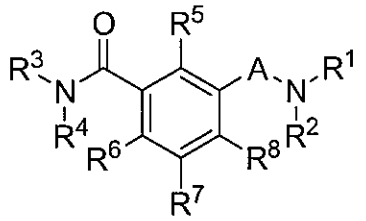
CLAIMS

1. A compound represented by a structure of Formula (**I**), or an enantiomer, diastereomer, pharmaceutically accepted salt, hydrate, or solvate thereof:



(I)

wherein in (**I**):

A is selected from the group consisting of SO_2 and CO;

R^1 is selected from the group consisting of optionally substituted C_{1-6} linear alkyl, optionally substituted C_{1-6} branched alkyl, optionally substituted C_{3-7} cycloalkyl, optionally substituted benzyl, optionally substituted 3-7 membered cycloheteroalkyl, optionally substituted C_{2-8} alkenyl, optionally substituted C_{2-8} alkynyl, and optionally substituted heterocyclic;

R^2 is selected from the group consisting of hydrogen, optionally substituted C_{1-6} linear alkyl, optionally substituted C_{3-7} cycloalkyl, and optionally substituted heterocyclic; or

R^1 and R^2 are taken together with the atoms to which they are bound to form an optionally substituted heterocycle with 3 to 10 atoms; and

R^3 is selected from the group consisting of optionally substituted aryl and optionally substituted heteroaryl;

R^4 is selected from the group consisting of hydrogen and optionally substituted C_{1-6} linear alkyl;

R^5 is selected from the group consisting of hydrogen, halogen, optionally substituted C_{1-6} linear alkyl, optionally substituted C_{1-6} branched alkyl, optionally substituted C_{1-6} haloalkyl, OR^9, cyano and $N(R^9)_2$;

R^6 and R^8 are each selected independently at each occurrence from the group consisting of fluoro, C_{1-3} alkyl, and C_{1-3} alkoxy; or

R^4 and R^6 are taken together with the atoms to which they are bound to form an optionally substituted heterocyclic ring with 5 to 6 atoms, optionally

containing one or two carbonyls, and R^8 is selected from the group consisting of hydrogen, fluoro, C_{1-3} alkyl, and C_{1-3} alkoxy; or

R^2 and R^8 are taken together with the atoms to which they are bound to form an optionally substituted heterocyclic ring with 5 to 6 atoms, and R^6 is selected from the group consisting of hydrogen, fluoro, C_{1-3} alkyl, and C_{1-3} alkoxy;

R^7 is selected from the group consisting of hydrogen, halogen, optionally substituted C_{1-6} linear alkyl, optionally substituted C_{1-6} branched alkyl, OR^9, cyano and $N(R^9)_2$;

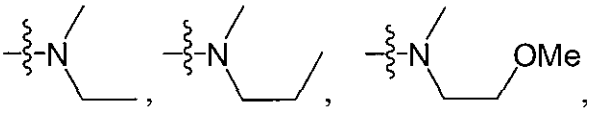
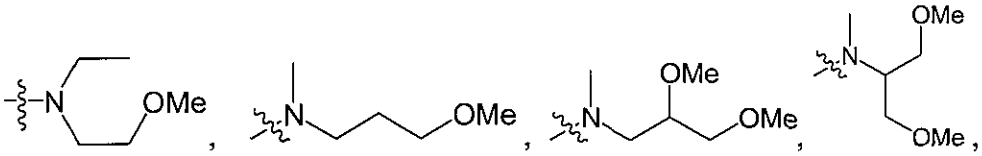
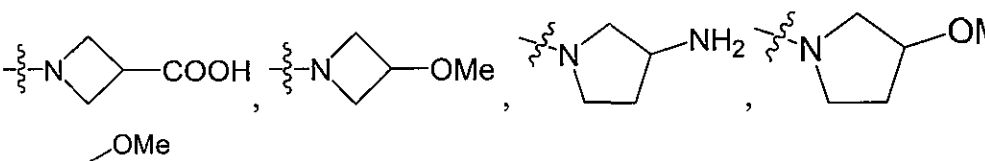
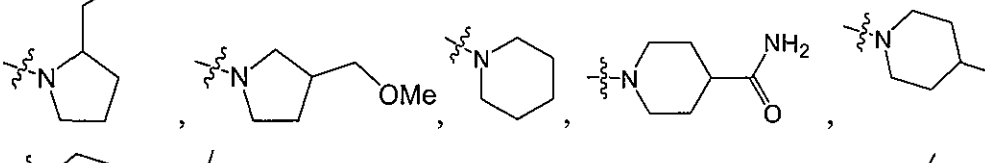
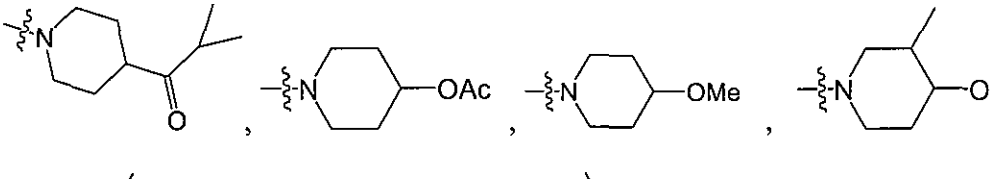
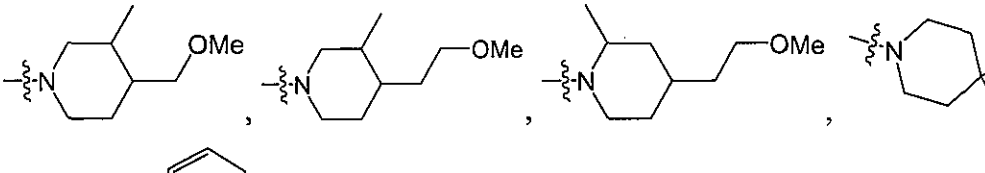
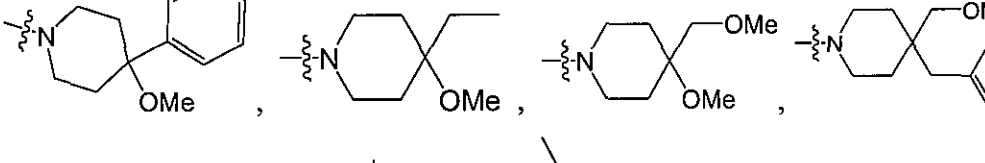
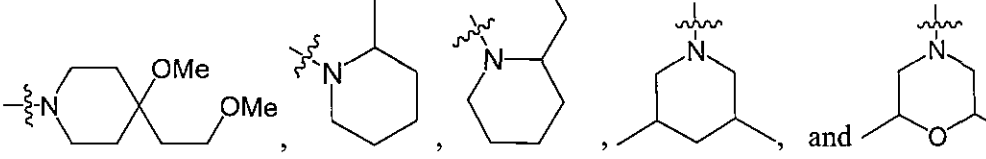
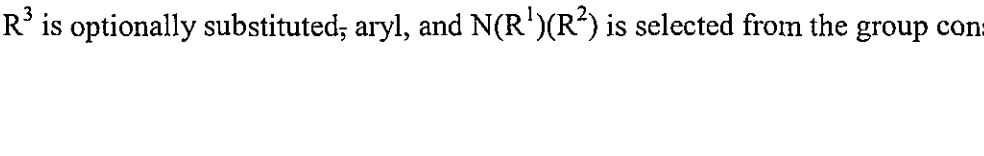
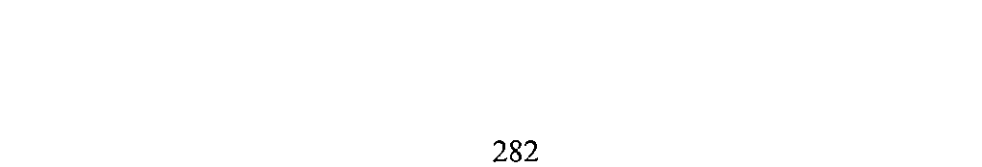
R^9 is independently at each occurrence selected from the group consisting of hydrogen, optionally substituted C_{1-6} linear alkyl, optionally substituted C_{1-6} branched alkyl, optionally substituted C_{3-7} cycloalkyl, optionally substituted aryl, optionally substituted benzyl, optionally substituted heterocyclyl, and optionally substituted heteroaryl;

wherein a substituted group is substituted with at least one selected from the group consisting of C_{1-6} alkyl, C_{1-6} haloalkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, C_{3-6} cycloalkyl, -F, -Cl, -Br, -I, -CN, $-NO_2$, $-OR^{14}$, $-SR^{14}$, $-N(R^{14})_2$, $-NR^{14}C(O)R^{14}$, $-SO_2R^{14}$, $-SO_2OR^{14}$, $-SO_2N(R^{14})_2$, $-C(O)R^{14}$, $-C(O)OR^{14}$, $-C(O)N(R^{14})_2$, aryl, heterocyclyl, or heteroaryl, wherein each occurrence of R^{14} is independently selected from the group consisting of hydrogen, C_{1-6} alkyl, C_{1-6} haloalkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, and C_{3-6} cycloalkyl, or two R^{14} units taken together with the atom(s) to which they are bound form an optionally substituted carbocyclyl or heterocyclyl group, wherein the carbocyclyl or heterocyclyl group has 3 to 7 ring atoms,

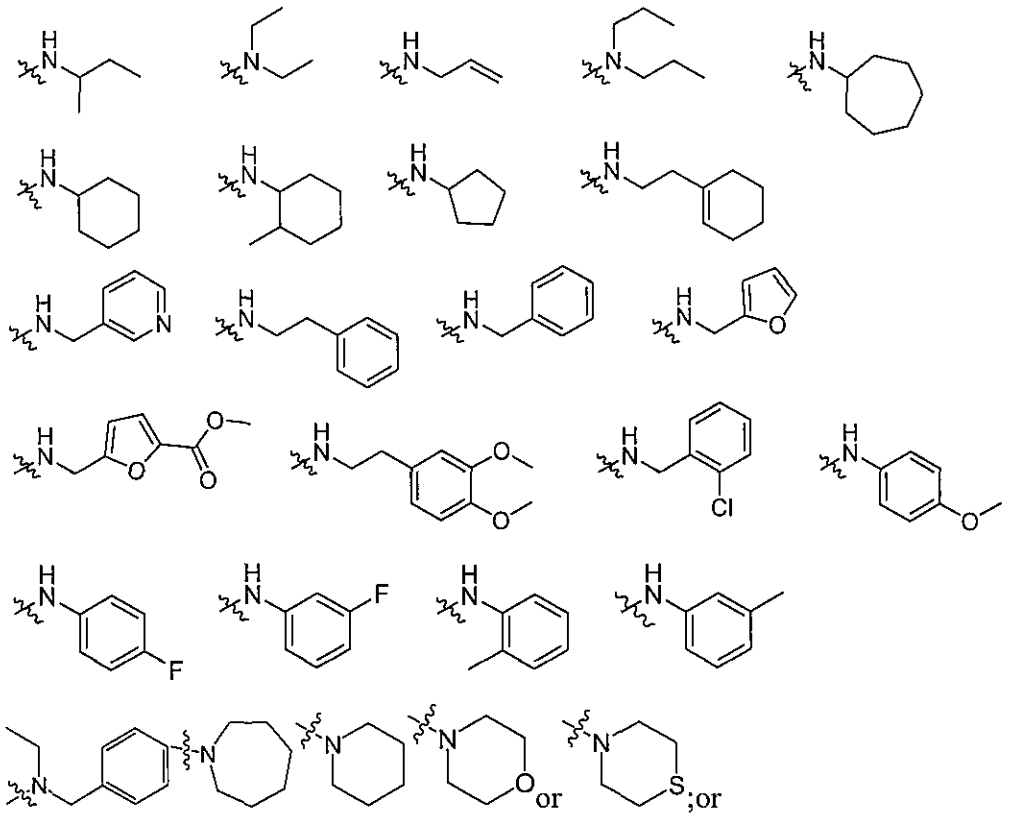
wherein the heteroaryl is selected from the group consisting of diazolyl, imidazolyl, imidazolyl, triazinyl, thiazolyl, isothiazolyl, oxazolyl, isoxazolinyl, furanyl, thiophenyl, pyrimidinyl, pyridinyl, tetrazolyl, benzofuranyl, benzothiophenyl, benzoxazolyl, benzthiazolyl, benztriazolyl, cinnolinyl, naphthyridinyl, phenanthridinyl, 7H-purinyl, 9H-purinyl, 6-amino-9H-purinyl, 5H-pyrrolo[3,2-d]pyrimidinyl, 7H-pyrrolo[2,3-d]pyrimidinyl, pyrido[2,3-(ijpyrimidinyl, 2-phenylbenzo[d]thiazolyl, 1H-indolyl, 4,5,6,7-tetrahydro-l-H-indolyl, quinoxalinyl, quinazolinyl, quinolinyl, and isoquinolinyl;

provided that, when A is SO_2; R^4 and R^6 taken together with the atoms to which they are bound do not to form an optionally substituted ring; and R^2 and R^8 taken together with the atoms to which they are bound do not to form an optionally substituted ring, then the compound is not selected from any of groups (a) through (d):

(a) R^3 is optionally substituted phenyl; and R^1 or R^2, either individually or when taken together, contain a hydroxyl group; or

(b) R^3 is optionally substituted phenyl; and $N(R^1)(R^2)$ is selected from the group consisting of optionally substituted piperazine, , , , , , , , , , , , and ; or

(c) R^3 is optionally substituted, aryl, and $N(R^1)(R^2)$ is selected from the group consisting of:



(d) R^3 is unsubstituted or monosubstituted aryl, or unsubstituted or monosubstituted heteroaryl; and R^1 and R^2 are taken together with the atoms to which they are bound to form an optionally substituted heterocyclic ring structure with 6 to 12 atoms;

and

provided that the compound is not selected from the group consisting of:

3-{[(dicyclopropylmethyl)amino]sulfonyl}-N-(4-isopropoxyphenyl)benzamide;

3-({[2-(1H-benzimidazol-2-yl)propyl]amino}sulfonyl)-N-(4-isopropoxyphenyl) benzamide;

3-[(cyclohexylamino)sulfonyl]-N-(4-isopropylphenyl)benzamide;

3-(anilinosulfonyl)-N-(4-isopropylphenyl)benzamide;

5-{[(3-{[(4-methoxyphenyl)amino]carbonyl}phenyl)sulfonyl]amino}pentanoic acid;

3-[(*tert*-butylamino)sulfonyl]-N-(4-methoxyphenyl)benzamide;

(3S)-1-[(3-{[(5-isopropoxypyridin-2-yl)amino]carbonyl}phenyl)sulfonyl] piperidine-3-carboxamide;

(3R)-1-[(3-{[(5-isopropoxypyridin-2-yl)amino]carbonyl}phenyl)sulfonyl] piperidine-3-carboxamide;

3-(piperidin-1-ylsulfonyl)-N-[(1S)-1,2,3,4-tetrahydronaphthalen-1-yl]benzamide;

N-(5-bromo-3-methoxypyridin-2-yl)-3-(piperidin-1-ylsulfonyl)benzamide;

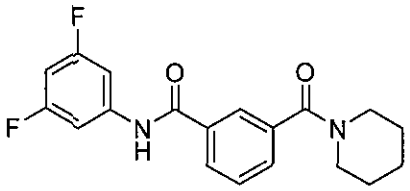
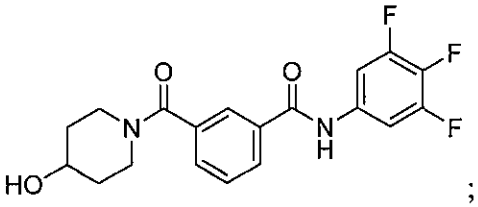
N-(3-methoxy-5-phenylpyridin-2-yl)-3-(pyrrolidin-1-ylsulfonyl)benzamide;

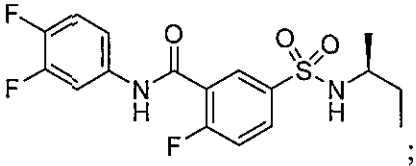
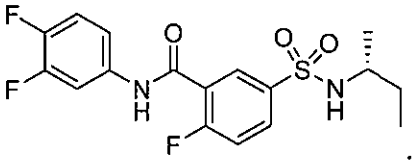
N-(3-methoxy-5-phenoxypyridin-2-yl)-3-(pyrrolidin-1-ylsulfonyl)benzamide;

N-[3-methoxy-5-(phenylthio)pyridin-2-yl]-3-(pyrrolidin-1-ylsulfonyl)benzamide;

N-(5-ethyl-3-methoxypyridin-2-yl)-3-(piperidin-1-ylsulfonyl)benzamide;

N-(3-methoxy-5-vinylpyridin-2-yl)-3-(piperidin-1-ylsulfonyl)benzamide;


; 
;

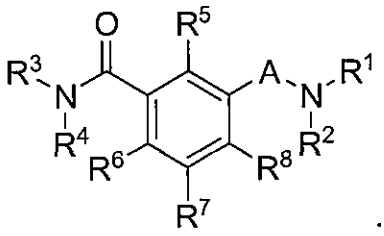

; and 
.

2. The compound of claim 1 wherein:

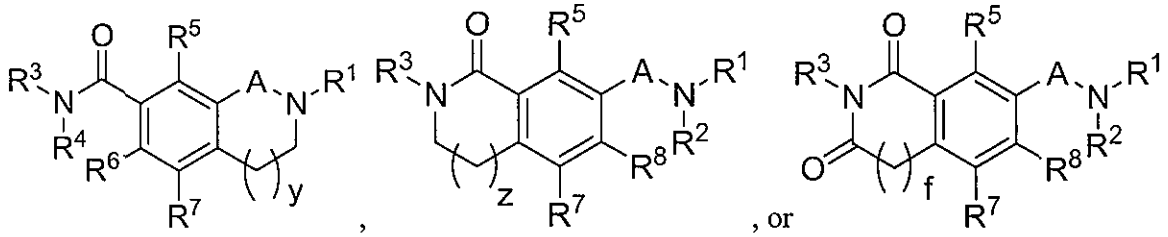
R^4 and R^6 taken together with the atoms to which they are bound do not to form an optionally substituted ring; and

R^2 and R^8 taken together with the atoms to which they are bound do not to form an optionally substituted ring;

thereby providing compounds having formula:


.

3. The compound of claim 1, the compound being represented by one of the following structures:



(A) , **(B)** , or **(C)**

wherein:

in **(A)** R^4 and R^6 taken together with the atoms to which they are bound do not to form an optionally substituted ring; and

in **(B)** and **(C)** R^2 and R^8 taken together with the atoms to which they are bound do not to form an optionally substituted ring; and

wherein z and f are independently 0 or 1, and y is independently 0 or 1.

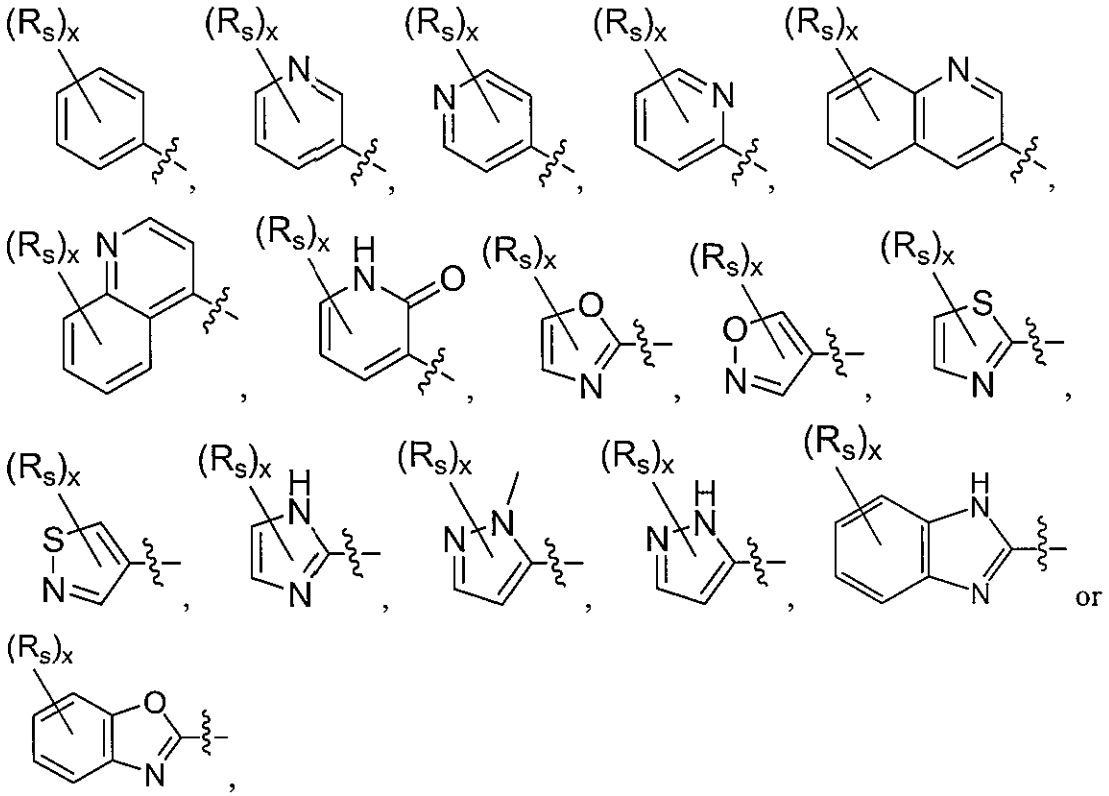
4. The compound-of claim 1, wherein A is SO_2.

5. The compound-of claim 1, wherein A is CO.

6. The compound of claim 1, wherein

R^3 is selected from a group consisting of optionally substituted phenyl, optionally substituted benzoisoxazolyl, optionally substituted benzooxazolyl, optionally substituted furyl, optionally substituted imidazolyl, optionally substituted indoyl, optionally substituted isoxazolyl, optionally substituted isothiazolyl, optionally substituted oxazolyl, optionally substituted pyrazolyl, optionally substituted pyridin-2-on-yl, optionally substituted pyridyl, optionally substituted pyrrolyl, optionally substituted quinolinyl, optionally substituted thiazolyl optionally substituted thienyl.

7. The compound of claim 6, wherein R^3 is



wherein

R_S is independently at each occurrence selected from the group consisting of bromo, chloro, fluoro, cyano, hydroxyl, optionally fluorinated C_{1-6} alkyl, and -O-(C_{1-6} alkyl), or when two are taken form a fused cyclic or heterocyclic moiety;

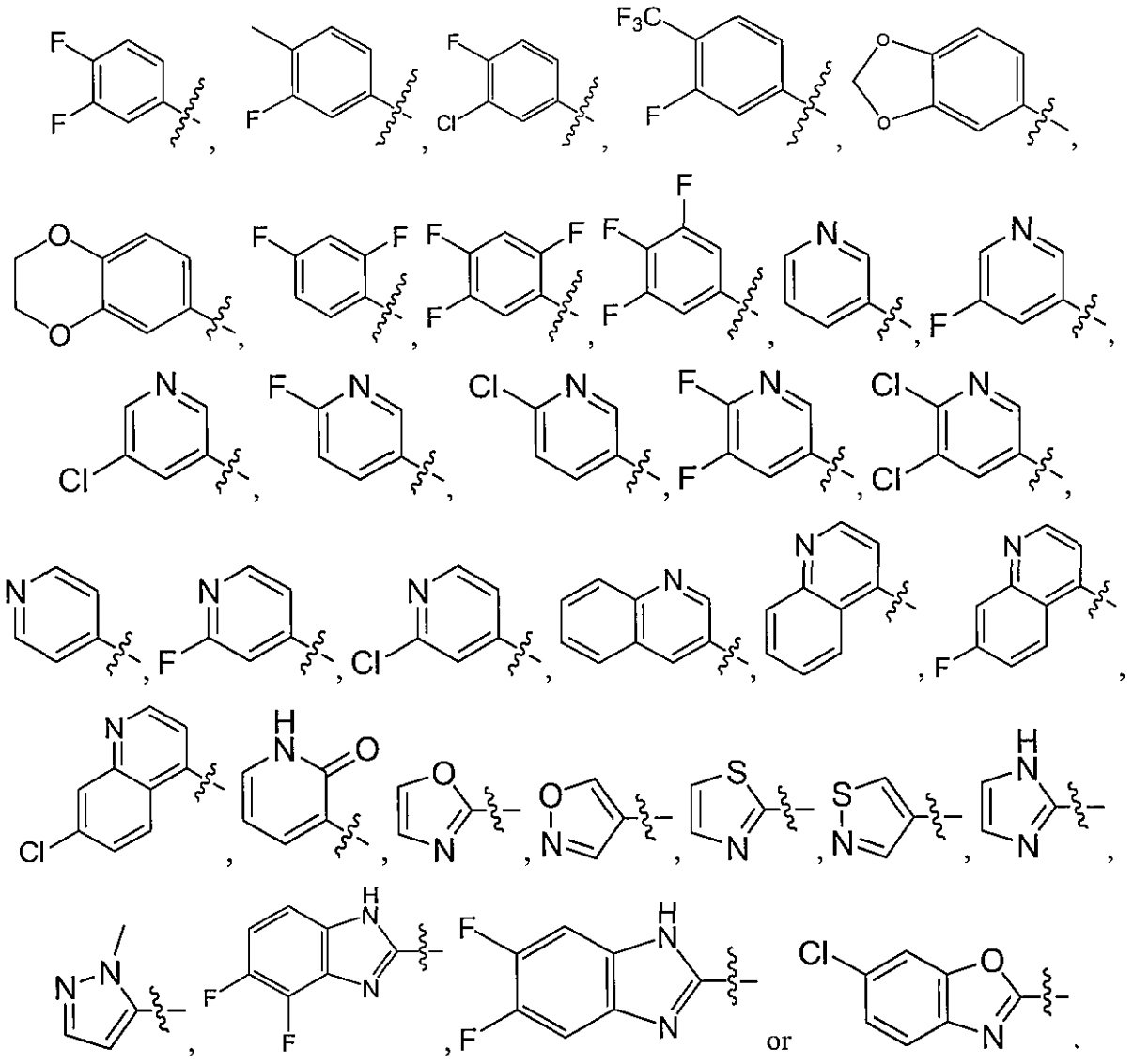
x is 0, 1, 2, or 3; and

where present, R^4 is hydrogen.

8. The compound of claim 6, wherein the optional substitution of R^3 comprises at least one halo or C_{1-6} alkyl.

9. The compound of claim 8, wherein the optional substitution of R^3 comprises at least one halo.

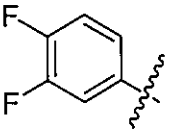
10. The compound of claim 1, wherein R^3 is



11. The compound of claim 1, wherein

R^5 and R^7 are independently at each occurrence H or F.

12. The compound of claim 1, wherein

R^3 is  ; and

where present, R^4 is hydrogen.

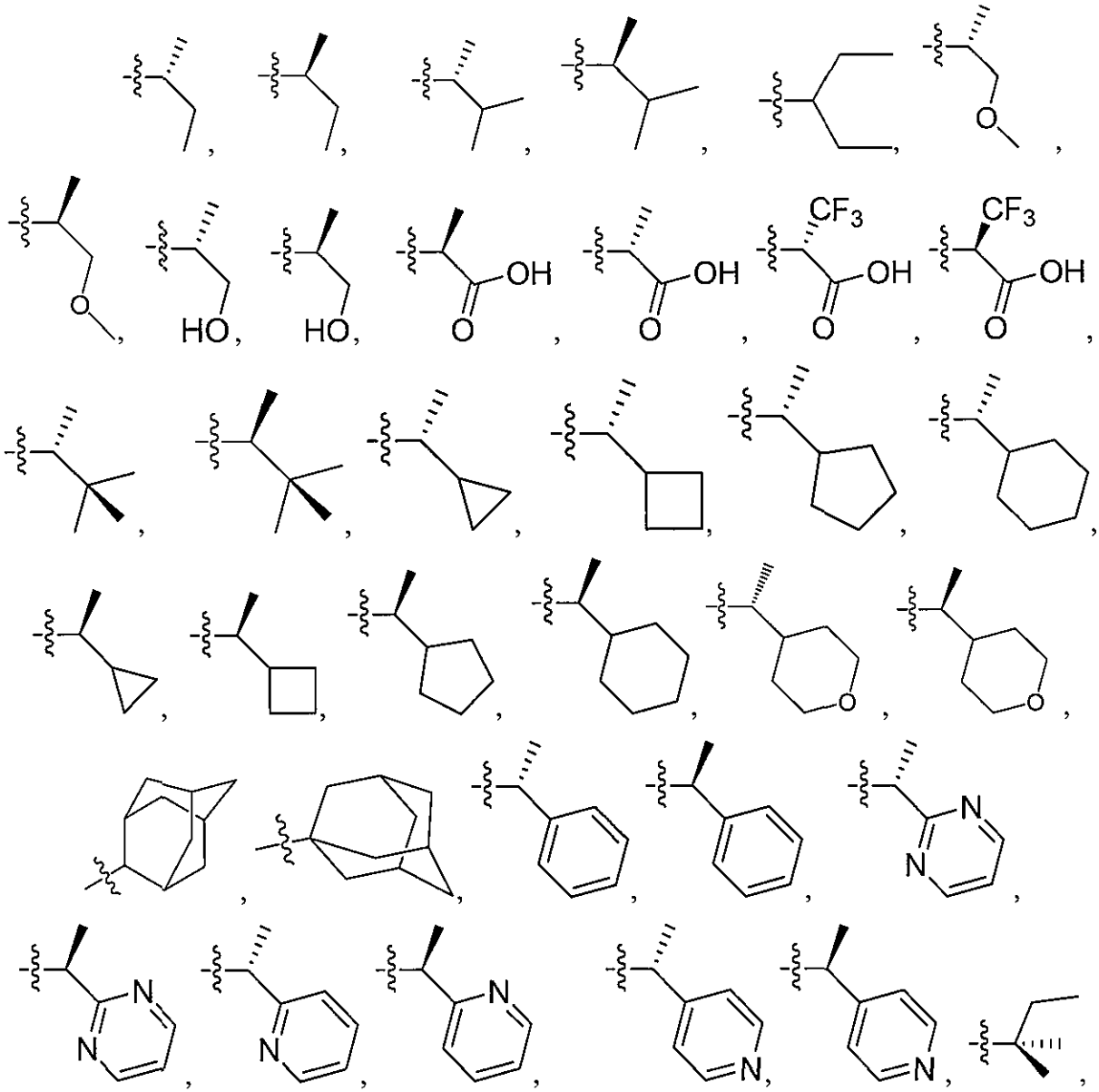
13. The compound of claim 1, wherein

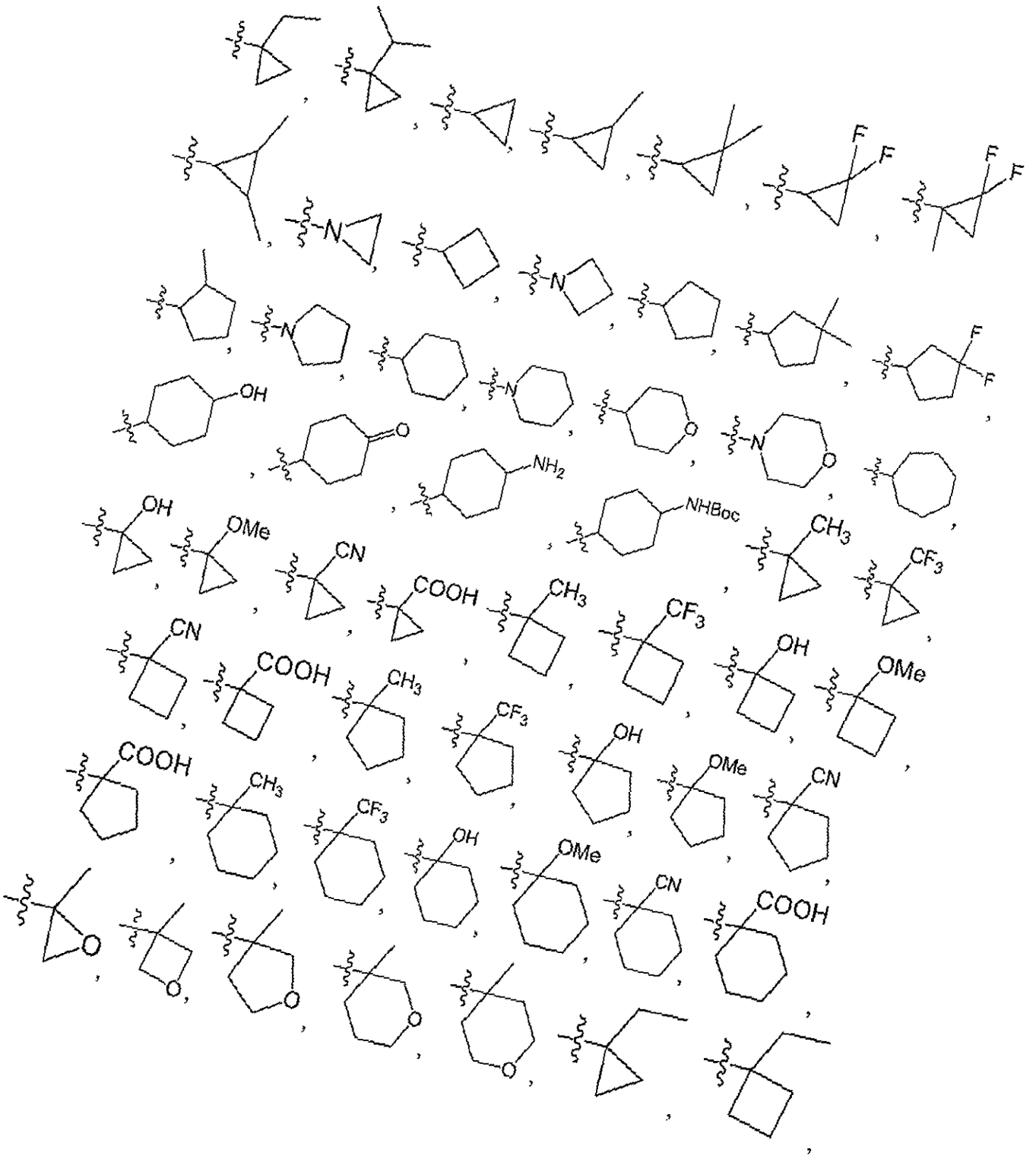
R^5 and R^7 are each H; and

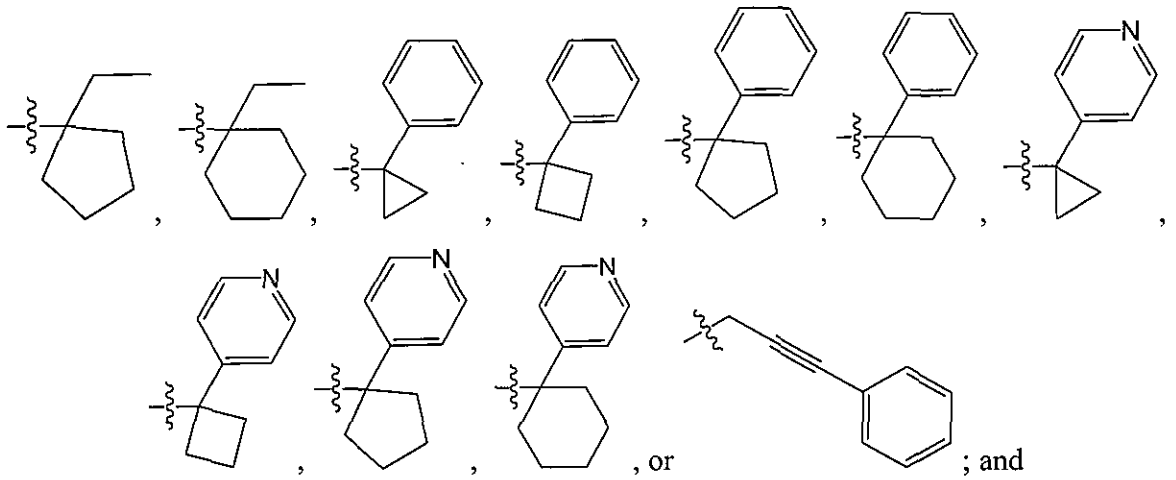
R^6 is fluoro, or methoxy.

14. The compound of claim 1, wherein,

R^1 is methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, tert-butyl, optionally substituted benzyl, optionally substituted methylpyridyl,

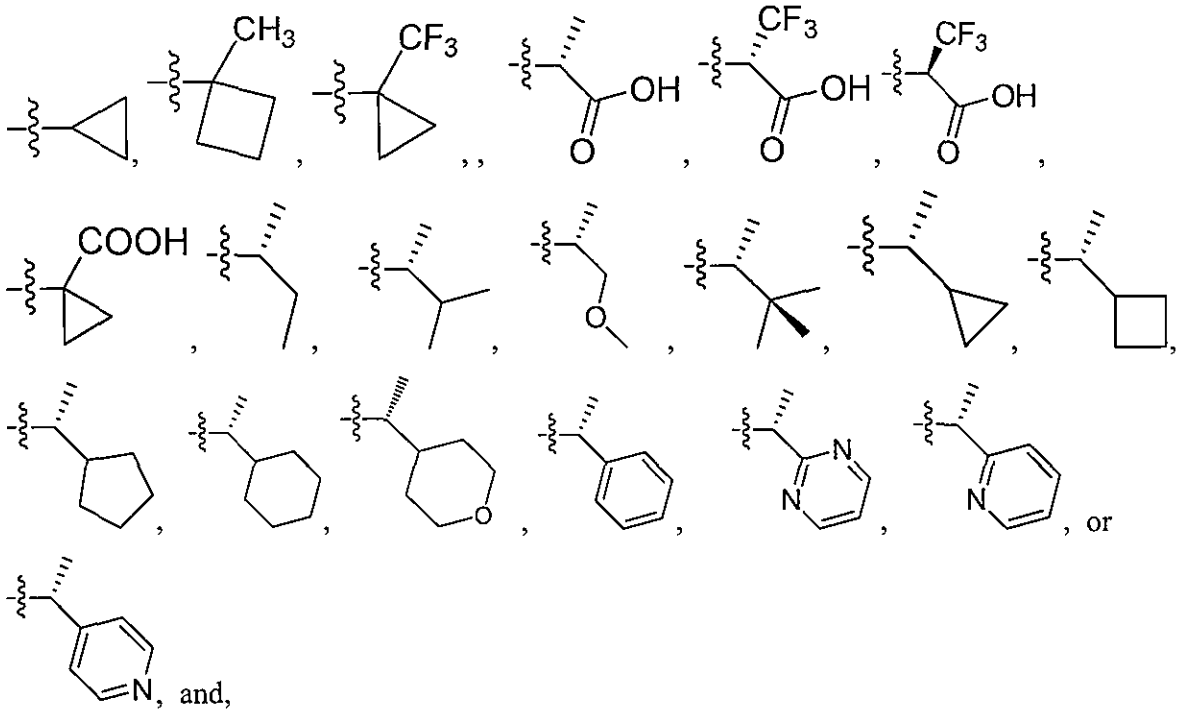



F
F
F
F
N
N
N
OH
O
NH2
NHBoc
OH
OMe
CN
COOH
CH3
CF3
CN
COOH
CH3
CF3
OH
OMe
COOH
CH3
CF3
OH
OMe
CN
O
O
O
O
OMe
CN
COOH



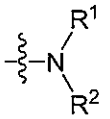
where present, R^2 is H.

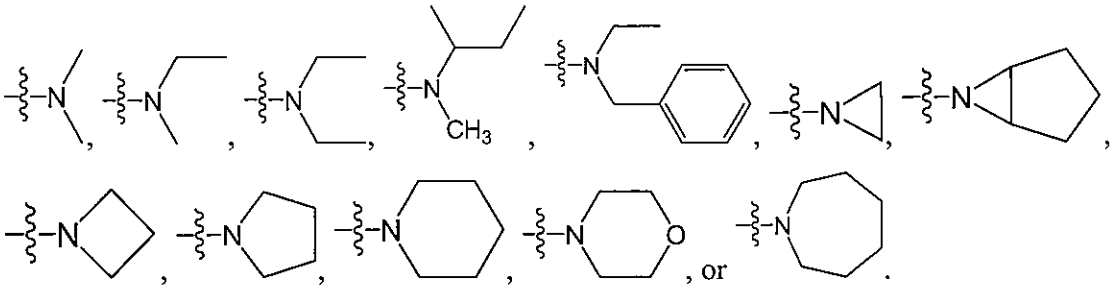
15. The compound of claim 14, wherein R^1 is isopropyl, t-butyl,



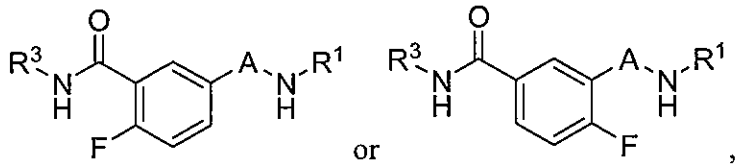
where present, R^2 is H.

16. The compound of claim 1, with the proviso that R^1 is not cyclopentane.

17. The compound of claim 1, wherein  is



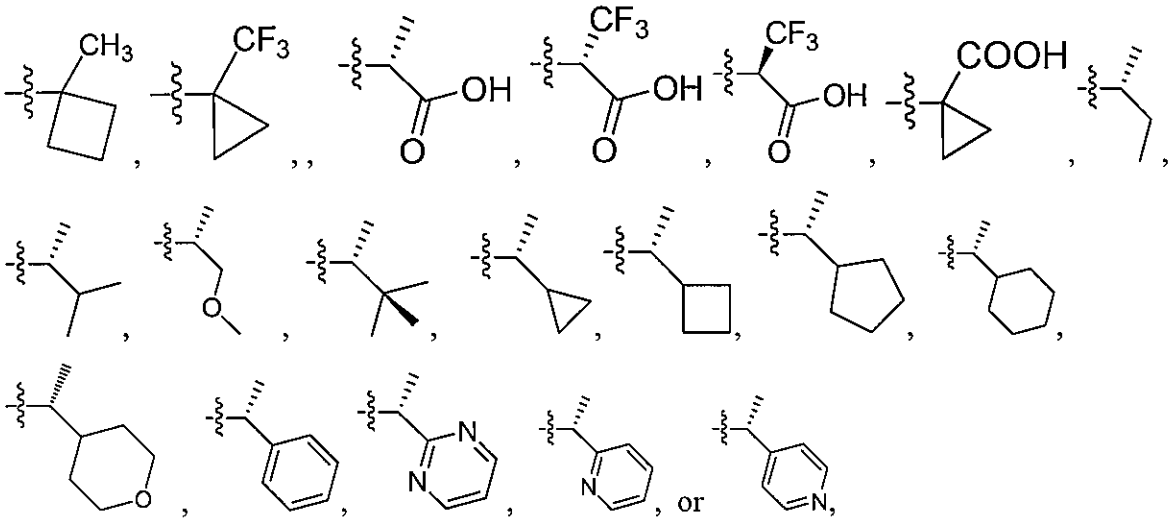
18. A compound represented by a structure:



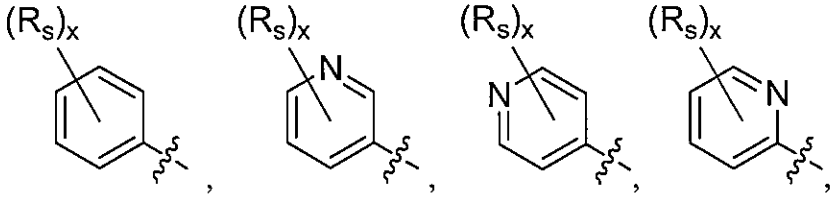
wherein

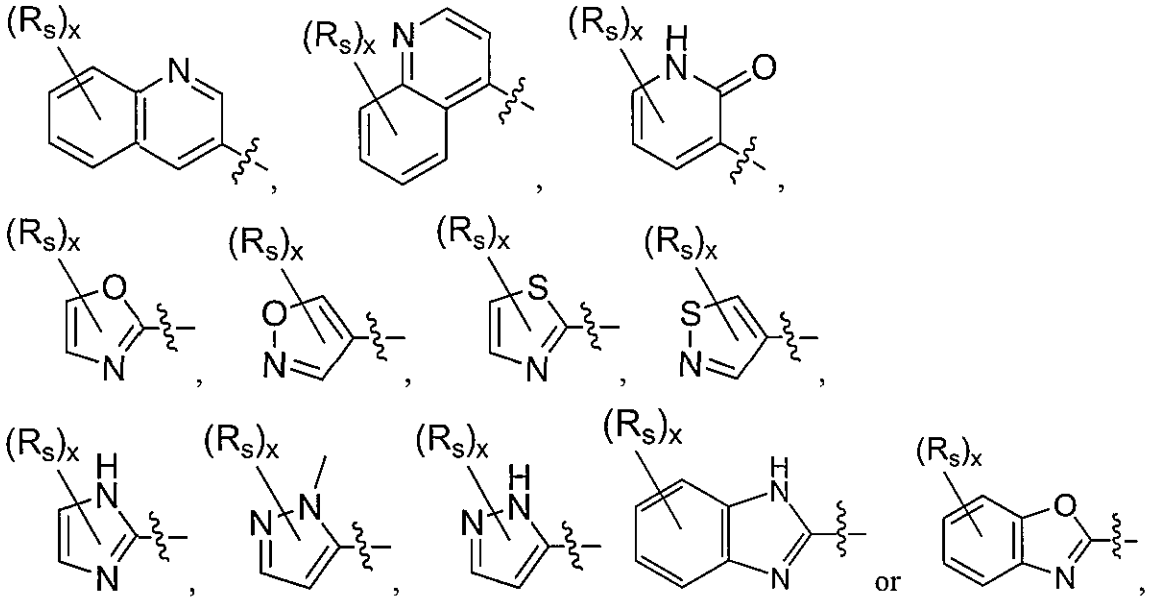
A is selected from the group consisting of SO_2 and CO;

R^1 is



and R^3 is



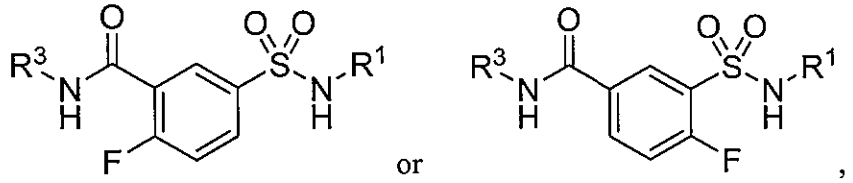


wherein

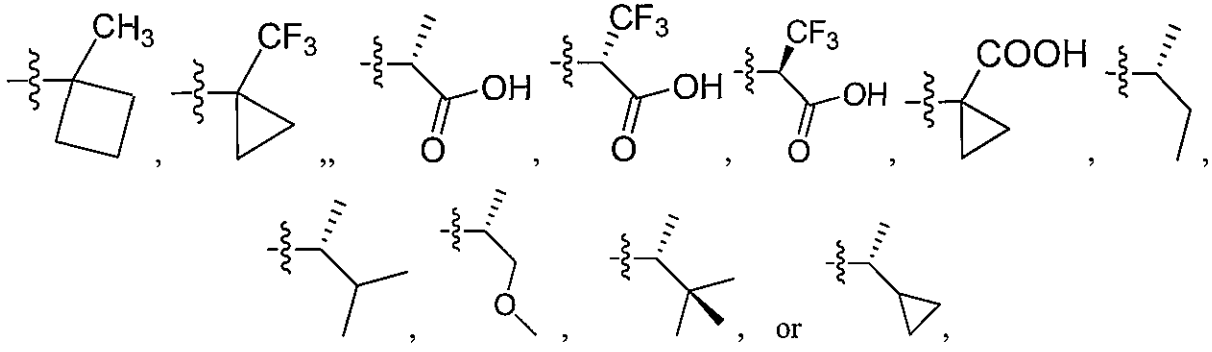
R_S is independently at each occurrence selected from the group consisting of bromo, chloro, fluoro, cyano, hydroxyl, optionally fluorinated C_{1-6} alkyl, and -O-(C_{1-6} alkyl), or when two are taken form a fused cyclic or heterocyclic moiety; and x is 0, 1, 2, or 3,

or an enantiomer, diastereomer, pharmaceutically accepted salt, hydrate, or solvate thereof.

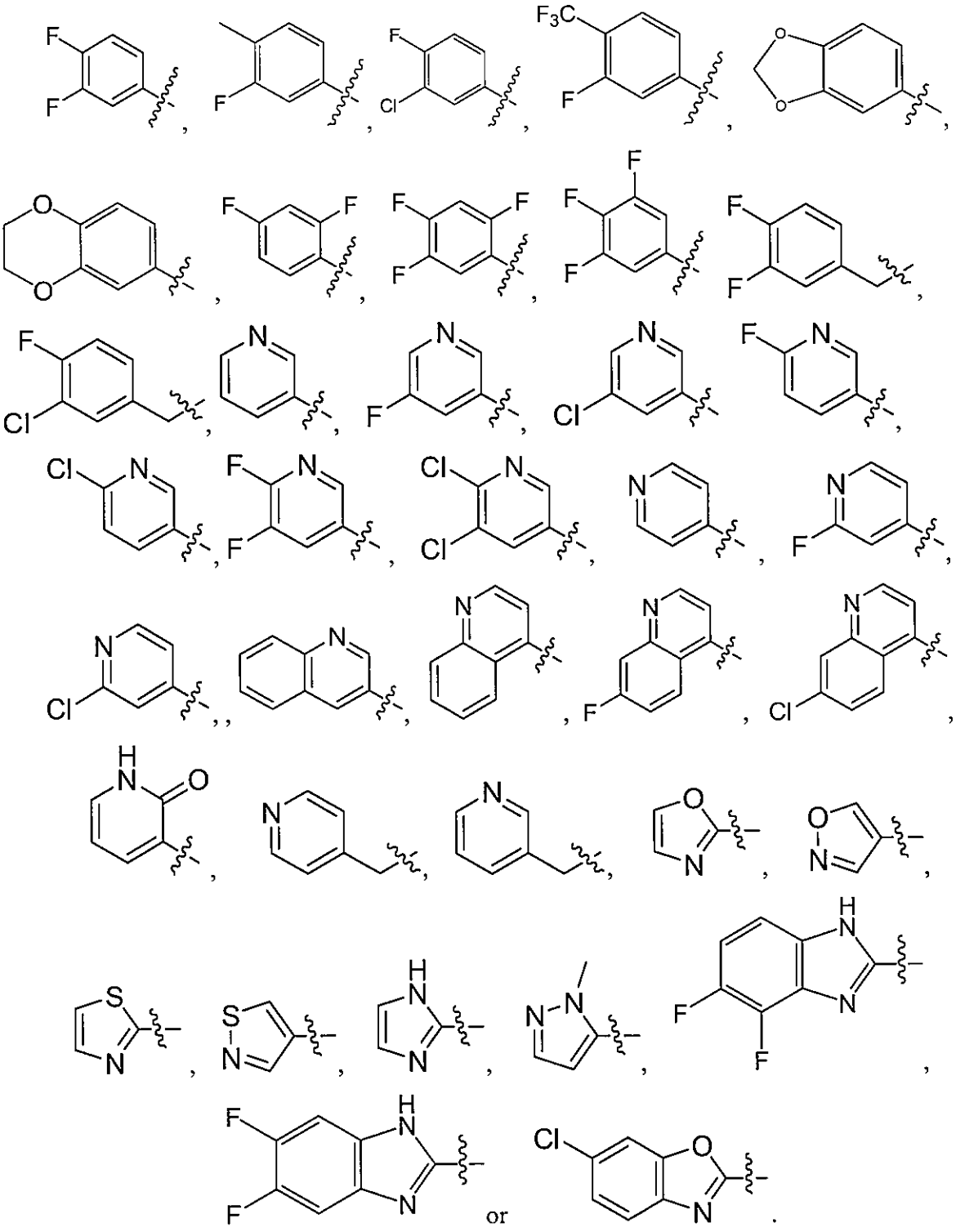
19. The compound of claim 18, which is represented by a structure



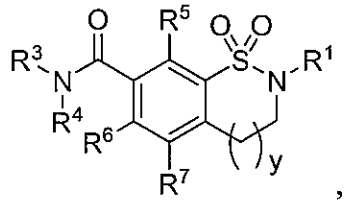
wherein R^1 is



and R^3 is



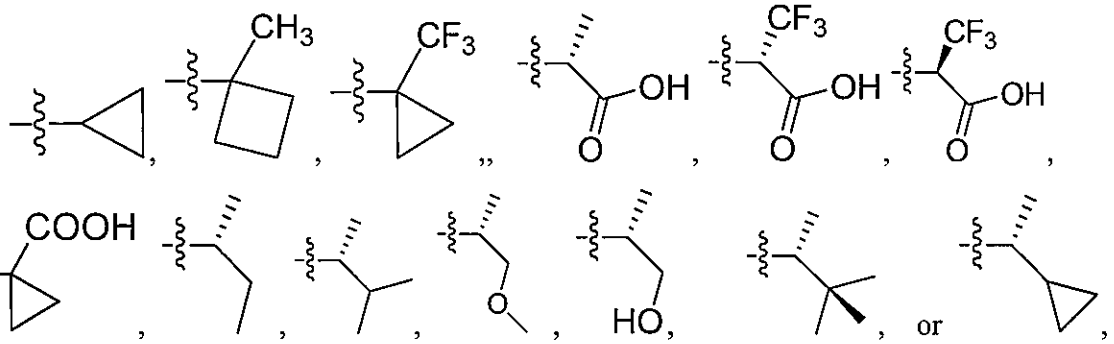
20. The compound of claim 3, the compound being represented by a structure:

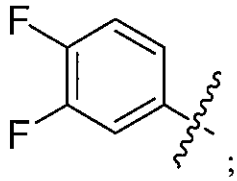


wherein y is 0 or 1.

21. The compound of claim 20, wherein

R^1 is isopropyl, t-butyl,

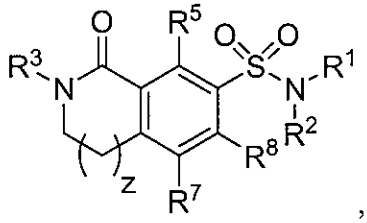


R^3 is ;

R^4, R^5, and R^7 are H; and

R^6 is H or F.

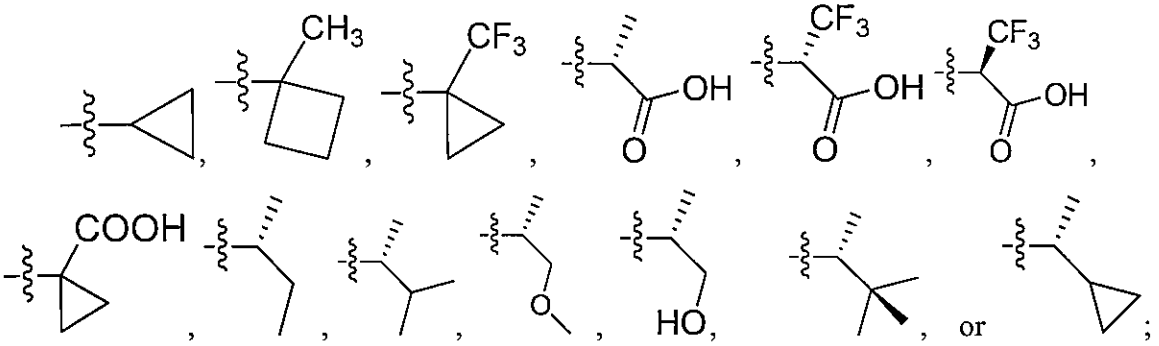
22. The compound of claim 3, the compound being represented by a structure:



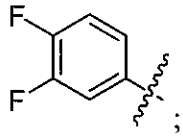
wherein z is 0 or 1.

23. The compound of claim 22, wherein

R^1 is isopropyl, tert-butyl,



;

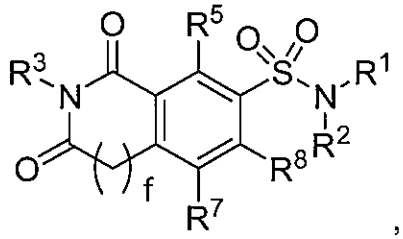
R^3 is 

;

R^5, and R^7 are H; and

R^8 is H or F.

24. The compound of claim 3, the compound being represented by a structure:

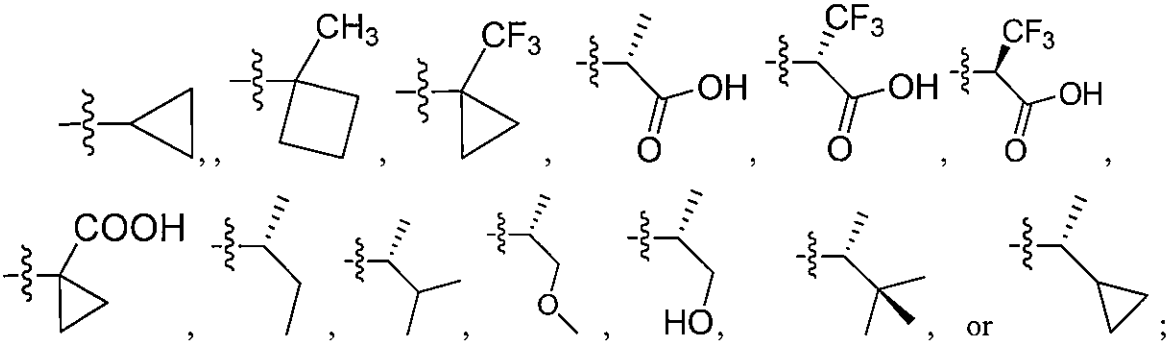


,

wherein f is 0 or 1.

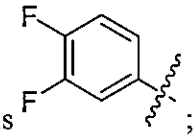
25. The compound of claim 24, wherein

R^1 is isopropyl, tert butyl,



;

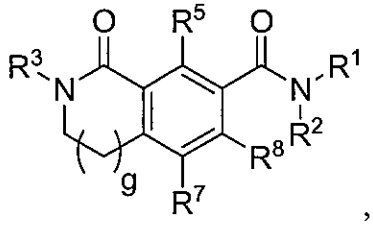
R^2 is H;

R^3 is ;

R^5, and R^7 are H; and

R^8 is H or F.

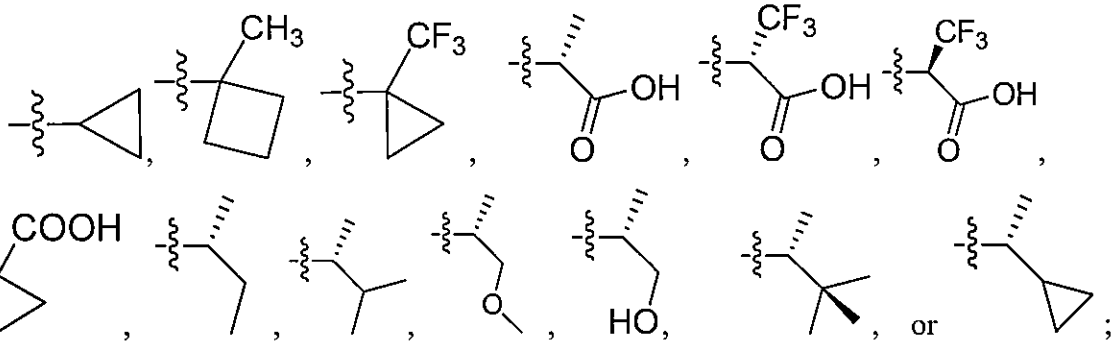
26. The compound of claim 3, the compound being represented by a structure:

,

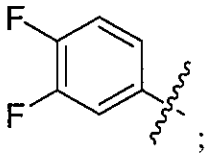
wherein g is 0 or 1.

27. The compound of claim 26, wherein

R^1 is isopropyl, tert-butyl,



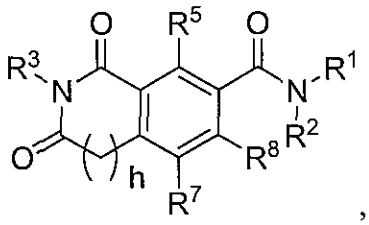
R^2 is H;

R^3 is ;

R^5, and R^7 are H; and

R^8 is H or F.

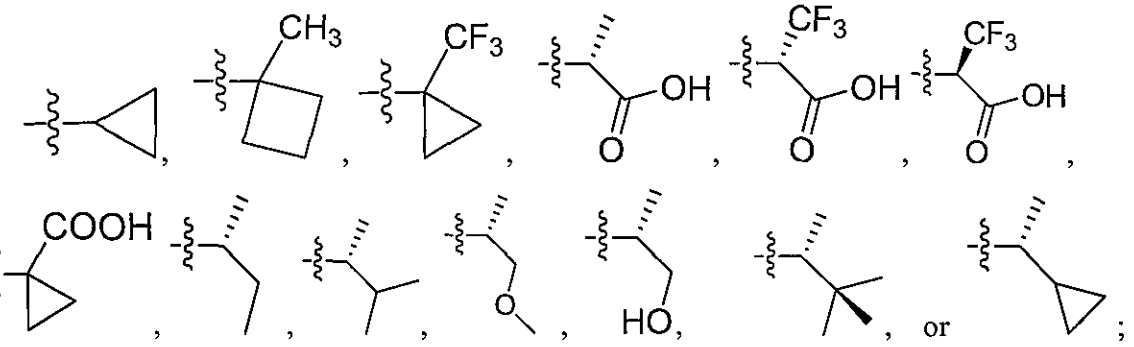
28. The compound of claim 3, the compound being represented by a structure:



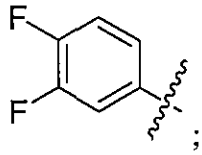
wherein h is 0 or 1.

29. The compound of claim 28, wherein

R^1 is isopropyl, *tert*-butyl,



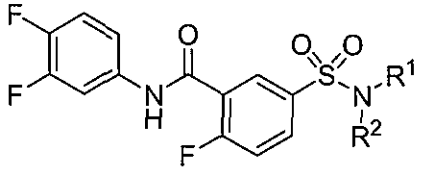
R^2 is H;

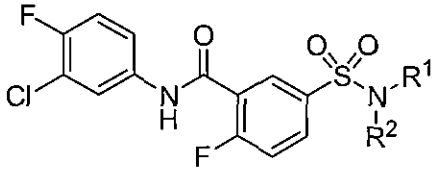
R^3 is ;

R^5, and R^7 are H; and

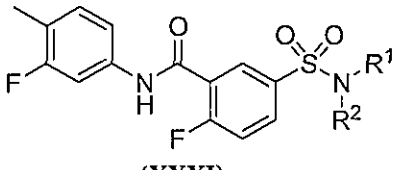
R^8 is H or F.

30. A compound represented by a structure selected from the group consisting of:

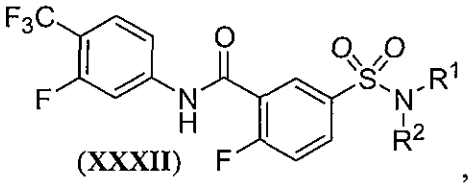


(XXIX), 

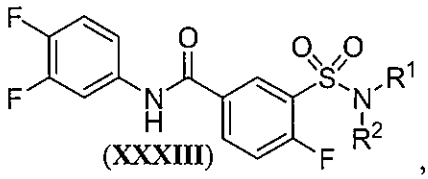
(XXX),



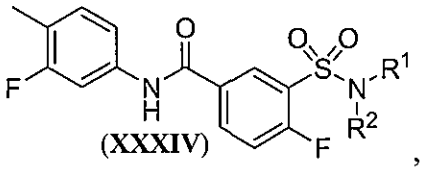
(XXXI) ,



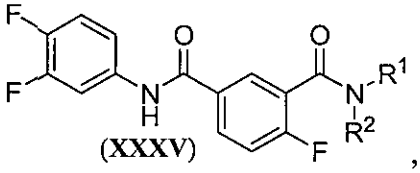
(XXXII) ,



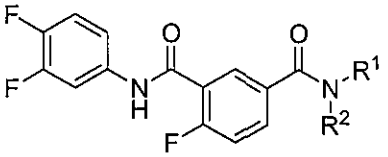
(XXXIII) ,



(XXXIV) ,

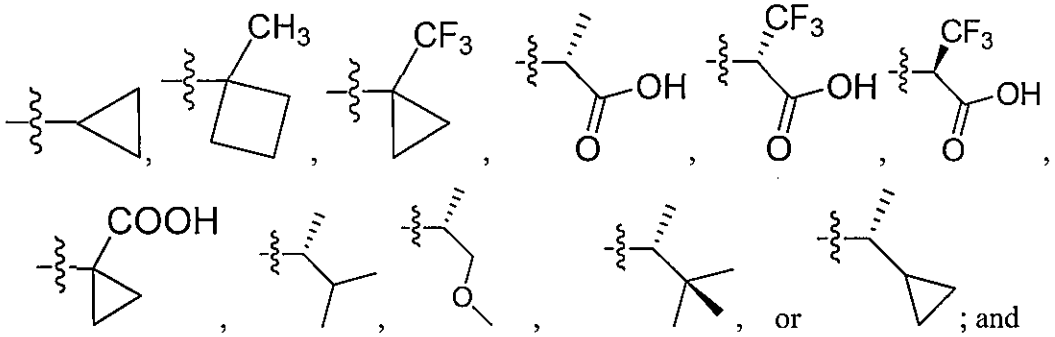


(XXXV) , and



(XXXVI) , wherein

R^1 is isopropyl, t-butyl,

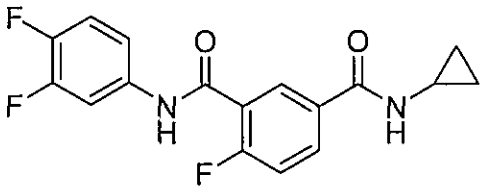


; and

R^2 is H,

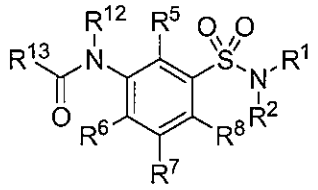
or an enantiomer, diastereomer, pharmaceutically accepted salt, hydrate, or solvate thereof.

31. The compound-of claim 30, the compound being represented by the structure of Formula (**XXII**):



(XXII) .

32. A compound represented by the structure of Formula (**XXI**), or an enantiomer, diastereomer or pharmaceutically accepted salt thereof:



(XXI)

wherein:

R^1 is selected from the group consisting of optionally substituted C_{1-6} linear alkyl, optionally substituted C_{1-6} branched alkyl, optionally substituted C_{3-7} cycloalkyl, optionally substituted aryl, and optionally substituted benzyl;

R^2 is selected from the group consisting of hydrogen, optionally substituted C_{1-6} linear alkyl, optionally substituted C_{3-7} cycloalkyl, and optionally substituted heterocyclic; or

R^1 and R^2 are taken together with the atoms to which they are bound to form an optionally substituted heterocycle with 3 to 10 atoms;

R^5 is selected from the group consisting of hydrogen, halogen, optionally substituted C_{1-6} linear alkyl, optionally substituted C_{1-6} branched alkyl, optionally substituted C_{1-6} haloalkyl, OR^9, cyano, and $N(R^9)_2$;

R^6 is selected from the group consisting of hydrogen, halogen, optionally substituted C_{1-6} linear alkyl, optionally substituted C_{1-6} branched alkyl, optionally substituted C_{1-6} haloalkyl, OR^9, cyano, and $N(R^9)_2$;

R^7 is selected from the group consisting of hydrogen, halogen, optionally substituted C_{1-6} linear alkyl, optionally substituted C_{1-6} branched alkyl, optionally substituted C_{1-6} haloalkyl, OR^9, cyano, and $N(R^9)_2$;

R^8 is selected from the group consisting of hydrogen, halogen, optionally substituted C_{1-6} linear alkyl, optionally substituted C_{1-6} branched alkyl, optionally substituted C_{1-6} haloalkyl, OR^9, cyano, and $N(R^9)_2$; or

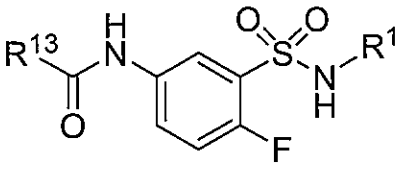
R^2 and R^8 are taken together with the atoms to which they are bound to form an optionally substituted ring with 5 to 6 atoms;

R^9 is independently at each occurrence selected from the group consisting of hydrogen, optionally substituted C_{1-6} linear alkyl, optionally substituted C_{1-6} branched alkyl, optionally substituted C_{3-7} cycloalkyl, optionally substituted aryl, optionally substituted benzyl, optionally substituted heterocyclyl, and optionally substituted heteroaryl.

R^{12} is selected from the group consisting of hydrogen, optionally substituted C_{1-6} linear alkyl, optionally substituted C_{1-6} branched alkyl, and optionally substituted C_{3-7} cycloalkyl; and

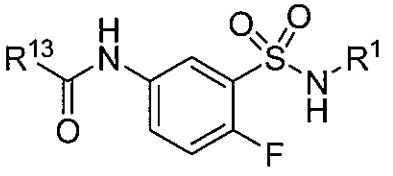
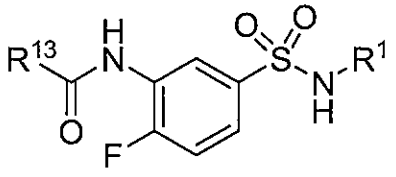
R^{13} is selected from the group consisting of optionally substituted aryl, optionally substituted benzyl, optionally substituted alkylaryl, optionally substituted heteroaryl, and optionally substituted alkylheteroaryl.

33. The compound of claim 32, the compound being represented by structure of Formula **(XXXXVIII)**:

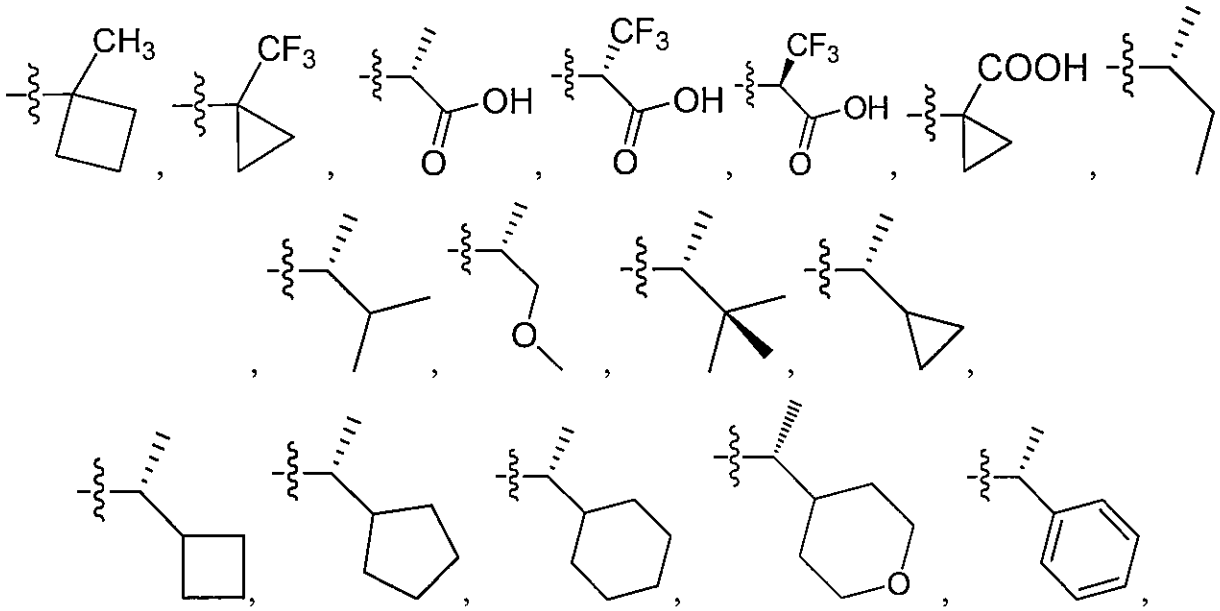


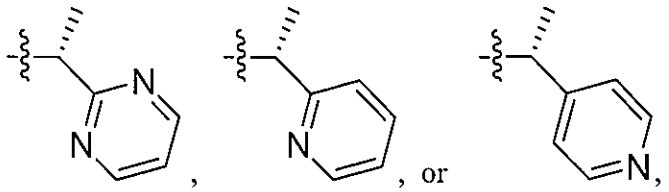
(XXXXVIII)

34. The compound of claim 32, the compound being represented by the structure of

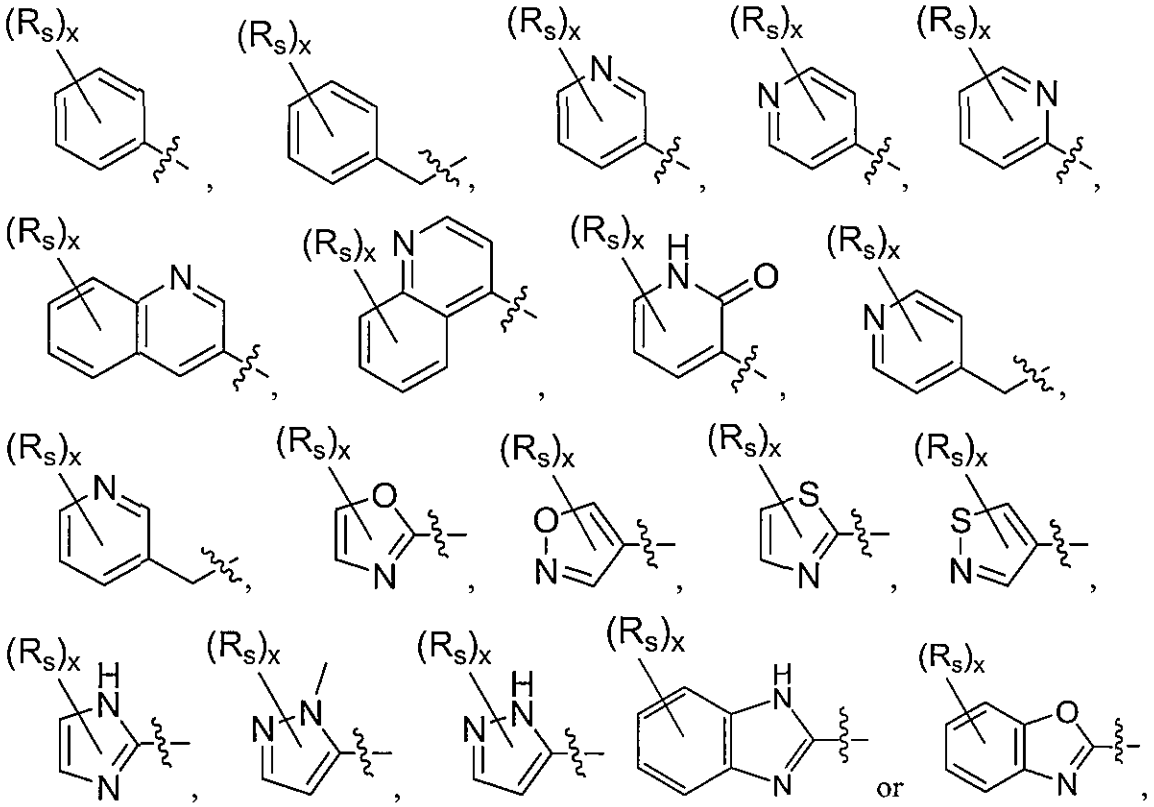

or


wherein R^1 is



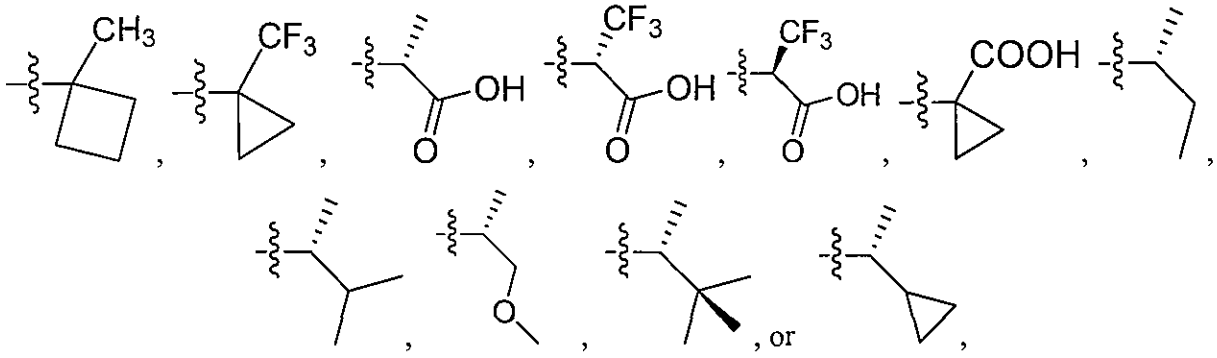


R^{13} is

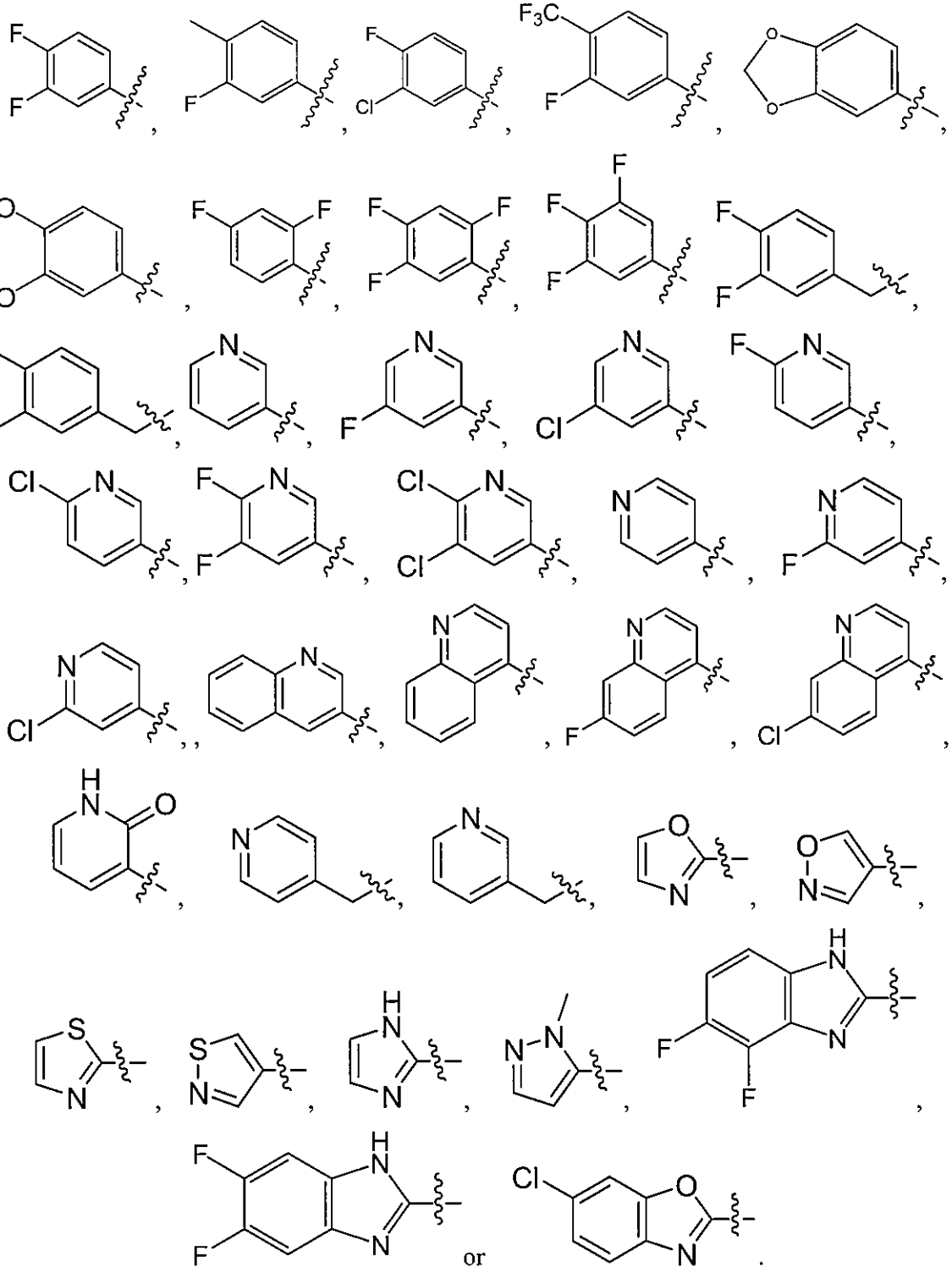


R_S is independently at each occurrence selected from the group consisting of bromo, chloro, fluoro, cyano, hydroxyl, optionally fluorinated C_{1-6} alkyl, and -O-(C_{1-6} alkyl), or when two are taken form a fused cyclic or heterocyclic moiety; and x is 0, 1, 2, or 3.

35. The compound of claim 34, wherein R^1 is



and R^{13} is



36. A pharmaceutical composition comprising a compound of claim 1 and a pharmaceutically acceptable excipient.

37. An effective amount of at least one compound of claim 1 for use in treating a Hepatitis B virus infection in a patient in need of such treatment.

38. A pharmaceutical composition comprising a compound of claim 18 and a pharmaceutically acceptable excipient.

39. An effective amount of at least one compound of claim 18 for use in treating a Hepatitis B virus infection in a patient in need of such treatment.

40. A pharmaceutical composition comprising a compound of claim 30 and a pharmaceutically acceptable excipient.

41. An effective amount of at least one compound of claim 30 for use in treating a Hepatitis B virus infection in a patient in need of such treatment.