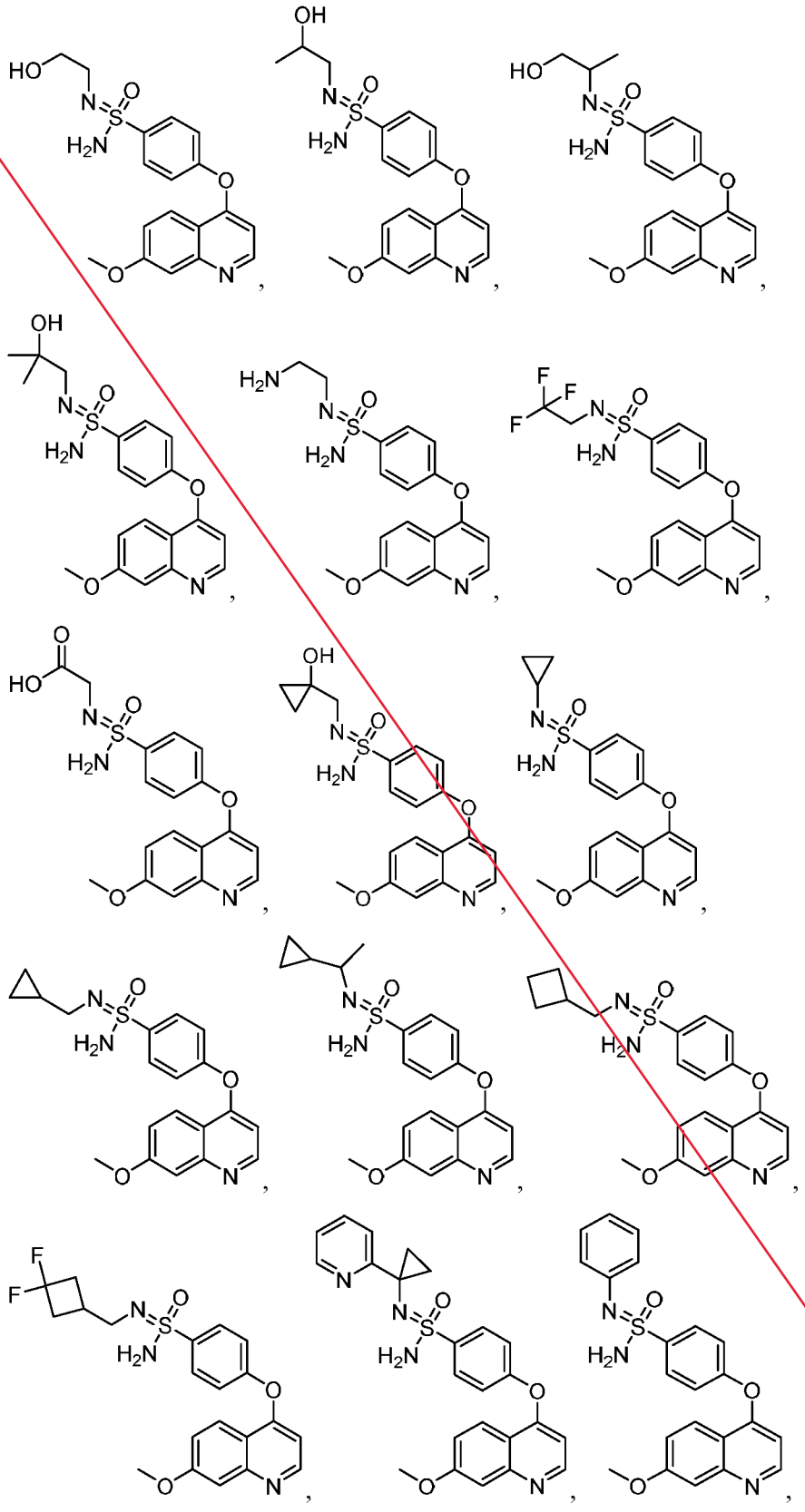
52. The compound or salt of claim 51, wherein R^5 is C_{1-4} alkyl is substituted with one or more substituents selected $-OR^{41}$ wherein R^{41} is selected from hydrogen and C_{1-5} alkyl; and C_{3-6} carbocycle wherein C_{3-6} carbocycle is optionally substituted with one or more substituents independently selected from halogen, $-OR^{41}$, $-NO_2$, -CN, C_{1-3} alkyl, C_{1-3} haloalkyl.
53. The compound or salt of any one of claims 1 to 31, wherein R^5, R^6, and R^7 are each hydrogen.
54. The compound or salt of any one of claims 1 to 31, wherein one of R^5, R^6 and R^7 is hydrogen and the other two of R^5, R^6 and R^7 are independently selected from optionally substituted C_{1-6} alkyl, optionally substituted C_{3-12} carbocycle and optionally substituted 3- to 12-membered heterocycle.
55. The compound or salt of claim 54, wherein one of R^5, R^6 and R^7 is hydrogen and the other two of R^5, R^6 and R^7 are independently selected from C_{1-4} alkyl and C_{1-4} haloalkyl.
56. The compound or salt of claims 55, wherein one of R^5, R^6 and R^7 is hydrogen and the other two of R^5, R^6 and R^7 are independently selected from methyl and ethyl.
57. The compound or salt of claims 54 or 55, wherein R^5 is hydrogen.
58. The compound or salt of claims 54 or 55, wherein R^6 is hydrogen.
59. The compound or salt of claim 54, wherein R^6 is hydrogen and both R^5 and R^7 are independently selected from optionally substituted C_{1-6} alkyl, optionally substituted C_{3-12} carbocycle and optionally substituted 3- to 12-membered heterocycle.
60. The compound or salt of claim 54, wherein R^5 is hydrogen; R^6 is independently selected from optionally substituted C_{1-6} alkyl, optionally substituted C_{3-12} carbocycle and optionally substituted 3- to 12-membered heterocycle; and R^7 is independently selected from optionally substituted C_{3-12} carbocycle and optionally substituted 3- to 12-membered heterocycle
61. The compound or salt of any one of claims 1 to 31, wherein R^6 and R^7 come together to form an optionally substituted 5- to 6-membered heterocycle and R^5 is hydrogen.
62. The compound or salt of claim 61, wherein R^6 and R^7 come together to form an optionally substituted 5- to 6-membered saturated heterocycle, and R^5 is hydrogen.
63. The compound or salt of claim 62, wherein R^6 and R^7 come together to form pyrrolidine, piperidine, piperazine or morpholine and R^5 is hydrogen.
64. The compound or salt of any one of claims 1 to 31, wherein R^5 and R^6 come together to form an optionally substituted 5- to 8-membered heterocycle, and R^7 is selected from

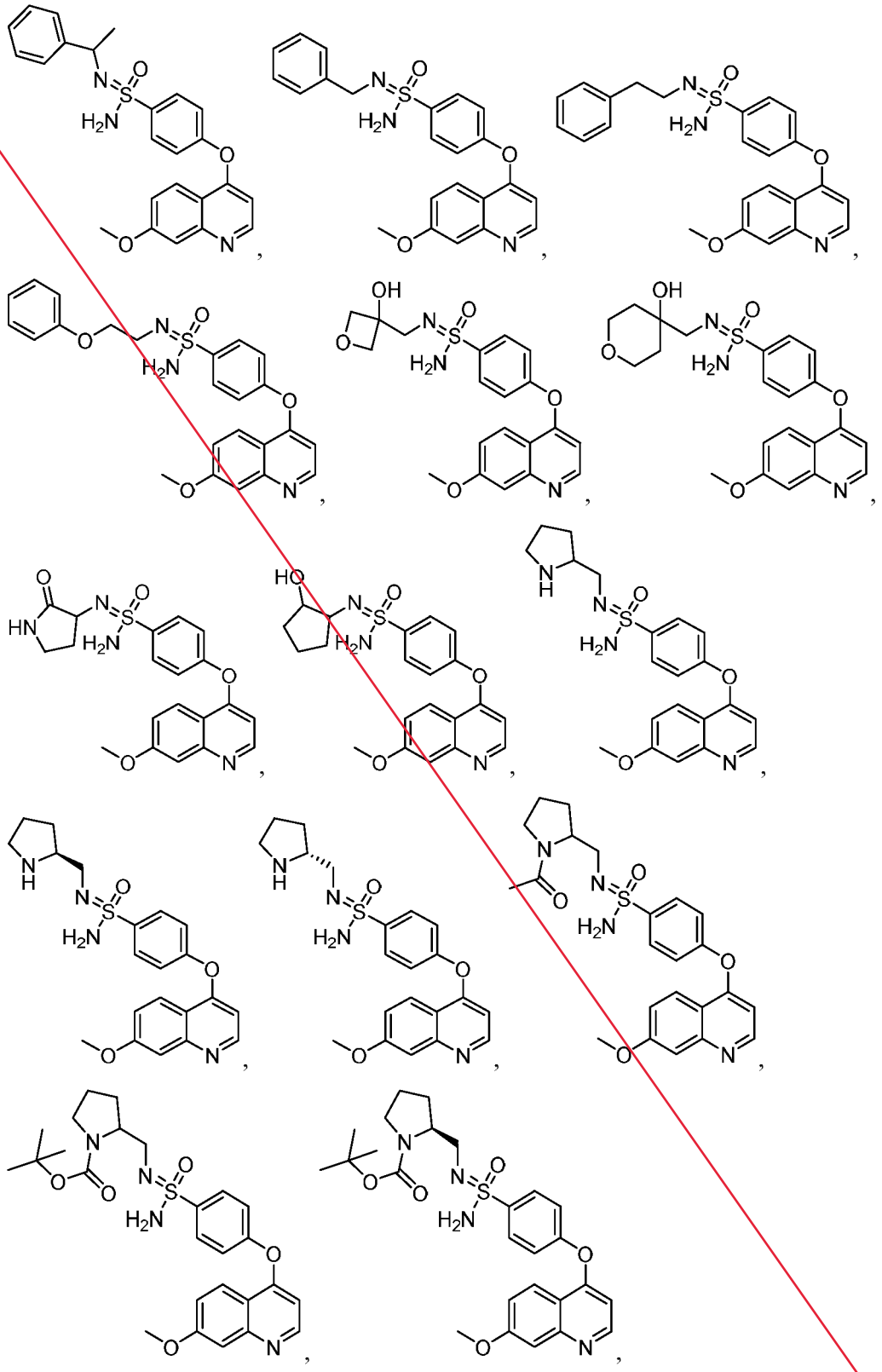
hydrogen, optionally substituted C_{1-6} alkyl, optionally substituted C_{3-12} carbocycle and optionally substituted 3- to 12-membered heterocycle.

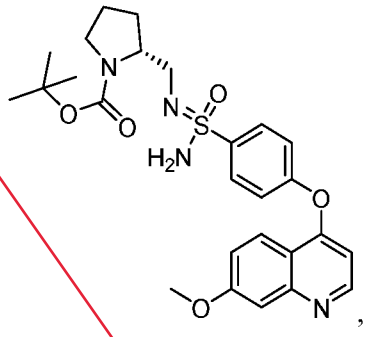
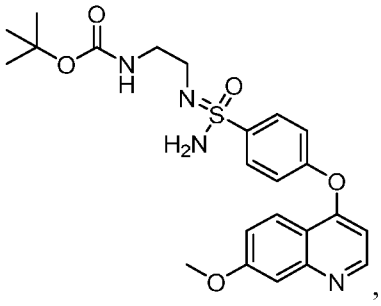
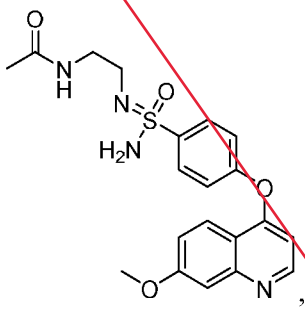
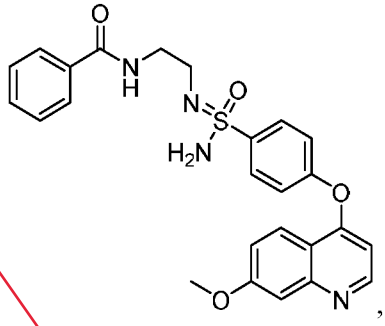
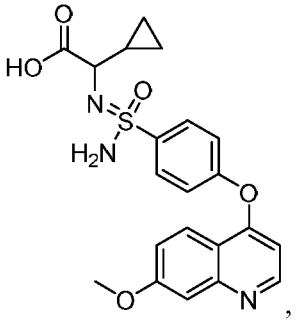
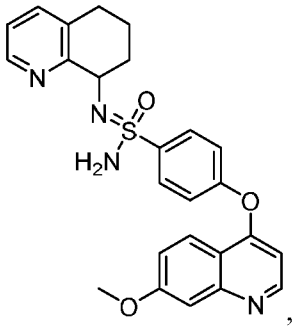
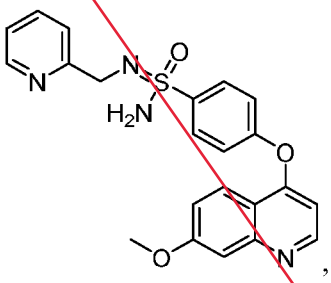
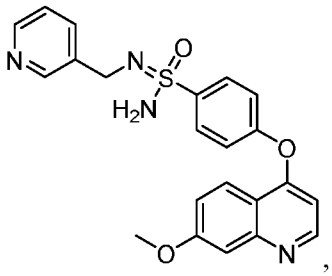
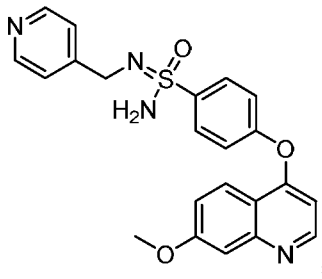
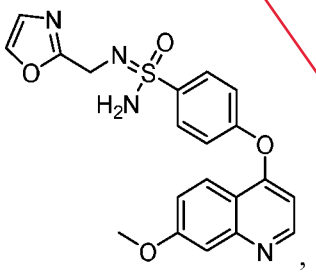
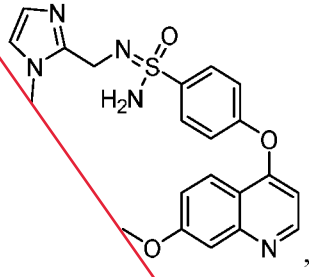
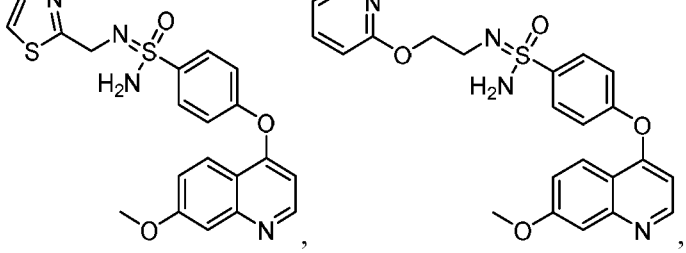
65. The compound or salt of claim 64, wherein R^5 and R^6 come together to form an optionally substituted 5-membered heterocycle and R^7 is selected from hydrogen, and C_{1-3} alkyl.

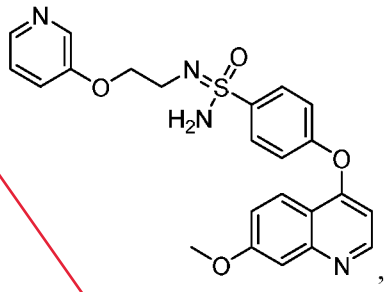
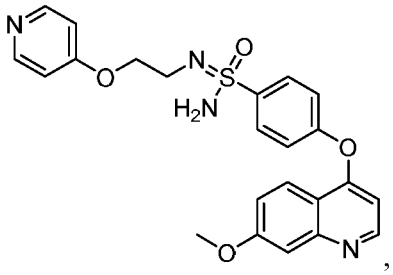
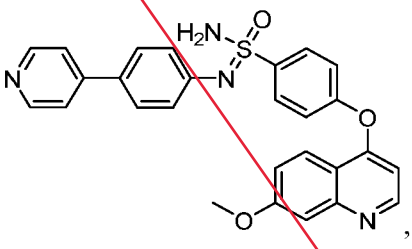
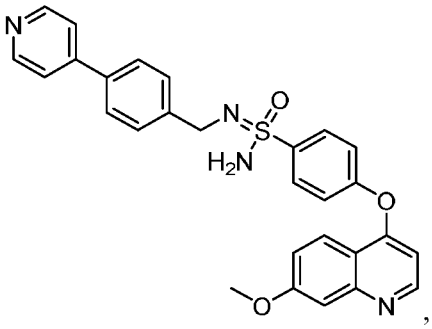
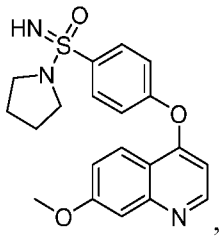
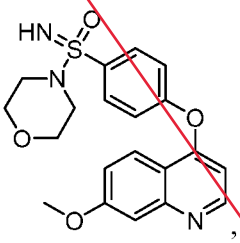
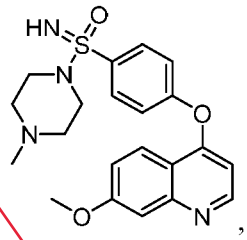
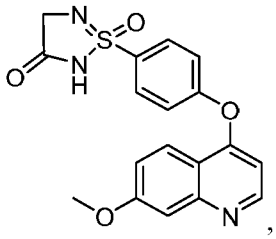
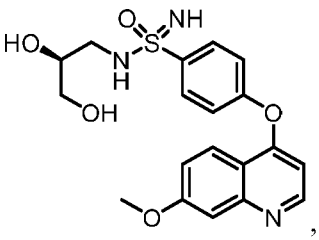
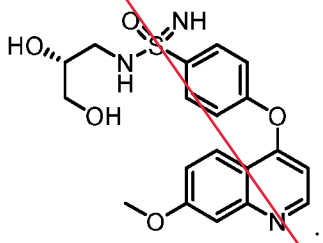
66. The compound or salt of any one claims 1 to 65, wherein Formula (I) is selected from:



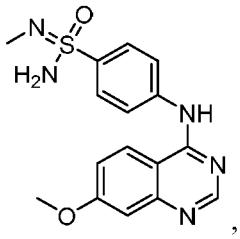
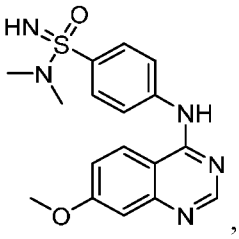
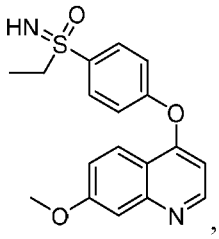
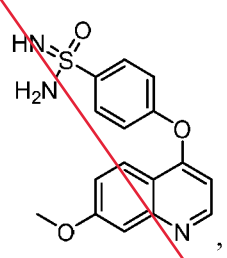


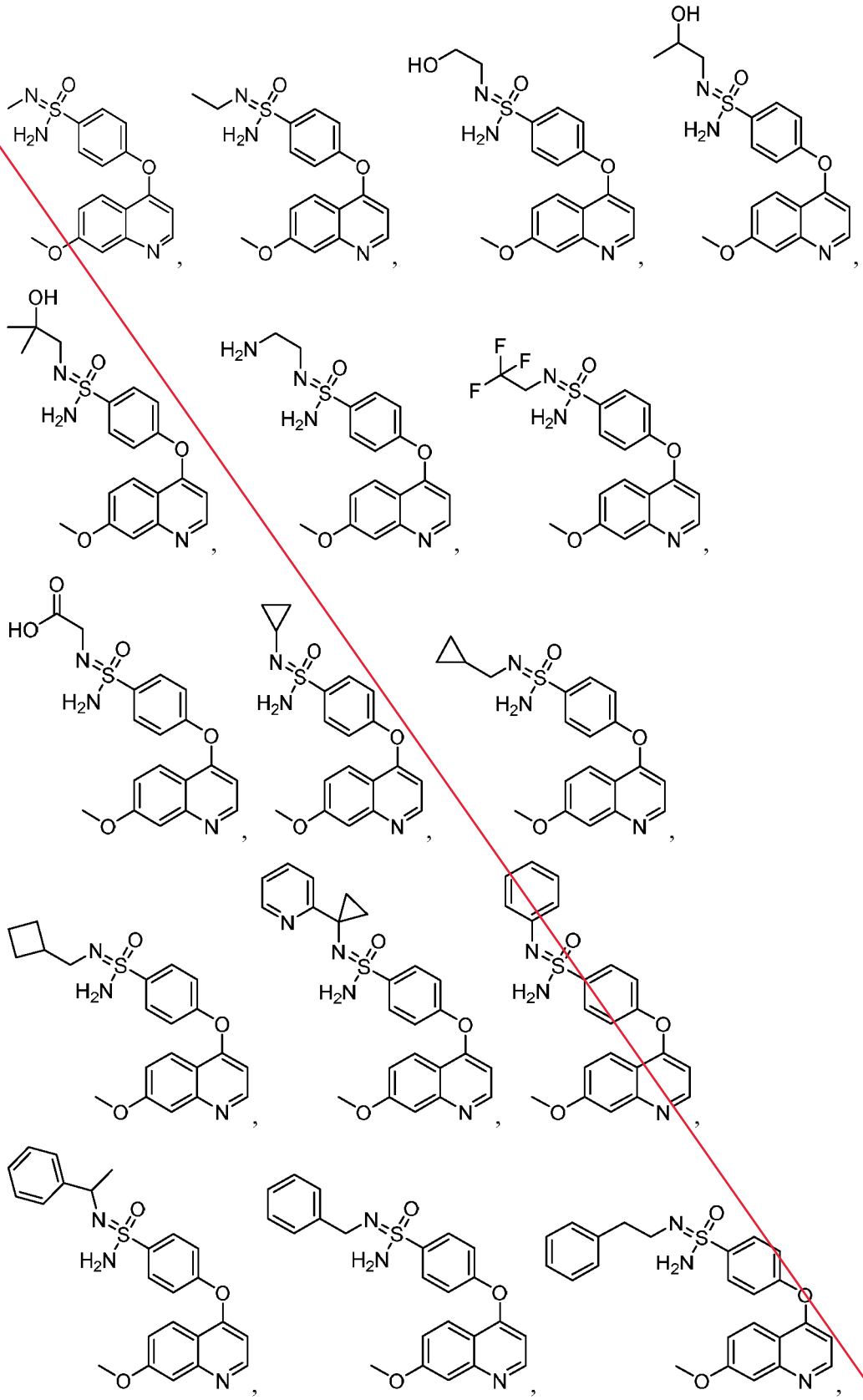


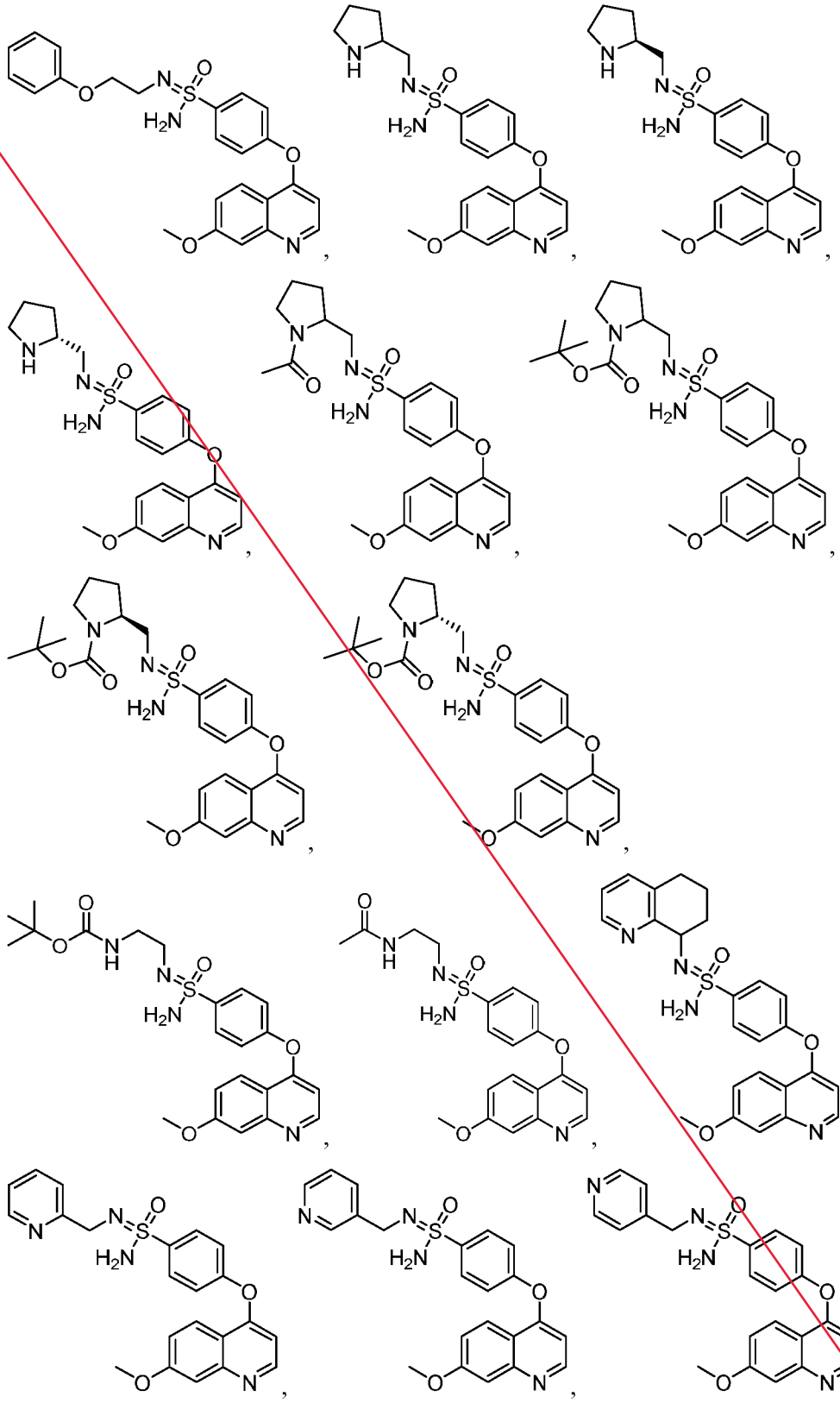













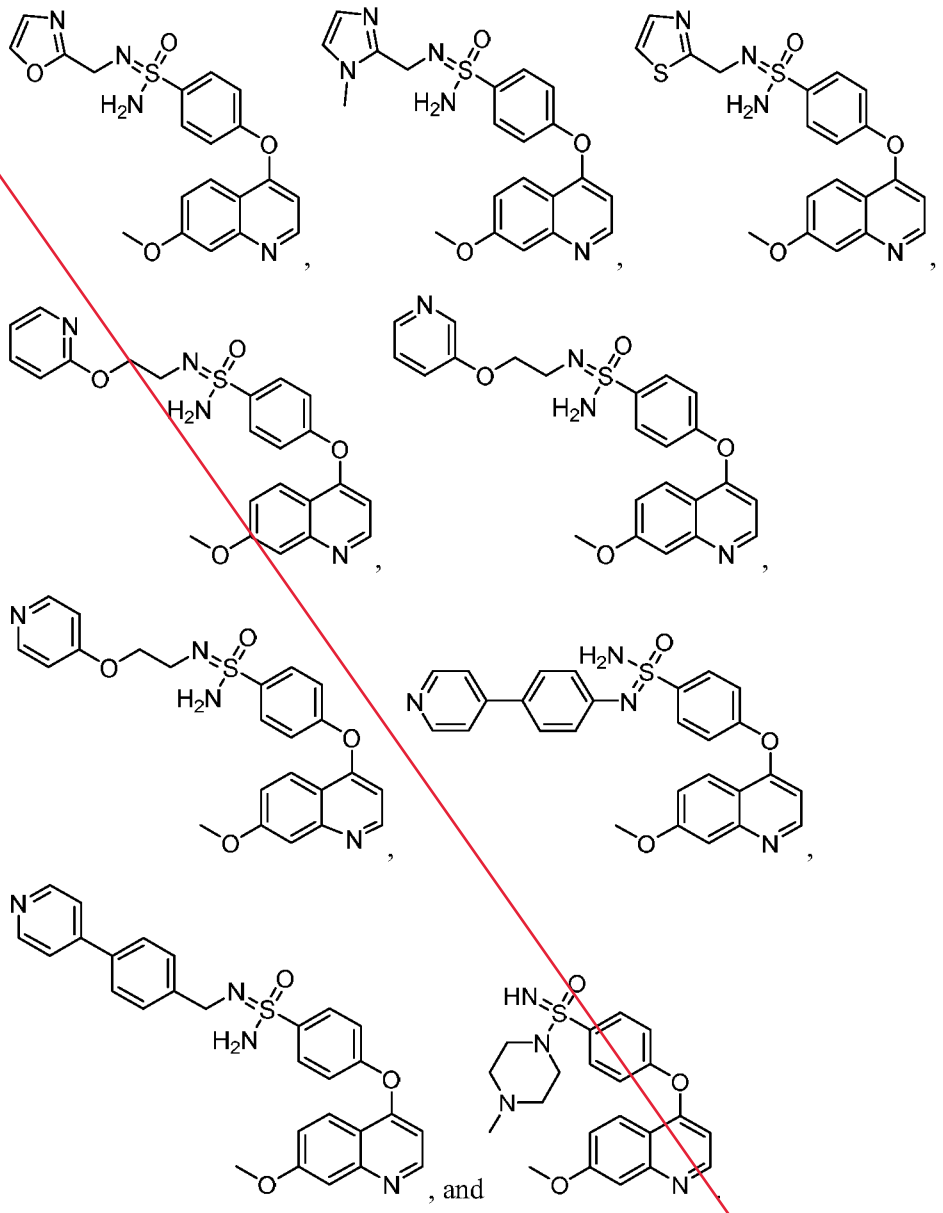

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67. The compound or salt of any one claims 1 to 66, wherein Formula (I) is selected from:


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68. A pharmaceutical composition comprising the compound or salt of any one of claims 1 to 67 and a pharmaceutically acceptable excipient.

69. A method of inhibiting ENPP1 in a subject in need thereof, comprising administering to the subject a compound of any one of claims 1 to 67 or a pharmaceutical composition of claim 68.

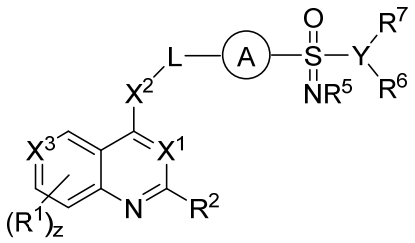
70. A method of activating STING activity in a subject in need thereof, comprising administering to the subject a compound of any one of claims 1 to 67 or a pharmaceutical composition of claim 68.

71. A method of activating an immune response to a pathogen in a subject in need thereof, comprising administering to the subject a compound of any one of claims 1 to 67 or a pharmaceutical composition of claim 68.

CLAIMS

WHAT IS CLAIMED IS:

1. A compound represented by the structure of Formula (I):



(I),

or a pharmaceutically acceptable salt thereof, wherein:

X^1 is selected from N and $C(R^3)$;

X^2 is absent or selected from O, S, $C(R^8)_2$, $N(R^4)$, and C_{3-6} carbocycle optionally substituted with one or more substituents independently selected from R^9;

X^3 is selected N and $C(R^{3'})$;

Y is selected from N and C(H);

R^1 is selected from:

halogen, $-OR^{11}$, $-SR^{11}$, $-N(R^{11})_2$, $-C(O)R^{11}$, $-C(O)N(R^{11})_2$, $-N(R^{11})C(O)R^{11}$, $-C(O)OR^{11}$, $-OC(O)R^{11}$, $-S(O)R^{11}$, $-S(O)_2R^{11}$, $-S(O)_2N(R^{11})_2$, $-N(R^{11})S(O)_2R^{11}$, $-S(O)(NR^{11})R^{11}$, $-S(NR^{11})_2R^{11}$, $-NO_2$, and -CN; and

C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, each of which is optionally substituted with one or more substituents independently selected from halogen, $-OR^{11}$, $-SR^{11}$, $-N(R^{11})_2$, $-C(O)R^{11}$, $-C(O)N(R^{11})_2$, $-N(R^{11})C(O)R^{11}$, $-C(O)OR^{11}$, $-OC(O)R^{11}$, $-S(O)R^{11}$, $-S(O)_2R^{11}$, $-S(O)_2N(R^{11})_2$, $-N(R^{11})S(O)_2R^{11}$, $-S(O)(NR^{11})R^{11}$, $-S(NR^{11})_2R^{11}$, $-NO_2$, =O, =S, $=N(R^{11})$, -CN, C_{3-6} carbocycle and 3- to 6-membered heterocycle;

R^2 is selected from:

hydrogen, halogen, $-OR^{11}$, $-SR^{11}$, $-N(R^{11})_2$, $-C(O)R^{11}$, $-C(O)N(R^{11})_2$, $-N(R^{11})C(O)R^{11}$, $-C(O)OR^{11}$, $-OC(O)R^{11}$, $-S(O)R^{11}$, $-S(O)_2R^{11}$, $-S(O)_2N(R^{11})_2$, $-N(R^{11})S(O)_2R^{11}$, $-S(O)(NR^{11})R^{11}$, $-S(NR^{11})_2R^{11}$, $-NO_2$, and -CN; and

C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, each of which is optionally substituted with one or more substituents independently selected from halogen, $-OR^{11}$, $-SR^{11}$, $-N(R^{11})_2$, $-C(O)R^{11}$,

-C(O)N(R^{11})$_2$, -N(R^{11})C(O)R^{11}, -C(O)OR^{11}, -OC(O)R^{11}, -S(O)R^{11}, -S(O)$_2R^{11}$, -S(O)$_2$N(R^{11})$_2$, -N(R^{11})S(O)$_2R^{11}$, -S(O)(NR^{11})R^{11}, -S(NR^{11})$_2R^{11}$, -NO_2, =O, =S, =N(R^{11}), -CN, C_{3-6} carbocycle and 3- to 6-membered heterocycle;

R^3 is selected from:

hydrogen, halogen, -OR^{11}, -SR^{11}, -N(R^{11})$_2$, -C(O)R^{11},-C(O)N(R^{11})$_2$, -N(R^{11})C(O)R^{11}, -C(O)OR^{11}, -OC(O)R^{11}, -S(O)R^{11}, -S(O)$_2R^{11}$, -S(O)$_2$N(R^{11})$_2$, -N(R^{11})S(O)$_2$ R^{11}, -S(O)(NR^{11})R^{11}, -S(NR^{11})$_2R^{11}$, -NO_2, and -CN; and

C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, each of which is optionally substituted with one or more substituents independently selected from halogen, OR^{11}, -SR^{11}, -N(R^{11})$_2$, -C(O)R^{11}, -C(O)N(R^{11})$_2$,- N(R^{11})C(O)R^{11}, -C(O)OR^{11}, -OC(O)R^{11}, -S(O)R^{11}, -S(O)$_2R^{11}$, -S(O)$_2$N(R^{11})$_2$, -N(R^{11})S(O)$_2$ R^{11}, -S(O)(NR^{11})R^{11}, -S(NR^{11})$_2R^{11}$, -NO_2, =O, =S, =N(R^{11}), -CN, C_{3-6} carbocycle and 3- to 6-membered heterocycle;

$R^{3'}$ is selected from:

hydrogen, halogen, -OR^{11}, -SR^{11}, -N(R^{11})$_2$, -C(O)R^{11},-C(O)N(R^{11})$_2$, -N(R^{11})C(O)R^{11}, -C(O)OR^{11}, -OC(O)R^{11}, -S(O)R^{11}, -S(O)$_2R^{11}$, -S(O)$_2$N(R^{11})$_2$, -N(R^{11})S(O)$_2$ R^{11}, -S(O)(NR^{11})R^{11}, -S(NR^{11})$_2R^{11}$, -NO_2, and -CN; and

C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, each of which is optionally substituted with one or more substituents independently selected from halogen, OR^{11}, -SR^{11}, -N(R^{11})$_2$, -C(O)R^{11}, -C(O)N(R^{11})$_2$,- N(R^{11})C(O)R^{11}, -C(O)OR^{11}, -OC(O)R^{11}, -S(O)R^{11}, -S(O)$_2R^{11}$, -S(O)$_2$N(R^{11})$_2$, -N(R^{11})S(O)$_2$ R^{11}, -S(O)(NR^{11})R^{11}, -S(NR^{11})$_2R^{11}$, -NO_2, =O, =S, =N(R^{11}), -CN, C_{3-6} carbocycle and 3- to 6-membered heterocycle;

L is absent or selected from methylene optionally substituted with one or more substituents selected from halogen, -OR^{21}, -SR^{21}, -N(R^{21})$_2$, -C(O)R^{21}, -C(O)N(R^{21})$_2$, -N(R^{21})C(O)R^{21}, -C(O)OR^{21}, -OC(O)R^{21}, -S(O)R^{21}, -S(O)$_2R^{21}$, -NO_2, and -CN;

Ring A is selected from an optionally substituted C_{3-10} carbocycle and optionally substituted 3- to 10-membered heterocycle wherein substituents on Ring A are independently selected at each occurrence from:

halogen, -OR^{31}, -SR^{31}, -N(R^{31})$_2$, -C(O)R^{31}, -C(O)N(R^{31})$_2$, N(R^{31})C(O)R^{31}, -C(O)OR^{31}, -OC(O)R^{31}, -S(O)R^{31}, -S(O)$_2R^{31}$, -NO_2, =O, -CN, and C_{1-5} haloalkyl; and

C_{1-5} alkyl C_{2-5} alkenyl, C_{2-5} alkynyl, each of which is optionally substituted with one or more substituents independently selected from halogen, $-OR^{31}$, $-SR^{31}$, $-N(R^{31})_2$, $-C(O)R^{31}$, $-C(O)N(R^{31})_2$, $-N(R^{31})C(O)R^{31}$, $-C(O)OR^{31}$, $-OC(O)R^{31}$, $-S(O)R^{31}$, $-S(O)_2R^{31}$, $-NO_2$, =O, and -CN;

R^4 is selected from hydrogen, C_{1-5} alkyl, and C_{3-6} carbocycle wherein C_{1-5} alkyl and C_{3-6} carbocycle are optionally substituted with one or more substituents independently selected from R^9;

R^5, R^6, and R^7 are each independently selected from hydrogen, optionally substituted C_{1-6} alkyl, optionally substituted C_{3-12} carbocycle, and optionally substituted 3- to 12-membered heterocycle; or

R^5 and R^6 come together to form an optionally substituted 5- to 8-membered heterocycle, and R^7 is selected from hydrogen, optionally substituted C_{1-6} alkyl, optionally substituted C_{3-12} carbocycle and optionally substituted 3- to 12-membered heterocycle; or

R^6 and R^7 come together to form an optionally substituted 5- to 8-membered heterocycle, and R^5 is selected from hydrogen, optionally substituted C_{1-6} alkyl, optionally substituted C_{3-12} carbocycle and optionally substituted 3- to 12-membered heterocycle;

wherein the substituents on R^5, R^6, and R^7 or rings formed therefrom are independently selected at each occurrence from:

halogen, $-OR^{41}$, $-SR^{41}$, $-N(R^{41})_2$, $-C(O)R^{41}$,$-C(O)N(R^{41})_2$,$-N(R^{41})C(O)R^{41}$, $-N(R^{41})C(O)OR^{41}$, $-C(O)OR^{41}$, $-OC(O)R^{41}$, $-S(O)R^{41}$, $-S(O)_2R^{41}$, $-S(O)_2N(R^{41})_2$, $-N(R^{41})S(O)_2R^{41}$, $-S(O)(NR^{4'})R^{41}$, $-S(NR^{41})_2R^{41}$, $-NO_2$, =O, =S, $=N(R^{41})$, and -CN; and

C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, each of which is optionally substituted with one or more substituents independently selected from halogen, $-OR^{41}$, $-SR^{41}$, $-N(R^{41})_2$, $-C(O)R^{41}$, $-C(O)N(R^{41})_2$, $-N(R^{41})C(O)R^{41}$, $-N(R^{41})C(O)OR^{41}$, $-C(O)OR^{41}$, $-OC(O)R^{41}$, $-S(O)R^{41}$, $-S(O)_2R^{41}$, $-S(O)_2N(R^{41})_2$, $-N(R^{41})S(O)_2R^{41}$, $-S(O)(NR^{41})R^{41}$, $-S(NR^{41})_2R^{41}$, $-NO_2$, =O, =S, $=N(R^{41})$, -CN, C_{3-12} carbocycle and 3- to 12-membered heterocycle;

C_{3-12} carbocycle and 3- to 12-membered heterocycle each of which is optionally substituted with one or more substituents independently selected from halogen, $-OR^{41}$, $-SR^{41}$, $-N(R^{41})_2$, $-C(O)R^{41}$, $-C(O)N(R^{41})_2$, $-N(R^{41})C(O)R^{41}$, $-N(R^{41})C(O)OR^{41}$, $-C(O)OR^{41}$, $-OC(O)R^{41}$, $-S(O)R^{41}$, $-S(O)_2R^{41}$, $-S(O)_2N(R^{41})_2$, $-N(R^{41})S(O)_2R^{41}$, $-S(O)(NR^{41})R^{41}$, -

$S(NR^{41})_2R^{41}$, $-NO_2$, =O, =S, $=N(R^{41})$, -CN, C_{1-6} alkyl, C_{1-6} haloalkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-12} carbocycle and 3- to 12-membered heterocycle;

each R^8 is independently selected from:

hydrogen, halogen, $-OR^{51}$, $-SR^{51}$, $-N(R^{51})_2$, $-NO_2$, and -CN; and

C_{1-5} alkyl optionally substituted with one or more substituents independently selected from halogen, $-OR^{51}$, $-SR^{51}$, $-N(R^{51})_2$, $-NO_2$, and -CN;

each R^9 is independently selected from:

halogen, $-OR^{61}$, $-SR^{61}$, $-N(R^{61})_2$, $-NO_2$, and -CN; and

C_{1-5} alkyl optionally substituted with one or more substituents independently selected from halogen, $-OR^{61}$, $-SR^{61}$, $-N(R^{61})_2$, $-NO_2$, and -CN;

each R^{11}, R^{21}, R^{31}, R^{41}, R^{51}, and R^{61} is independently selected from: hydrogen; and C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, C_{3-8} carbocycle, and 3- to 8-membered heterocycle, each of which is optionally substituted with one or more substituents independently selected from halogen, -OH, -CN, $-NO_2$, $-NH_2$, =O, =S, C_{1-5} alkyl, $-C_{1-5}$ haloalkyl, and $-O-C_{1-5}$ alkyl; and

z is selected from 0-3.

2. The compound or salt of claim 1, wherein X^1 is selected from C(H) and N.

3. The compound or salt of claim 1 or 2, wherein X^2 is selected from O and $N(R^4)$.

4. The compound or salt of any one of claims 1 to 3, wherein X^3 is selected from C(H) and N.

5. The compound or salt of any one of claims 1 to 4, wherein each R^1 is independently selected from halogen, $-OR^{11}$, $-SR^{11}$, $-N(R^{11})_2$, $-C(O)N(R^{11})_2$, $N(R^{11})C(O)R^{11}$, $-C(O)OR^{11}$, $-OC(O)R^{11}$,-CN and C_{1-5} alkyl optionally substituted with one or more substituents independently selected from halogen, $-OR^{11}$, and -CN.

6. The compound or salt of any one of claims 1 to 5, wherein z is 1.

7. The compound or salt of any one of claims 1 to 6, wherein R^2 is hydrogen.

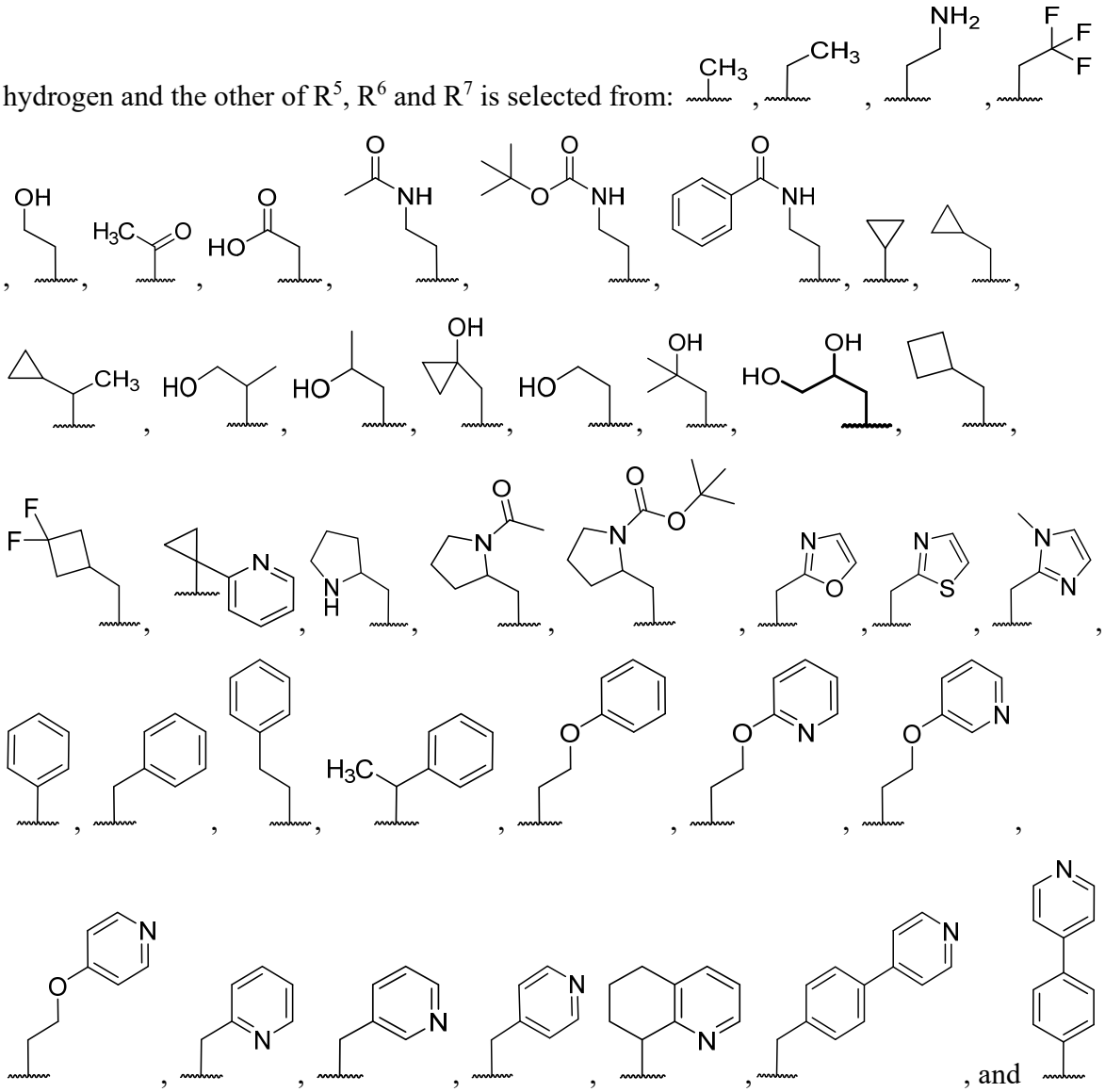
8. The compound or salt of any one of claims 1 to 7, wherein L is absent or methylene.

9. The compound or salt of any one of claims 1 to 8, wherein Ring A is selected from an optionally substituted aryl and optionally substituted 6-membered heteroaryl wherein substituents on Ring A are independently selected at each occurrence from: halogen, $-OR^{31}$, $-N(R^{31})_2$, $-C(O)R^{31}$, $-C(O)N(R^{31})_2$, $N(R^{31})C(O)R^{31}$, $-C(O)OR^{31}$, $-OC(O)R^{31}$, -CN, and C_{1-5} haloalkyl; and C_{1-5} alkyl optionally substituted with one or more substituents independently selected from halogen, $-OR^{31}$, =O, and -CN.

10. The compound or salt of any one of claims 1 to 9, wherein Y is N.

11. The compound or salt of any one of claims 1 to 10, wherein R^5, R^6, and R^7 are each independently selected from hydrogen, optionally substituted C_{1-6} alkyl, optionally substituted C_{3-12} carbocycle and optionally substituted 3- to 12-membered heterocycle, wherein substituents on C_{1-6} alkyl, C_{3-12} carbocycle and 3- to 12-membered heterocycle are independently selected at each occurrence from: halogen, $-OR^{41}$, $-N(R^{41})_2$, $-C(O)R^{41}$, $-C(O)N(R^{41})_2$, $-N(R^{41})C(O)R^{41}$, $-N(R^{41})C(O)OR^{41}$, $-C(O)OR^{41}$, $-OC(O)R^{41}$, =O, and -CN; and C_{1-5} alkyl optionally substituted with one or more substituents independently selected from halogen, $-OR^{41}$, $-N(R^{41})_2$, =O, and -CN; and phenyl or 6-membered heteroaryl, each of which is optionally substituted with one or more substituents independently selected from halogen, $-OR^{41}$, $-N(R^{41})_2$, =O, =S, -CN, C_{1-6} alkyl, C_{1-6} haloalkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, phenyl and 6-membered heteroaryl.

12. The compound or salt of any one of claims 1 to 11, wherein two of R^5, R^6 and R^7 are hydrogen and the other of R^5, R^6 and R^7 is selected from hydrogen, optionally substituted C_{1-6} alkyl, optionally substituted C_{3-12} carbocycle and optionally substituted 3- to 12-membered heterocycle.

13. The compound or salt of any one of claims 1 to 12, wherein two of R^5, R^6 and R^7 are hydrogen and the other of R^5, R^6 and R^7 is selected from: , and .

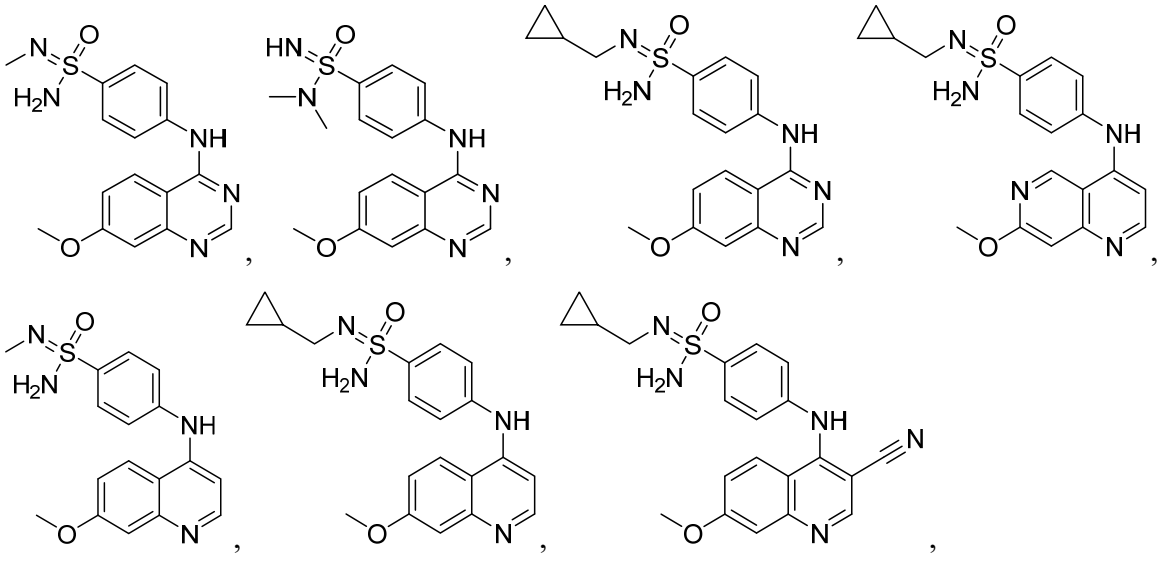
14. The compound or salt of any one of claims 1 to 13, wherein R^5 and R^6 are each hydrogen, and R^7 is selected from optionally substituted C_{1-4} alkyl, optionally substituted C_{3-10} carbocycle and optionally substituted 3- to 10-membered heterocycle; or
R^6 and R^7 are each hydrogen, and R^5 is selected from optionally substituted C_{1-4} alkyl, optionally substituted C_{3-10} carbocycle and optionally substituted 3- to 10-membered heterocycle.

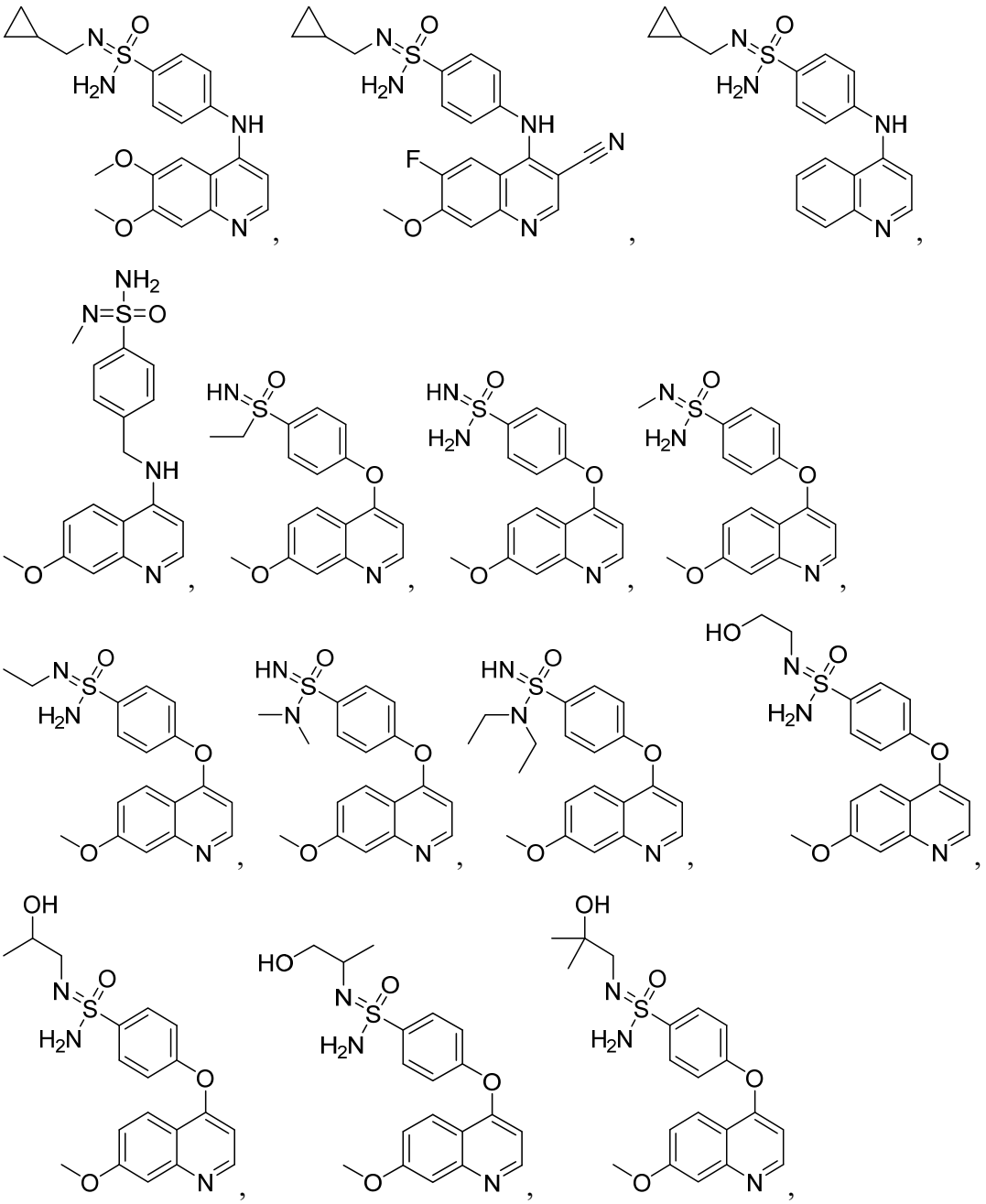
15. The compound or salt of any one of claims 1 to 12, wherein R^5, R^6, and R^7 are each hydrogen.

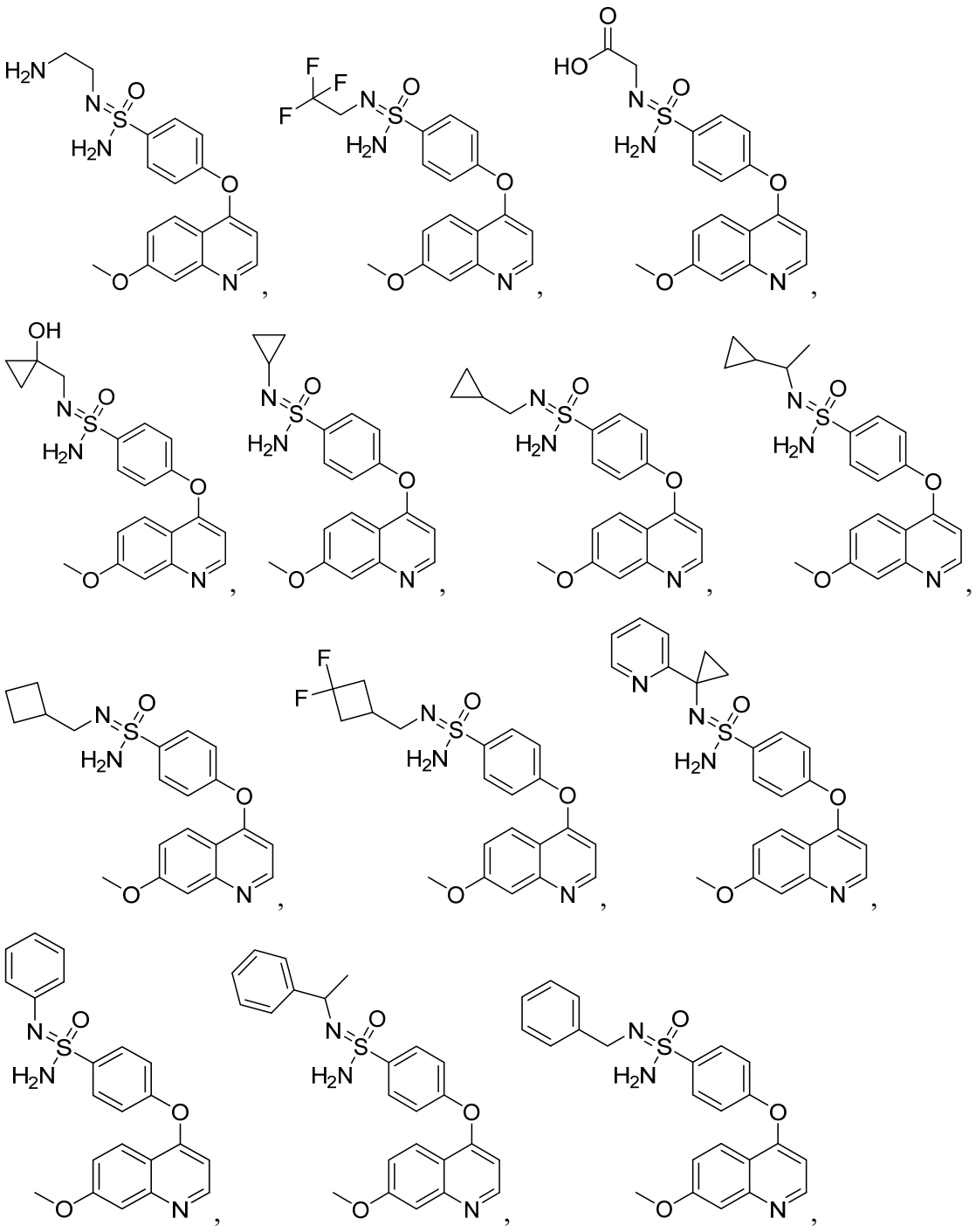
16. The compound or salt of any one of claims 1 to 11, wherein one of R^5, R^6 and R^7 is hydrogen and the other two of R^5, R^6 and R^7 are independently selected from optionally substituted C_{1-6} alkyl, optionally substituted C_{3-12} carbocycle and optionally substituted 3- to 12-membered heterocycle.

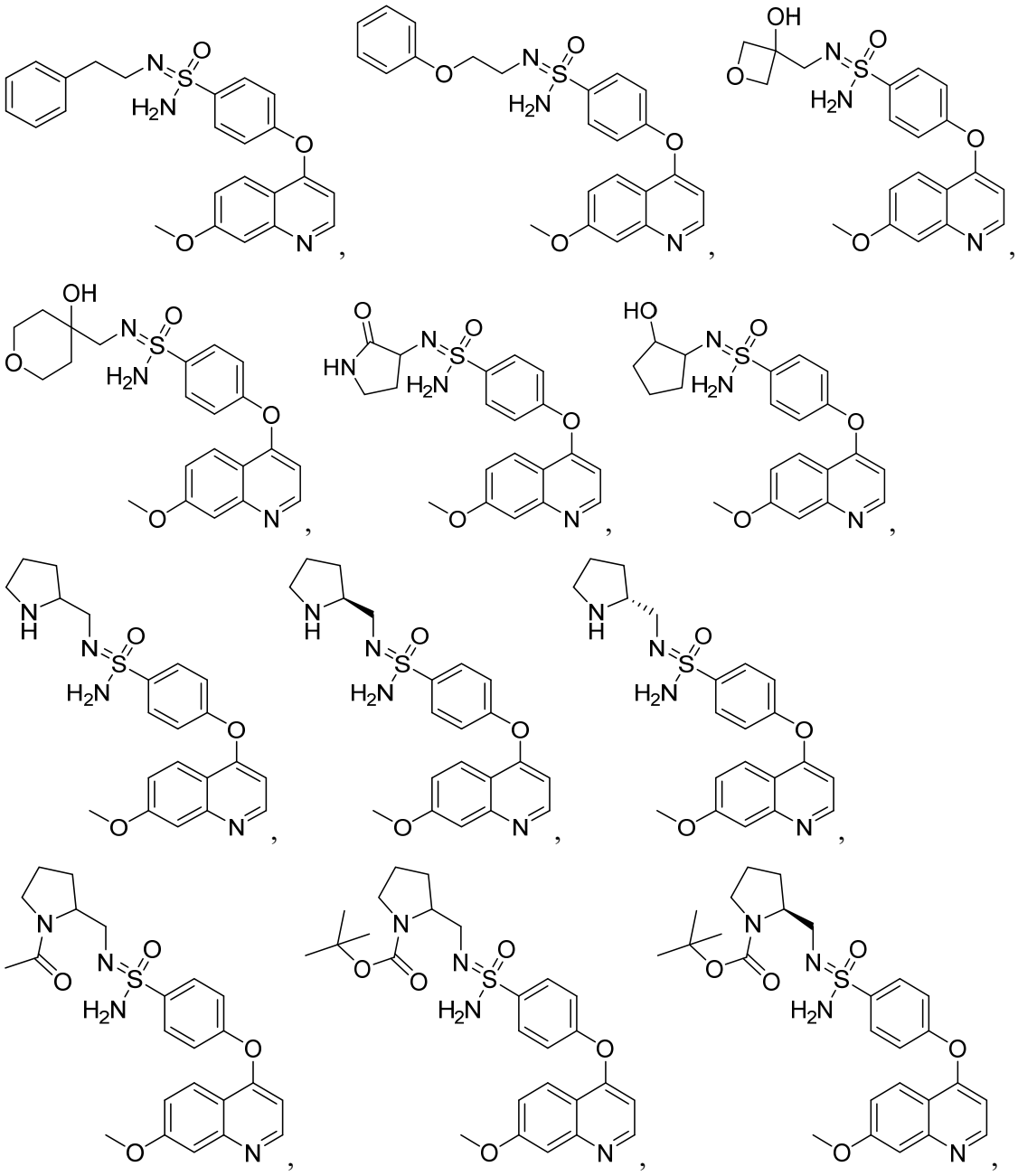
17. The compound or salt of any one of claims 1 to 10, wherein R^6 and R^7 come together to form an optionally substituted 5- to 6-membered saturated heterocycle, and R^5 is hydrogen; or R^5 and R^6 come together to form an optionally substituted 5- to 8-membered heterocycle, and R^7 is selected from hydrogen, optionally substituted C_{1-6} alkyl, optionally substituted C_{3-12} carbocycle and optionally substituted 3- to 12-membered heterocycle.

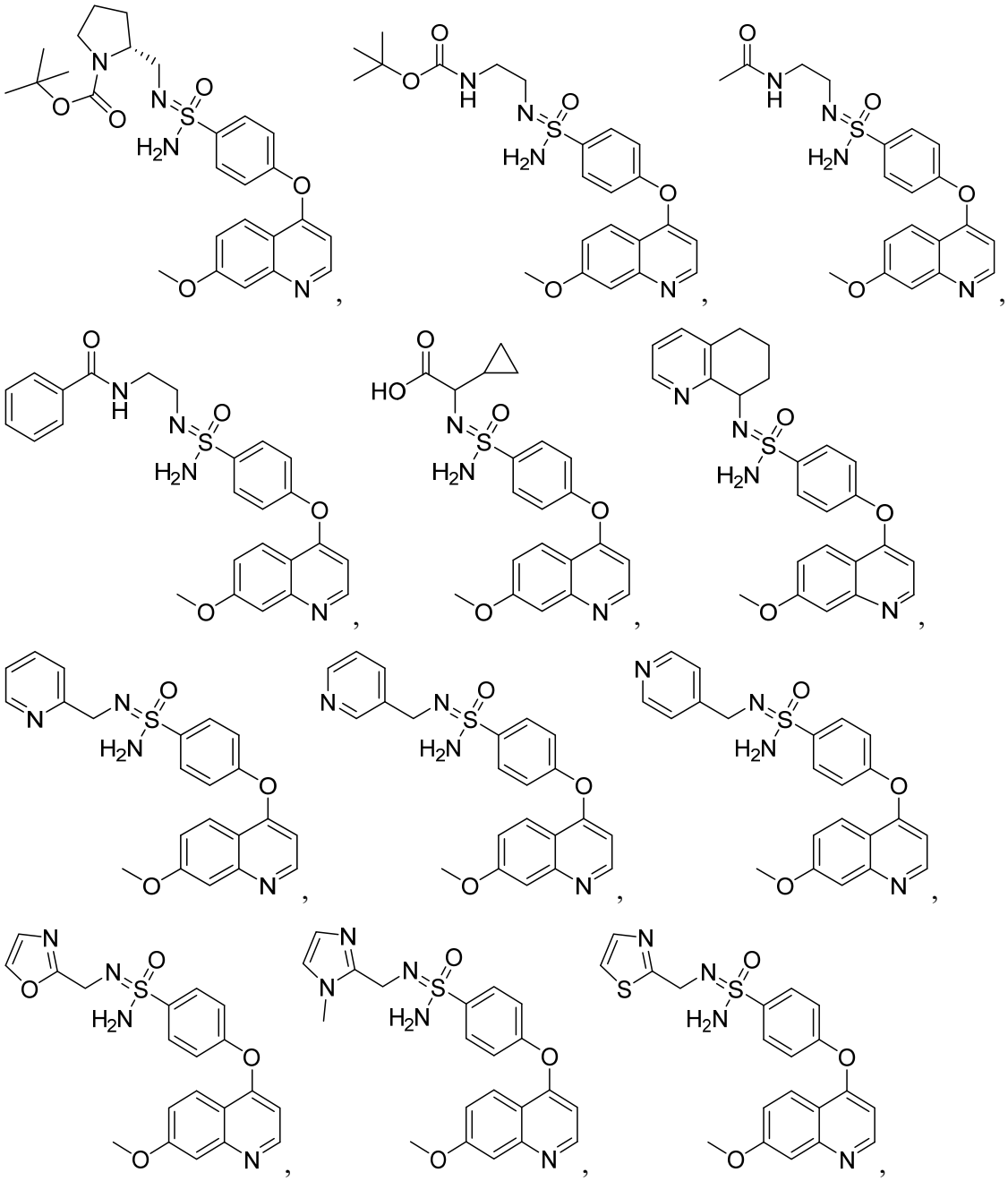
18. The compound or salt of any one claims 1 to 17, wherein Formula (I) is selected from:

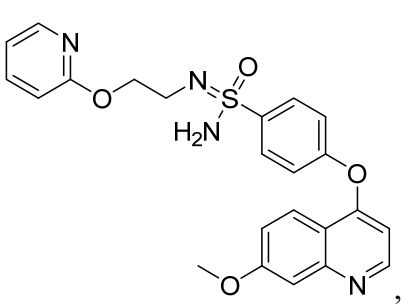
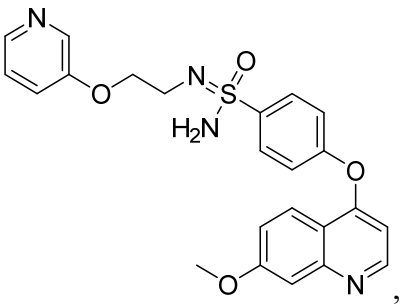
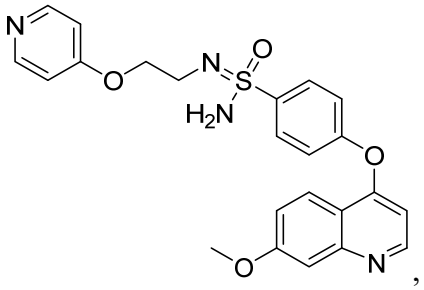
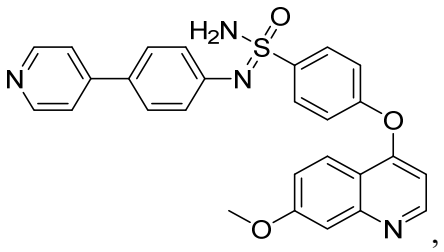
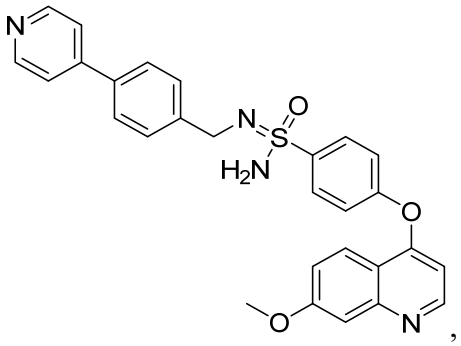
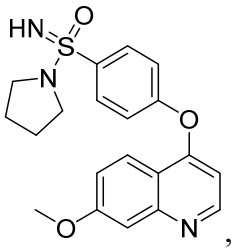
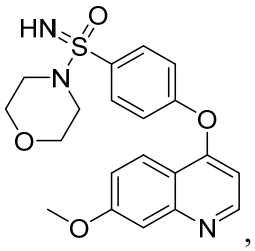
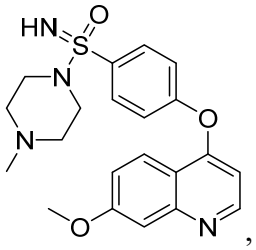
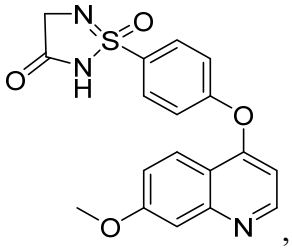
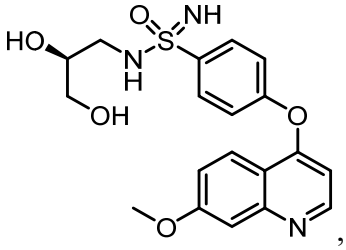
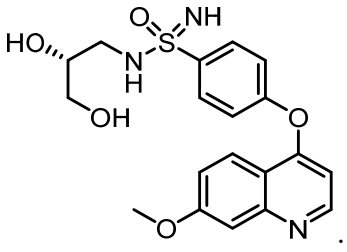











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19. A pharmaceutical composition comprising the compound or salt of any one of claims 1 to 18 and a pharmaceutically acceptable excipient.

20. Use of a compound of any one of claims 1 to 18 or the pharmaceutical composition of claim 19 in the manufacture of a medicament for inhibiting ENPP1 in a subject in need thereof.

21. Use of a compound of any one of claims 1 to 18 or the pharmaceutical composition of claim 19 in the manufacture of a medicament for activating STING activity in a subject in need thereof.