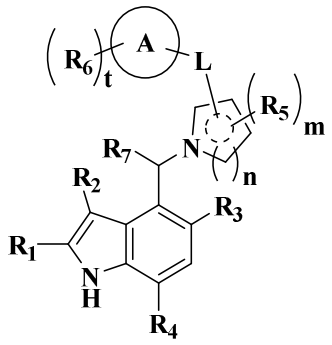
CLAIMS

1. A compound of formula (I):



(I)

or tautomer, pharmaceutically acceptable salt thereof, wherein:

A is cycloalkyl, heterocyclyl, aryl or heteroaryl;

L is bond, $(CR_aR_b)_p$ or absent;

R_a and R_b are independently selected from the group consisting of hydrogen, deuterium, halogen, amino, cyano, hydroxy, alkyl, alkoxy, alkylthio, haloalkyl, hydroxyalkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl;

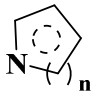
$R_1$and R_2 are independently selected from the group consisting of hydrogen, deuterium, halogen, amino, cyano, hydroxy, alkyl, alkoxy, alkylthio, haloalkyl and hydroxyalkyl;

R_3 and R_4 are independently selected from the group consisting of hydrogen, deuterium, halogen, amino, cyano, hydroxy, alkyl, alkoxy, alkylthio, haloalkyl, haloalkenyl, hydroxyalkyl, deuterated alkoxy, haloalkoxy, cycloalkyl, heterocyclyl, aryl, heteroaryl, cycloalkylxoy, heterocyclylxoy, arylxoy and heteroarylxoy, optionally the hydroxy, alkyl, alkoxy, alkylthio, haloalkyl, hydroxyalkyl, deuterated alkoxy, haloalkoxy, cycloalkyl, heterocyclyl, aryl, heteroaryl, cycloalkylxoy, heterocyclylxoy, arylxoy and heteroarylxoy substituted with one or more substituents selected from deuterium, halogen, amino, cyano, hydroxy, alkyl, alkoxy, alkylthio, haloalkyl, hydroxyalkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl;

two of R_5 together with the C atom to which they are attached form cycloalkyl or heterocyclyl, optionally the cycloalkyl or heterocyclyl substituted with one or more substituents selected from deuterium, halogen, amino, cyano, hydroxy, alkyl, alkoxy, alkylalkoxy, alkoxyalkyl, alkylthio, haloalkyl and hydroxyalkyl;

or R_5 is independently selected from the group consisting of hydrogen, deuterium, halogen, amino, cyano, hydroxy, alkyl, alkenyl, alkynyl, alkoxy, alkylthio, haloalkyl, hydroxyalkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, optionally the amino, alkyl, alkoxy, alkylthio, haloalkyl, hydroxyalkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl substituted with one or more substituents selected from deuterium, halogen, amino, cyano, hydroxy, alkyl, alkoxy, alkylthio, haloalkyl and hydroxyalkyl;

R_6 is selected from the group consisting of hydrogen, deuterium, halogen, amino, cyano, hydroxy, alkyl, alkoxy, alkylthio, haloalkyl, hydroxyalkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, $-(CH_2)_rOR_8$,$-(CH_2)_rC(O)R_8$, -S(O)NHalkyl, -SO_2alkyl, -C(O)NHSO_2alkyl and -SO_2NHC(O)alkyl;

or, R_6 together with the C atom in  to form cycloalkyl or heterocyclyl, optionally the cycloalkyl or heterocyclyl substituted with one or more substituents selected from deuterium, halogen, amino, cyano, hydroxy, alkyl, alkoxy, alkylalkoxy, alkoxyalkyl, alkylthio, haloalkyl and hydroxyalkyl;

R_7 is selected from the group consisting of hydrogen, deuterium, halogen, amino, cyano, hydroxy, alkyl, alkoxy, alkylthio, haloalkyl and hydroxyalkyl;

R_8 is selected from the group consisting of hydrogen, deuterium, halogen, amino, cyano, hydroxy, alkyl, alkoxy, alkylthio, haloalkyl and hydroxyalkyl;

p is 1, 2 or 3;

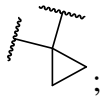
r is 0, 1, 2 or 3;

t is 1, 2 or 3;

m is 1, 2 or 3; and

n is 0, 1, 2 or 3;

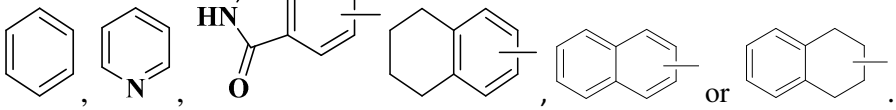
provided that if

R_1 and R_2 is hydrogen, R_3 is cyclopropyl or methoxy, R_4 is methyl, L is bond, R_6 is –COOH or –$COOCH_3$, R_7 is hydrogen or trifluoromethyl, A is phenyl, and n is 1, 2 or 3, R_5 is not hydrogen or ;

R_1 and R_2 is hydrogen, R_4 is methyl, L is bond, R_7 is hydrogen, A is phenyl, pyridine or thiazolyl, m is 1, and n is 2, R_5 is not hydrogen, amino, hydroxy, methyl, ethyl, methoxy, ethyoxyl, propoxy, methylol, ethoxyl, cyanomethyl and methylamino;

R_1 and R_2 is hydrogen, R_4 is methyl, L is bond, R_7 is hydrogen, A is phenyl, m is 2 or 3, and n is 2, R_5 is not hydrogen or methyl.

2. The compound of claim 1, or tautomer, pharmaceutically acceptable salt thereof, wherein A is C_{6-10} aryl or 5-10 membered heteroaryl;preferably,A is phenyl, benzocycloalkyl, or 5-8 membered heteroaryl containing 1, 2 or 3 of N heteroatoms;

more preferably, A is .

3. The compound of claim 1, or tautomer, pharmaceutically acceptable salt thereof, wherein

(i) L is bond, CH_2 or absent;

or (ii) R_1 and R_2 are hydrogen;

or (iii) R_3 and R_4 are independently selected from the group consisting of hydrogen, deuterium, halogen, amino, cyano, hydroxy, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} alkylthio, C_{1-6} haloalkyl, C_{1-6} haloalkenyl C_{1-6} hydroxyalkyl, deuterated C_{1-6} alkoxy, C_{1-6} haloalkoxy, C_{3-6} cycloalkyl, 4-10 membered heterocyclyl, C_{6-10} aryl, 5-10 membered heteroaryl, C_{3-6} cycloalkyloxy, 4-10

membered heterocyclyloxy, C_{6-10} aryloxy and 5-10 membered heteroaryloxy,optionally the C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} alkylthio, C_{1-6} haloalkyl, C_{1-6} hydroxyalkyl, deuterated C_{1-6} alkoxy, C_{1-6} haloalkoxy substituted with one or more substituents selected from deuterium, halogen, amino, cyano, hydroxy, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} alkylthio, C_{1-6} haloalkyl, C_{1-6} hydroxyalkyl, C_{3-6} cycloalkyl, 4-10 membered heterocyclyl, C_{6-10} aryl and 5-10 membered heteroaryl;

preferably, R_3 and R_4 are independently selected from the group consisting of deuterium, halogen, C_{1-3} alkyl, C_{1-3} alkoxy, deuterated C_{1-3} alkoxy, C_{1-3} haloalkoxy, C_{3-6} cycloalkyl and C_{3-6} cycloalkyloxy, optionally the C_{1-3} alkyl, C_{1-3} alkoxy, deuterated C_{1-3} alkoxy, C_{1-3} haloalkoxy substituted with one or more substituents selected from C_{3-6} cycloalkyl, 4-6 membered heterocyclyl, C_{6-10} aryl and 5-10 membered heteroaryl;

or (iv) R_6 is selected from the group consisting of hydrogen, deuterium, halogen, amino, cyano, hydroxy, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} alkylthio, C_{1-6} haloalkyl, C_{1-6} hydroxyalkyl, C_{3-8} cycloalkyl, 4-10 membered heterocyclyl, C_{5-10} aryl and 5-10 membered heteroaryl, $–(CH_2)_rC_{1-6}$ alkoxy, $–(CH_2)_rC(O)OH$, $-S(O)NHC_{1-6}$ alkyl, $-SO_2C_{1-6}$ alkyl, $-C(O)NHSO_2C_{1-6}$ alkyl and $-SO_2NHC(O)C_{1-6}$ alkyl; preferably, R_6 is -F, -OMe, $-CH_2OH$, $-CH_2OCH_3$, $-CH_2F$, $-CF_2H$, $-CF_3$, –COOH, $-C(O)NHSO_2CH_3$, $-S(O)NHCH_3$, or 5-6membered heterocyclyl containing 1-3 of heteroatom selected from N, O and S, or 5-6 membered heteroaryl containing 1-3 of heteroatom selected from N, O and S.

4. The compound of claim 1, or tautomer, pharmaceutically acceptable salt thereof, wherein

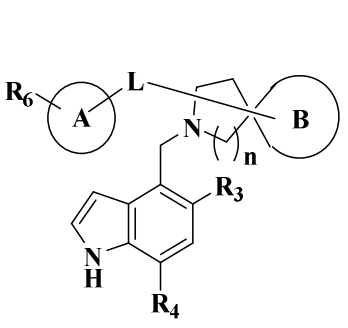
two of R_5 together with the C atom to which they are attached form C_{3-6} cycloalkyl or 4-6 membered heterocyclyl containing 1, 2 or 3 heteroatoms selected from N, O or S, optionally substituted with one or more substituents selected from deuterium, halogen, amino, cyano, hydroxy, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} alkylC_{1-6} alkoxy, C_{1-6} alkoxyC_{1-6} alkyl, C_{1-6} alkylthio, C_{1-6} haloalkyl and C_{1-6} hydroxyalkyl;

or R_5 is independently selected from the group consisting of hydrogen, deuterium, halogen, amino, cyano, hydroxy, C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{1-6} alkoxy, C_{1-6} alkylthio, C_{1-6} haloalkyl, C_{1-6} hydroxyalkyl, C_{3-8} cycloalkyl, 4-10 membered heterocyclyl, C_{5-10} aryl and 5-10 membered heteroaryl, optionally the C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} alkylthio, C_{1-6} haloalkyl, C_{1-6}

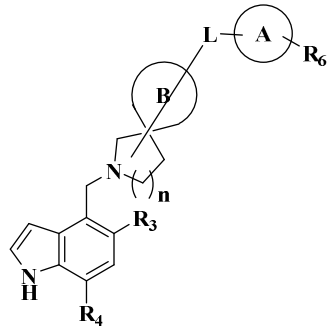
hydroxyalkyl, C_{3-8} cycloalkyl, 4-10 membered heterocyclyl, C_{5-10} aryl and 5-10 membered heteroaryl substituted with one or more substituents selected from deuterium, halogen, amino, cyano, hydroxy, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} alkylthio, C_{1-6} haloalkyl and C_{1-6} hydroxyalkyl.

5. The compound of claim 1, or tautomer, pharmaceutically acceptable salt thereof, wherein R_7 is hydrogen or C_{1-3} alkyl.

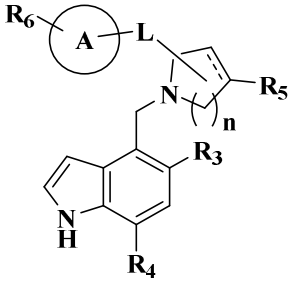
6. The compound of any one of claims 1 to 5, or tautomer, pharmaceutically acceptable salt thereof, wherein the compound is of formula (II-a)- (II-e):



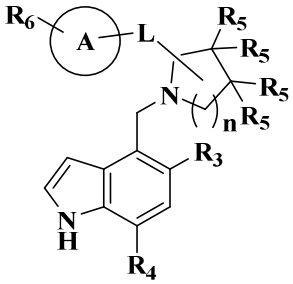
(II-c) ,



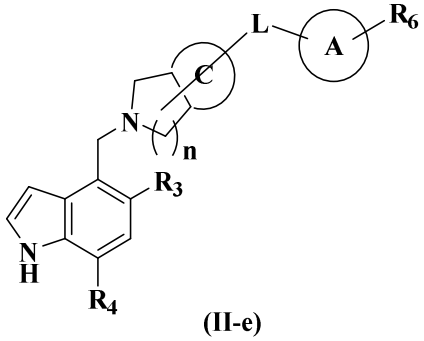
(II-d) ,



(II-a) ,



(II-b) , or



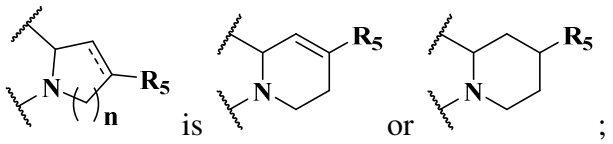
(II-e)

wherein,

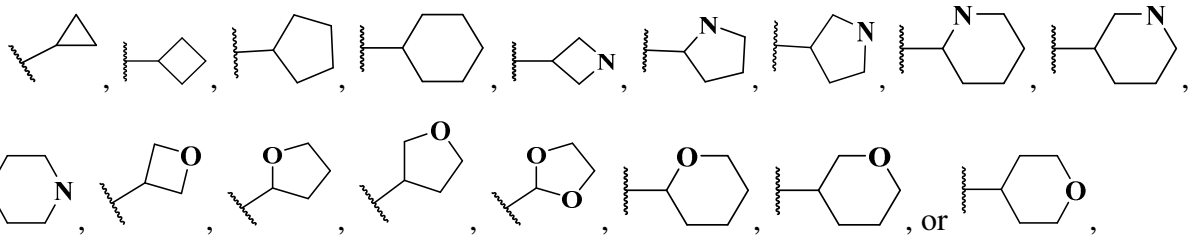
 is single or double bond;

R_5 is s independently selected from the group consisting of hydrogen, deuterium, halogen, amino, cyano, hydroxy, C_{1-3} alkyl, C_{1-3} alkoxy, C_{1-3} alkylthio, C_{1-3} haloalkyl, C_{1-3} hydroxyalkyl, C_{3-6} cycloalkyl, 4-6 membered heterocyclyl containing 1, 2 or 3 heteroatoms selected from N, O

or S, C_{5-10} aryl and 5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from N, O or S, optionally the C_{1-3} alkyl, C_{1-3} alkoxy, C_{1-3} alkylthio, C_{1-3} haloalkyl, C_{1-3} hydroxyalkyl, C_{3-6} cycloalkyl, 4-6 membered heterocyclyl, C_{5-10} aryl and 5-6 membered heteroaryl substituted with one or more substituents selected from deuterium, halogen, amino, cyano, hydroxy, C_{1-3} alkyl, C_{1-3} alkoxy, C_{1-3} alkylthio, C_{1-3} haloalkyl and C_{1-3} hydroxyalkyl;

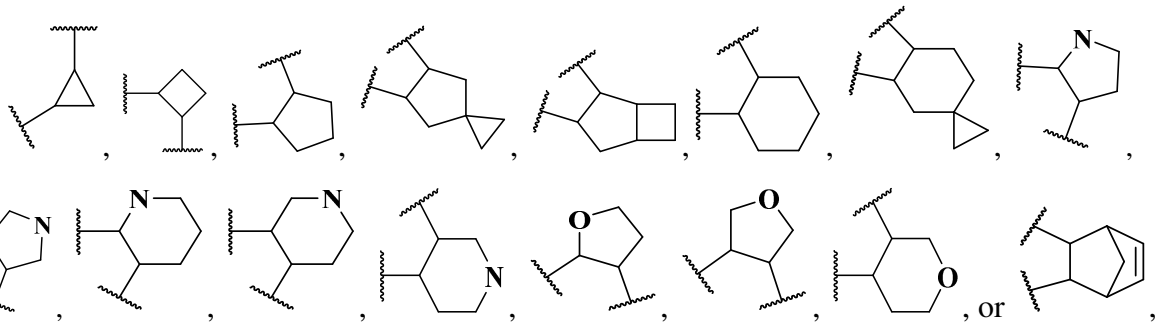


is or ;

B is 

, or ,

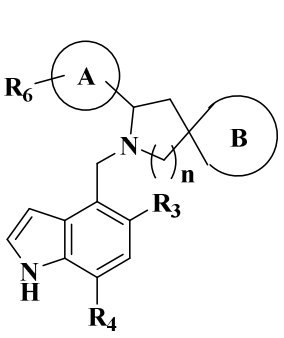
optionally substituted with one or more substituents selected from halogen, deuterium, amino, cyano, hydroxy, C_{1-3} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-3} alkoxy, C_{1-3} alkylC_{1-3} alkoxy, C_{1-3} alkoxyC_{1-3} alkyl, C_{1-3}alkylthio, C_{1-3} haloalkyl and C_{1-3} hydroxyalkyl;

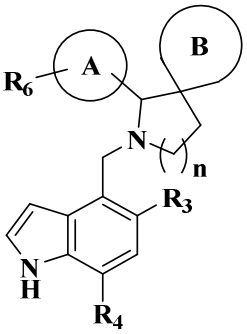
C is 

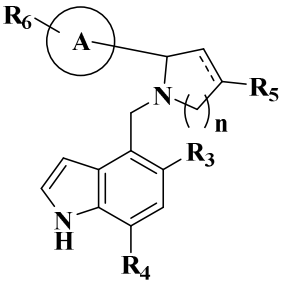
, or ,

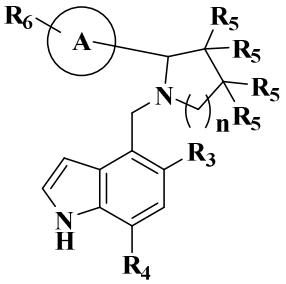
optionally substituted with one or more substituents selected from deuterium, halogen, amino, cyano, hydroxy, C_{1-3} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-3} alkoxy, C_{1-3} alkylC_{1-3} alkoxy, C_{1-3} alkoxyC_{1-3} alkyl, C_{1-3}alkylthio, C_{1-3} haloalkyl and C_{1-3} hydroxyalkyl.

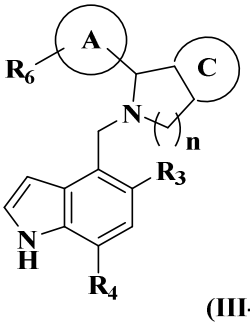
7. The compound of claim 6, or tautomer, pharmaceutically acceptable salt thereof, wherein the compound is of formula (III-a)- (III-e):


(III-c)


(III-d)

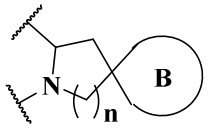

(III-a)

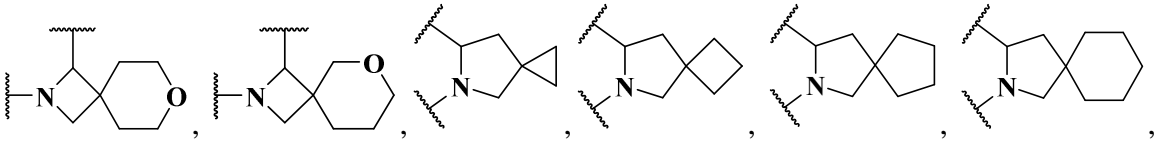

(III-b)

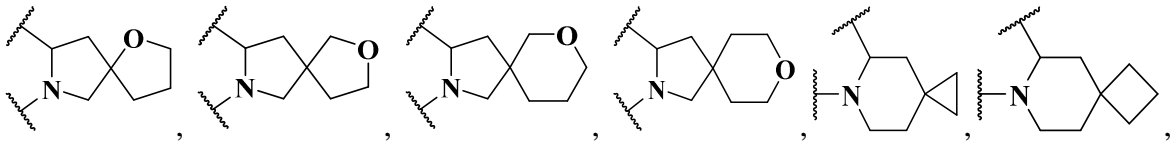

(III-e)

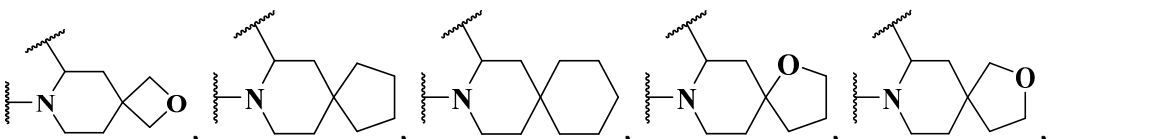
or

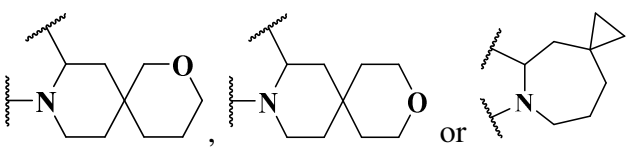
wherein,


is

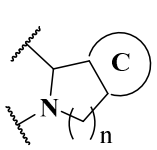


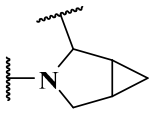
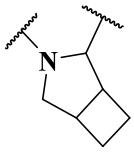
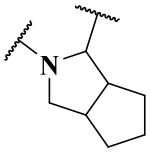
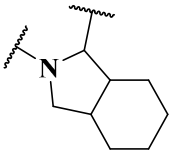
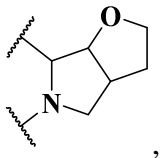
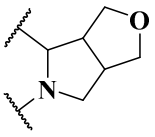
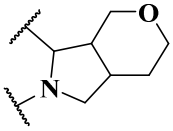
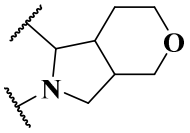
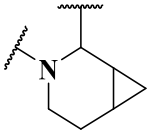
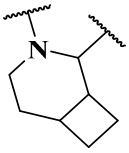
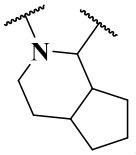
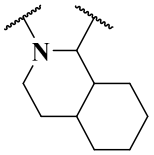
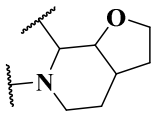
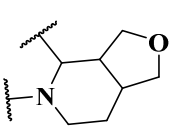
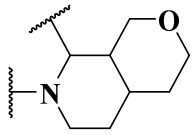
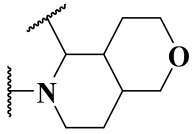
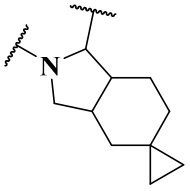
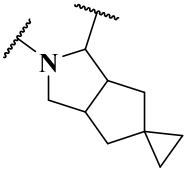
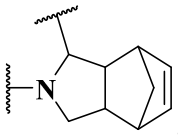





, optionally substituted with one or more substituents selected from halogen, deuterium, amino, cyano, hydroxy, C_{1-3} alkyl, C_{2-4} alkenyl,

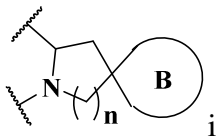
C_{2-4} alkynyl, C_{1-3} alkoxy, C_{1-3} alkylC_{1-3} alkoxy, C_{1-3} alkoxyC_{1-3} alkyl, C_{1-3}alkylthio, C_{1-3} haloalkyl and C_{1-3} hydroxyalkyl;

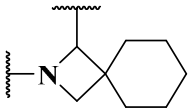
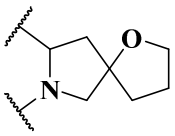
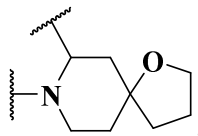
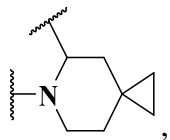


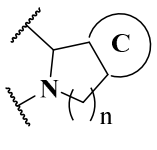
is , , , , , , , , , , , , , , , , , , or ,

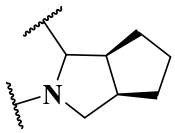
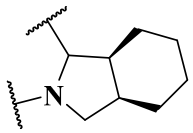
optionally substituted with one or more substituents selected from deuterium, halogen, amino, cyano, hydroxy, C_{1-3} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-3} alkoxy, C_{1-3} alkylC_{1-3} alkoxy, C_{1-3} alkoxyC_{1-3} alkyl, C_{1-3}alkylthio, C_{1-3} haloalkyl and C_{1-3} hydroxyalkyl.

8. The compound of claim 7, or tautomer, pharmaceutically acceptable salt thereof, wherein,

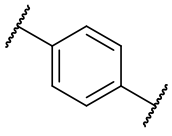


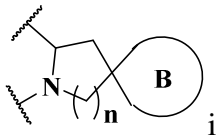
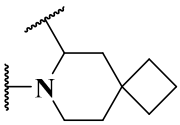
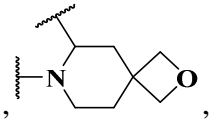
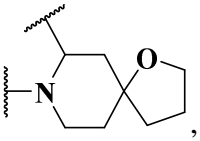
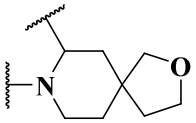
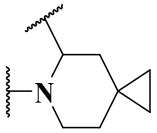
is , , , or , optionally substituted with one or more substituents selected from halogen, deuterium, amino, cyano, hydroxy, C_{1-3} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-3} alkoxy, C_{1-3} alkylC_{1-3} alkoxy, C_{1-3} alkoxyC_{1-3} alkyl, C_{1-3}alkylthio, C_{1-3} haloalkyl and C_{1-3} hydroxyalkyl;



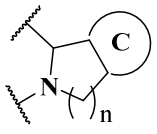
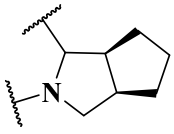
is  or , optionally substituted with one or more substituents selected from deuterium, halogen, amino, cyano, hydroxy, C_{1-3} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-3} alkoxy, C_{1-3} alkylC_{1-3} alkoxy, C_{1-3} alkoxyC_{1-3} alkyl, C_{1-3}alkylthio, C_{1-3} haloalkyl and C_{1-3} hydroxyalkyl.

9. The compound of claim 7, or tautomer, pharmaceutically acceptable salt thereof, wherein,

A is ;

 is , , , ,or ,

optionally substituted with one or more substituents selected from halogen, deuterium, amino, cyano, hydroxy, C_{1-3} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-3} alkoxy, C_{1-3} alkylC_{1-3} alkoxy, C_{1-3} alkoxyC_{1-3} alkyl, C_{1-3}alkylthio, C_{1-3} haloalkyl and C_{1-3} hydroxyalkyl;

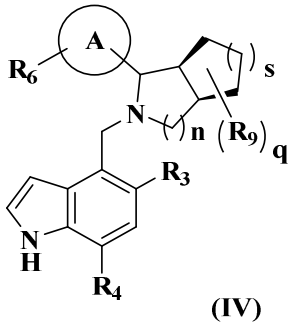
 is , optionally substituted with one or more substituents selected from deuterium, halogen, amino, cyano, hydroxy, C_{1-3} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-3} alkoxy, C_{1-3} alkylC_{1-3} alkoxy, C_{1-3} alkoxyC_{1-3} alkyl, C_{1-3}alkylthio, C_{1-3} haloalkyl and C_{1-3} hydroxyalkyl;

each of R_3 and R_4 is independently selected from deuterium, halogen, C_{1-3} alkyl, C_{1-3} alkoxy, C_{3-6} cycloalkyl, C_{3-6} cycloalkyloxy, deuterated C_{1-3} alkoxy, C_{1-3} haloalkoxy and C_{3-6} cycloalkylC_{1-3} alkoxy;

R_5 is hydrogen, halogen, cyano, C_{1-3} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-3} alkoxy, C_{1-3} haloalkyl, C_{1-3} alkylC_{1-3} alkoxy, C_{1-3} alkoxyC_{1-3} alkyl, C_{3-6} cycloalkyl, 5 membered heteroaryl containing1or 2 ring heteroatoms independently selected from N or O;

R_6 is –COOH or -S(O)NHCH$_3$.

10. The compound of any one of claims 1 to 5, or tautomer, pharmaceutically acceptable salt thereof, wherein the compound is of formula (IV):



(IV)

R_9 is hydrogen, halogen, amino, cyano, hydroxy, C_{1-3} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-3} alkoxy, C_{1-3}alkylthio, C_{1-3} haloalkyl and C_{1-3} hydroxyalkyl, optionally substituted with one or more substituents selected from halogen, amino, hydroxy, C_{1-3} alkyl, C_{1-3} alkoxy, C_{1-3} alkylamino, C_{3-6} cycloalkyl and 5-6 membered heterocyclyl containing1or 2 ring heteroatoms independently selected from N or O;

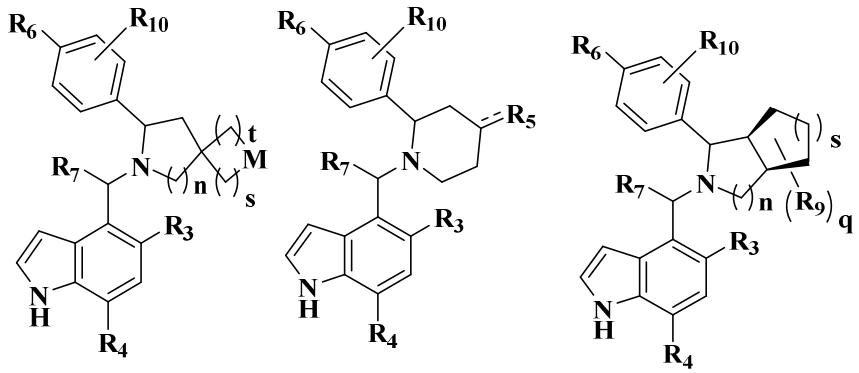
or, two of R_9 together with the C atom to which they are attached from C_{3-6} cycloalkyl, optionally substituted with one or more substituents selected from deuterium, halogen, amino, cyano, hydroxy, C_{1-3} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-3} alkylamino, C_{1-3} alkoxy, C_{1-3} alkylC_{1-3} alkoxy, C_{1-3} alkoxyC_{1-3} alkyl, C_{1-3}alkylthio, C_{1-3} haloalkyl and C_{1-3} hydroxyalkyl;

n is 1 or 2;

q is 1, 2 or 3, and

s is 0, 1 or 2.

11. The compound of any one of claims 1 to 5, or tautomer, pharmaceutically acceptable salt thereof, wherein the compound is of formula (V-a)- (V-c):



(V-b) (V-a) (V-c)

M is CR_cR_d or O ;

R_c and R_d are independently selected from halogen, hydrogen or C_{1-3} alkyl;

R_3 and R_4 are independently selected from C_{1-3} alkyl, C_{1-3} alkoxy or C_{3-6} cycloalkyl;

R_5 is hydrogen, halogen, C_{1-3} alkyl or C_{1-3} haloalkyl;

R_6 is –COOH, -C(O)$NHSO_2CH_3$ or -S(O)$NHCH_3$;

R_7 is hydrogen, C_{1-3} alkyl or C_{1-3} hydroxyalkyl;

R_9 is hydrogen, halogen, C_{1-3} alkyl or C_{1-3} haloalkyl;

or, two of R_9 together with the C atom to which they are attached form C_{3-6} cycloalkyl;

R_{10} is C_{1-3} alkyl, hydrogen or C_{1-3} haloalkyl;

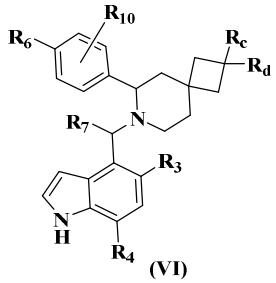
n is 1 or 2;

q is 1, 2 or 3,

s is 0, 1 or 2, and

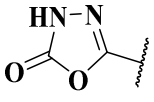
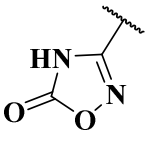
t is 1 or 2.

12. The compound of any one of claims 1 to 5, or tautomer, pharmaceutically acceptable salt thereof, wherein the compound is of formula (VI):



(VI)

R_3 and R_4 are independently selected from deuterium, halogen, C_{1-3} alkyl, C_{1-3} alkoxy, C_{3-6} cycloalkyl, C_{3-6} cycloalkyloxy, deuterated C_{1-3} alkoxy, C_{1-3} haloalkoxy and C_{3-6} cycloalkylC_{1-3} alkoxy;

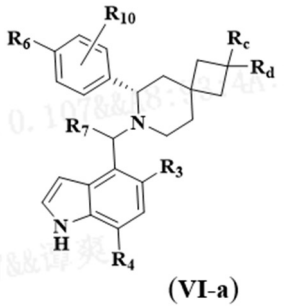
R_6 is –COOH, -C(O)NHSO$_2$CH$_3$, -S(O)NHCH$_3$,  or  ;

R_7 is hydrogen, C_{1-3} alkyl or C_{1-3} hydroxyalkyl;

R_{10} is hydrogen, C_{1-3} alkyl or C_{1-3} haloalkyl;

each of R_c and R_d is independently selected from halogen, hydrogen, C_{1-3} alkyl and C_{1-3} haloalkyl.

13. The compound of any one of claims 1 to 5 or claims 11 to 12, or tautomer, pharmaceutically acceptable salt thereof, wherein the compound is of formula (VI-a):



(VI-a) .

14. The compound of claim 13, or tautomer, pharmaceutically acceptable salt thereof, wherein:

R_3 and R_4 are independently selected from deuterium, halogen, C_{1-3} alkyl, C_{1-3} alkoxy, C_{3-6} cycloalkyl;

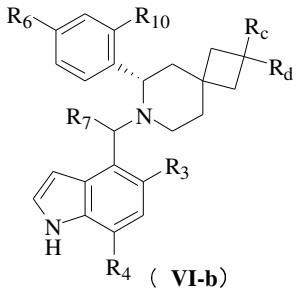
R_6 is –COOH, -C(O)NHSO$_2$CH$_3$, -S(O)NHCH$_3$;

R_7 is hydrogen, C_{1-3} alkyl or C_{1-3} hydroxyalkyl;

R_{10} is hydrogen, C_{1-3} alkyl or C_{1-3} haloalkyl;

each of R_c and R_d is independently selected from halogen, hydrogen, C_{1-3} alkyl and C_{1-3} haloalkyl.

15. The compound of claim 13, or tautomer, pharmaceutically acceptable salt thereof, wherein the compound is of formula (VI-b):



（ **VI-b**）

R_3 and R_4 are independently selected from deuterium, halogen, C_{1-3} alkyl, C_{1-3} alkoxy, cyclopropyl, cyclobutyl;

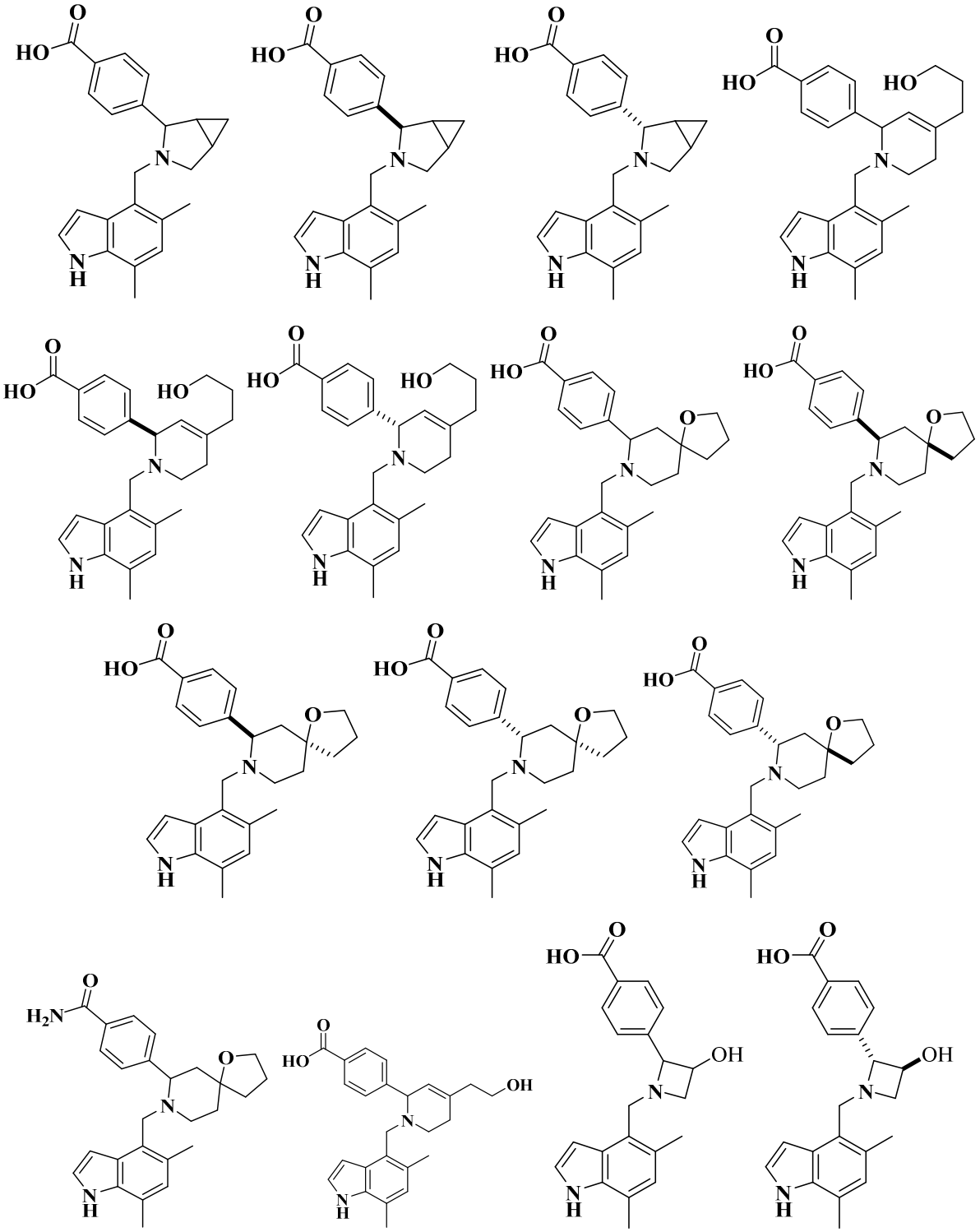
R_6 is –COOH, -C(O)NHSO$_2$CH$_3$, -S(O)NHCH$_3$;

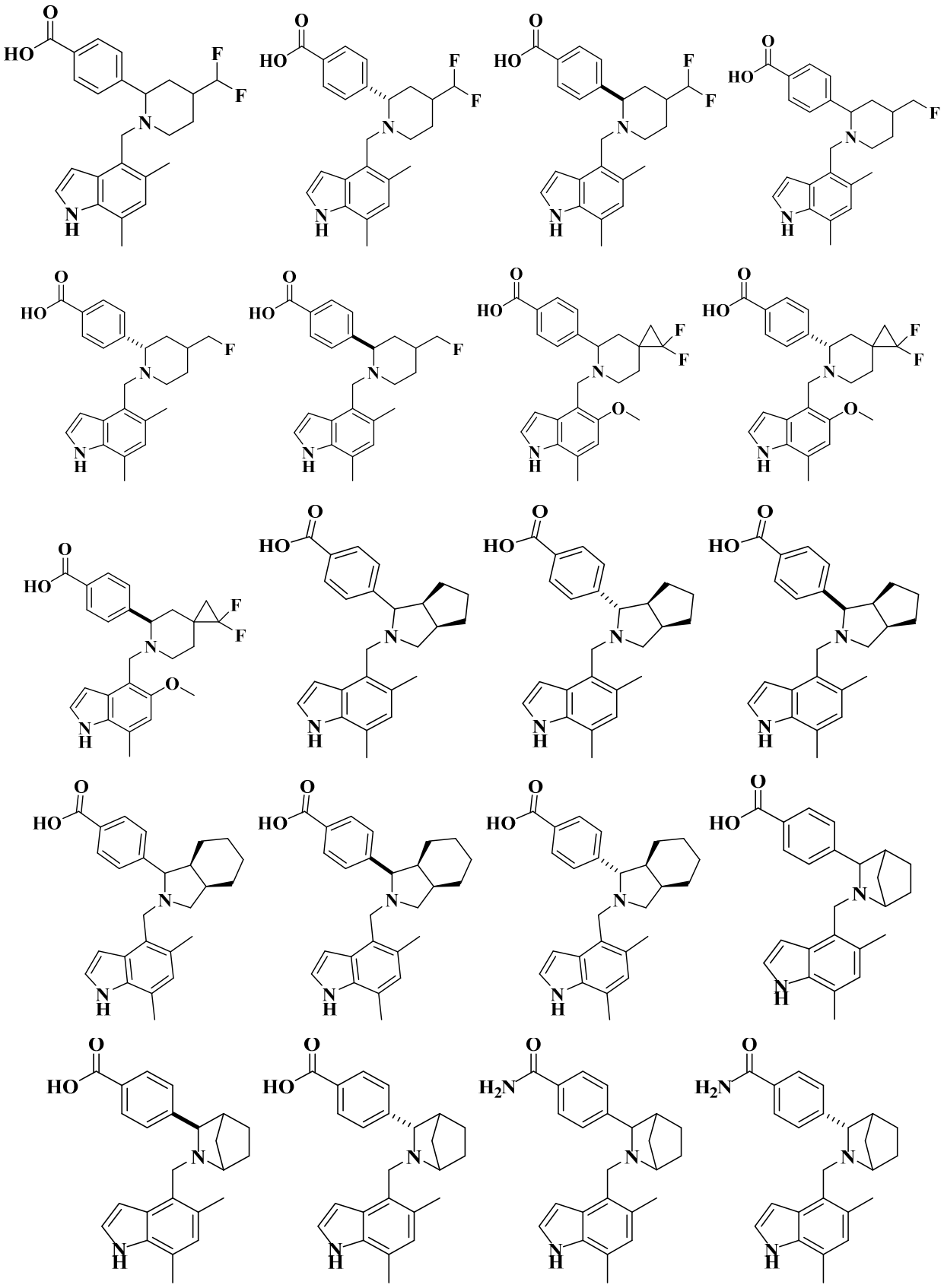
R_7 is hydrogen, C_{1-3} alkyl or C_{1-3} hydroxyalkyl;

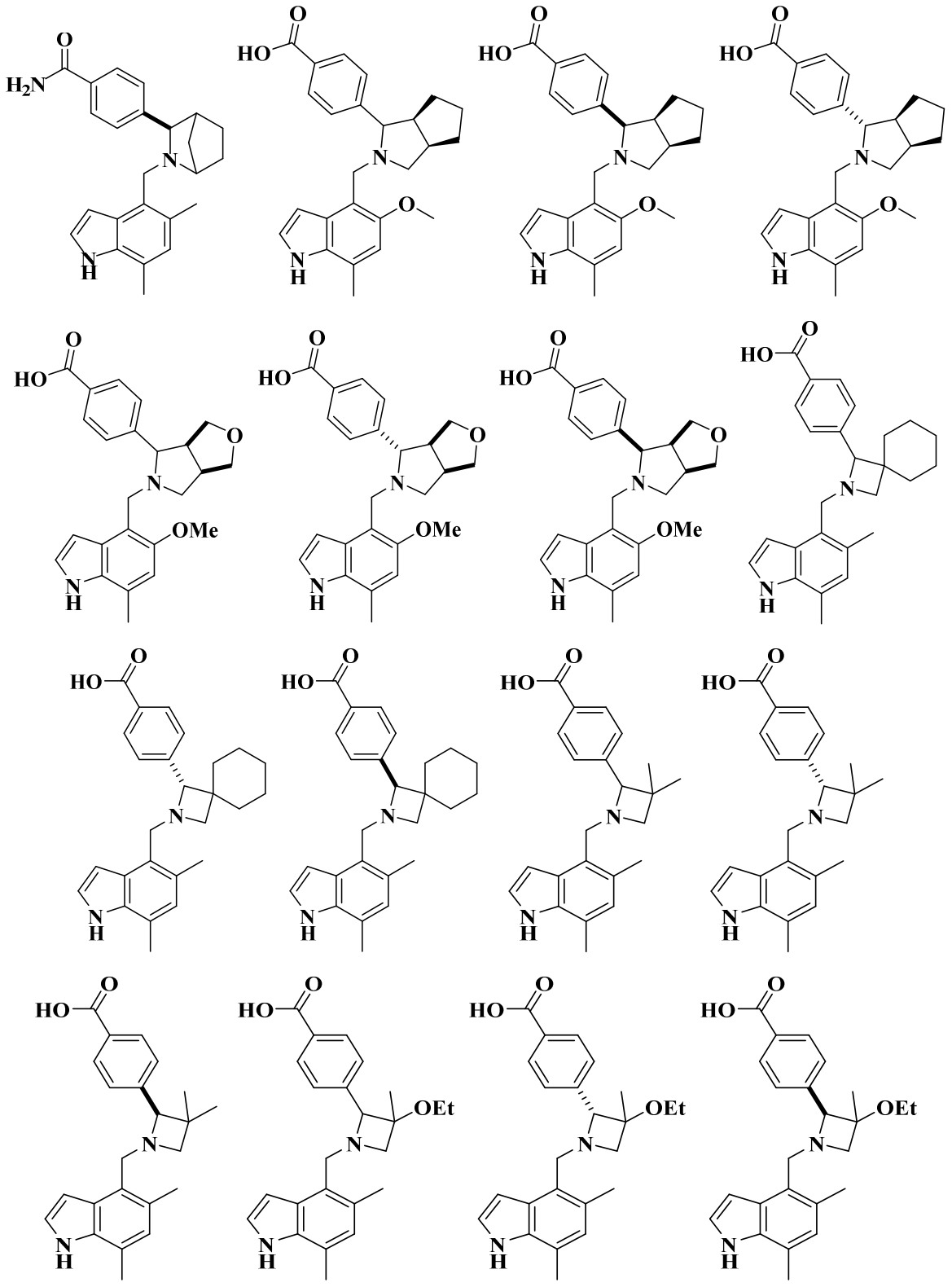
R_{10} is hydrogen, C_{1-3} alkyl or C_{1-3} haloalkyl, wherein the haloalkyl group contains at least two halogen atoms selected from F;

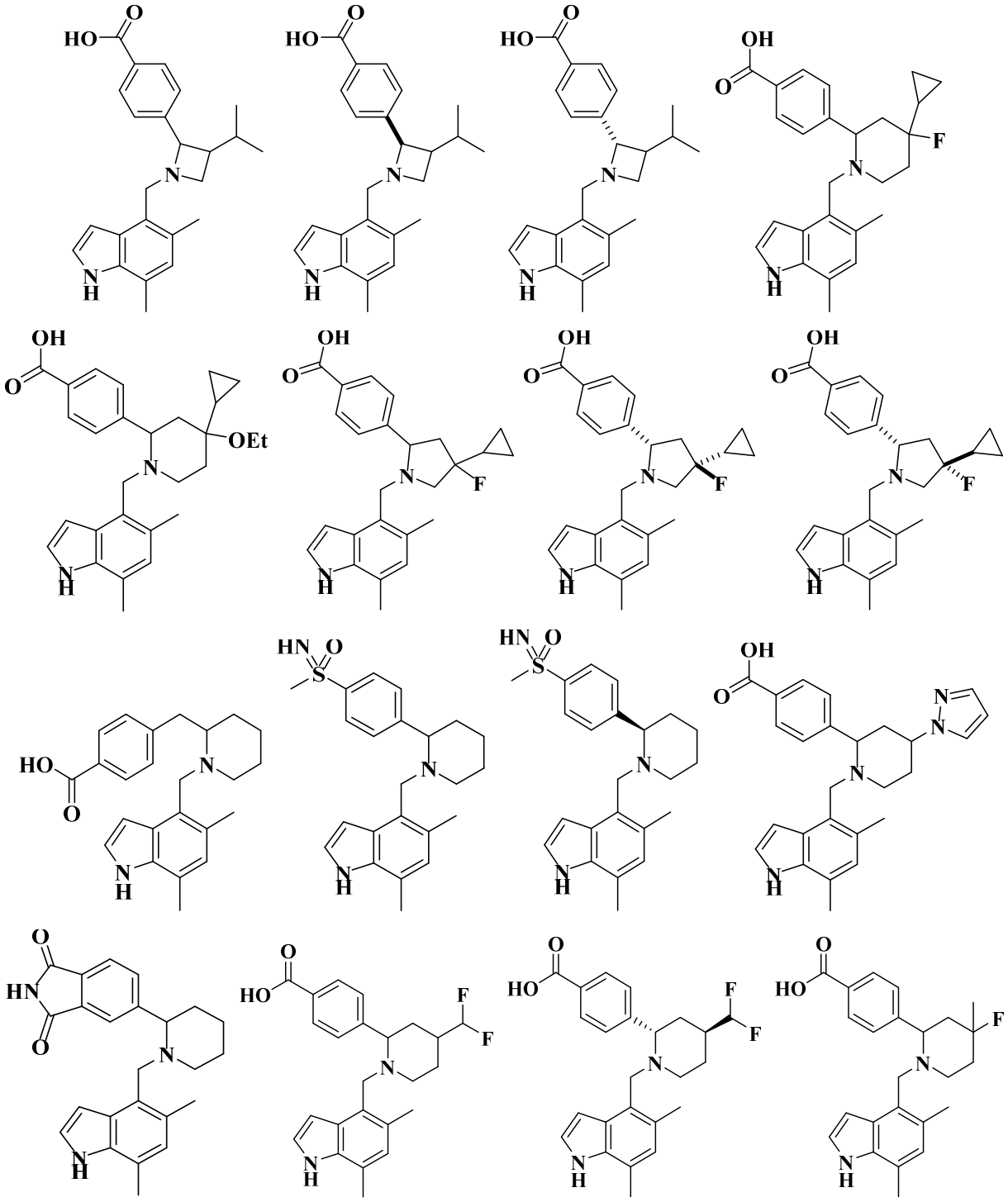
each of R_c and R_d is independently selected from halogen, hydrogen, C_{1-3} alkyl and C_{1-3} haloalkyl.

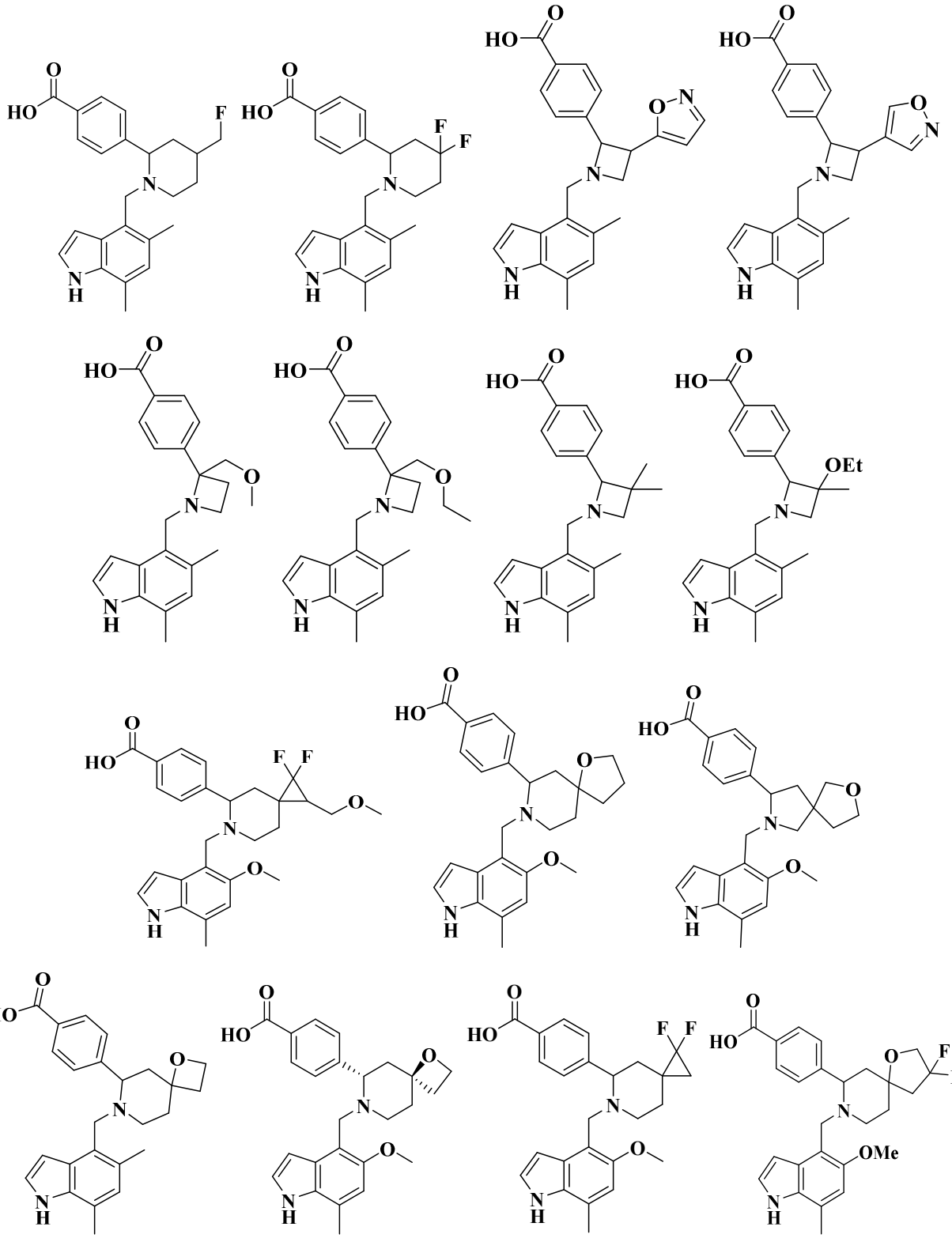
16. The compound of claim 1, or tautomer, pharmaceutically acceptable salt thereof, wherein the compound selected from the following structure:

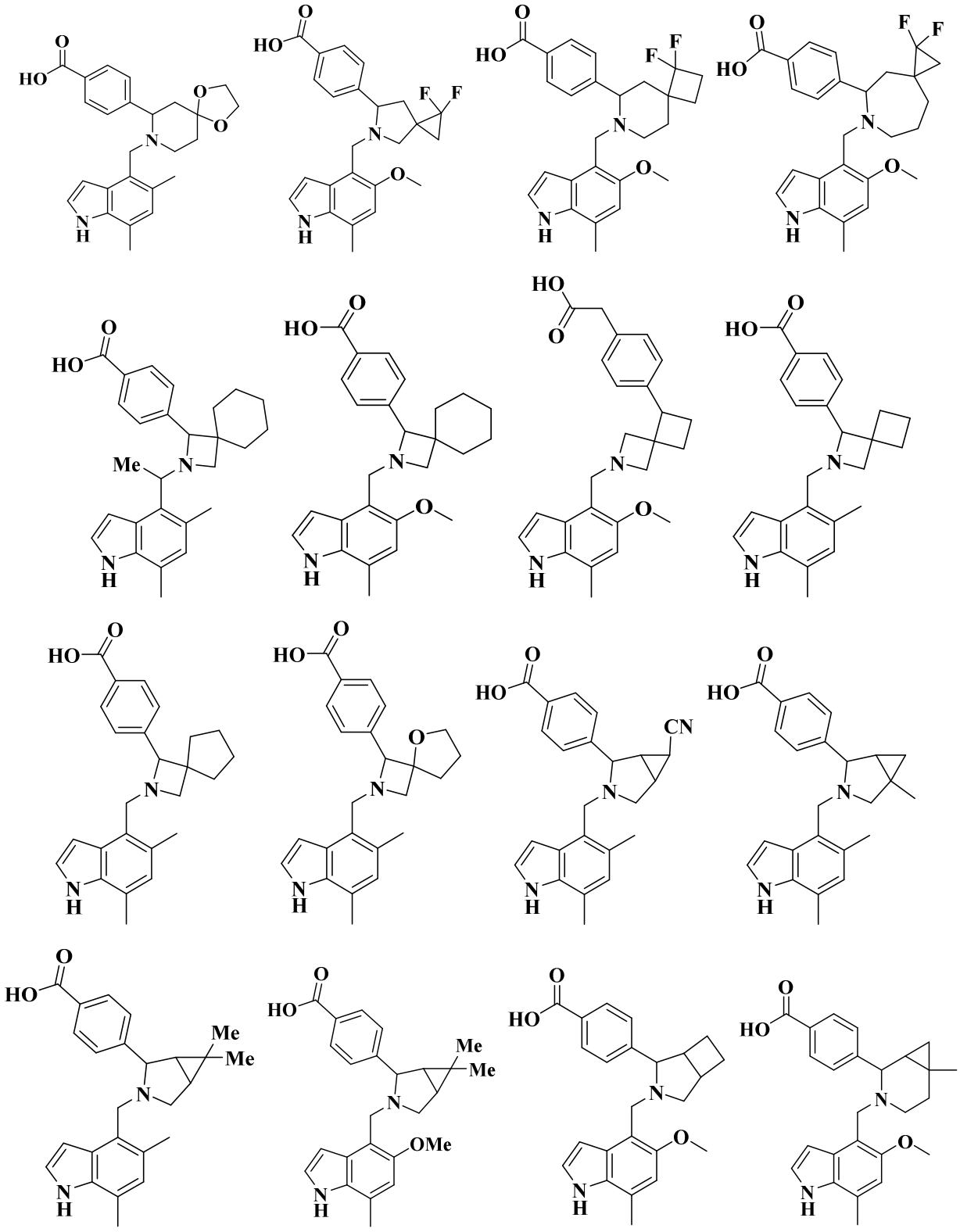


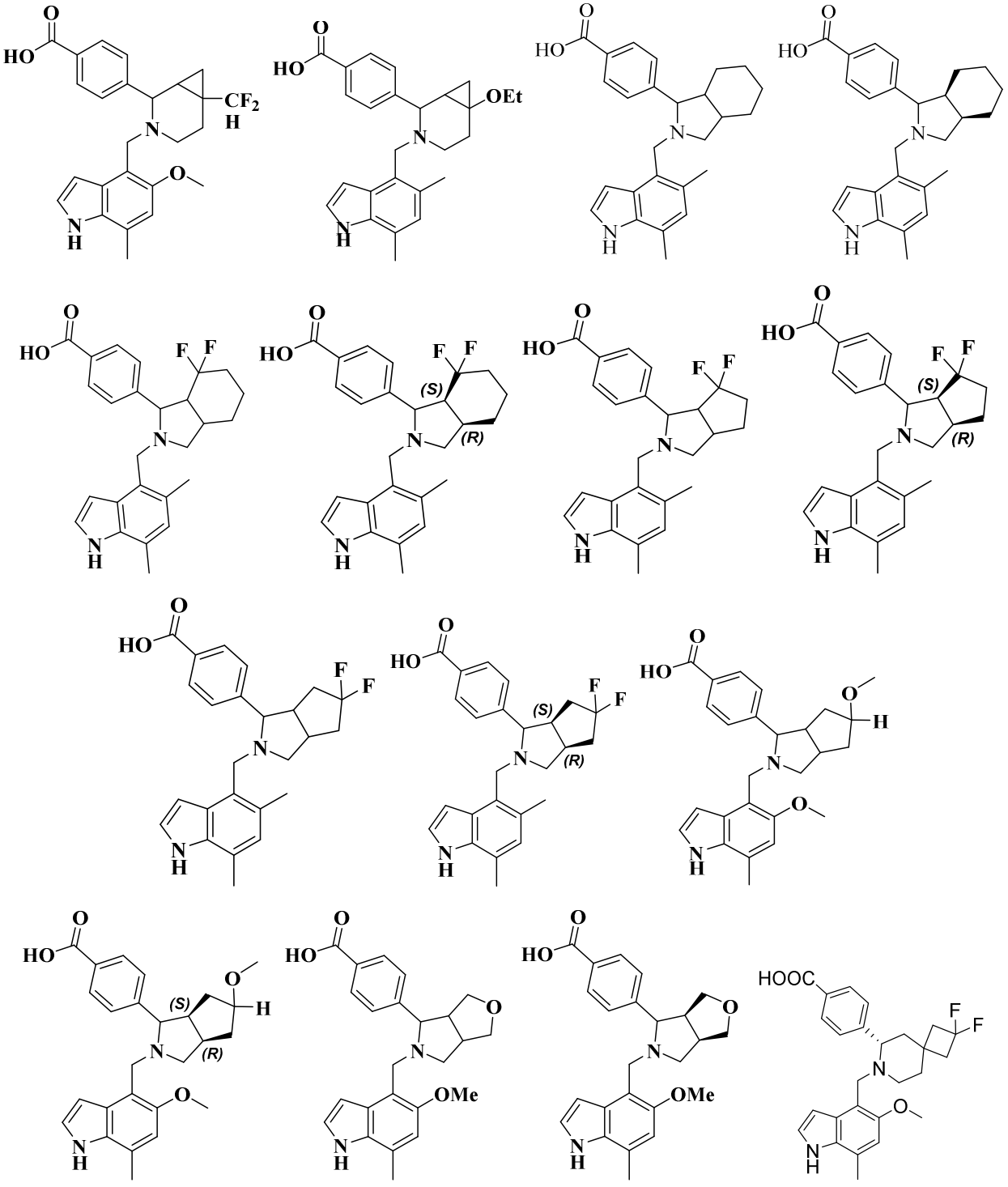


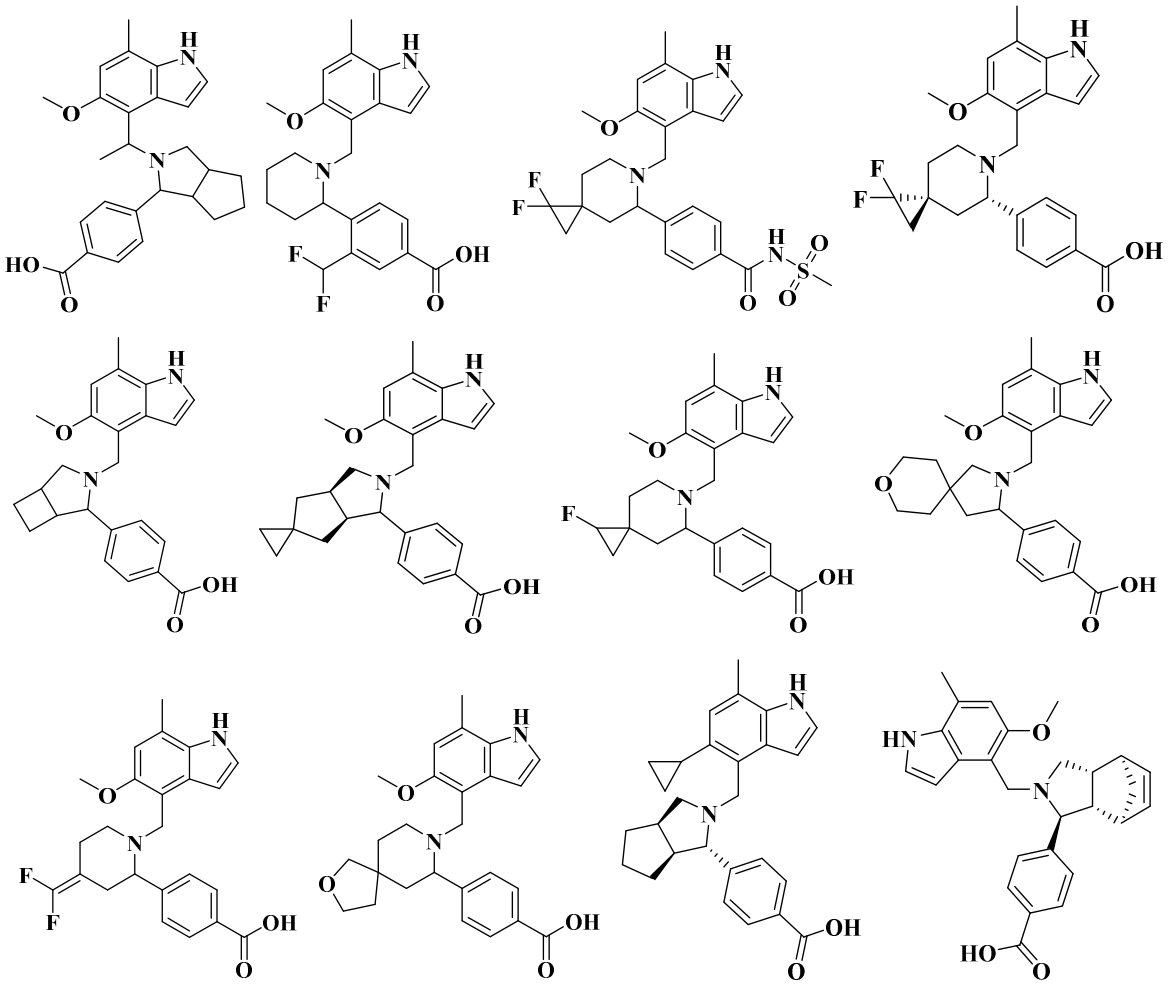


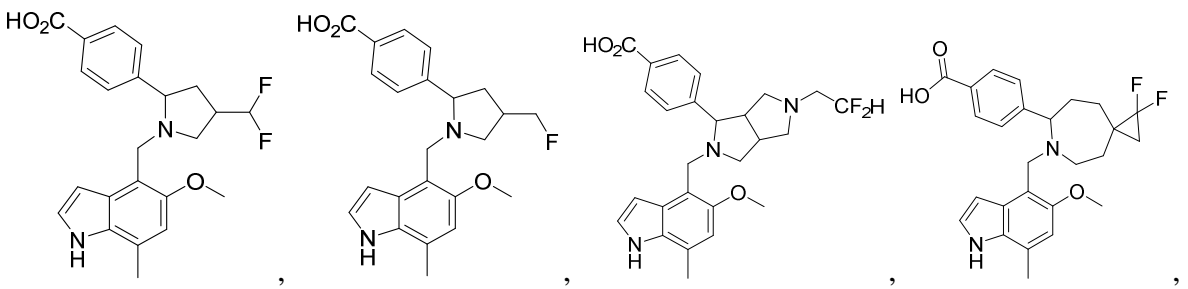


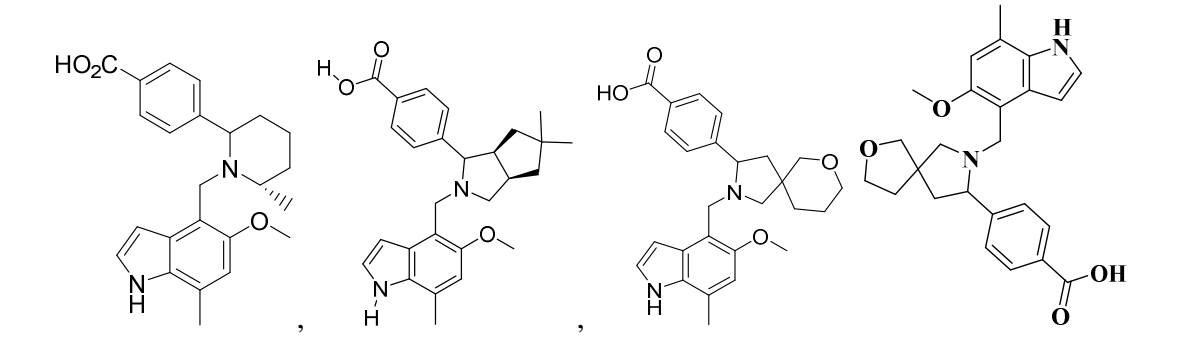


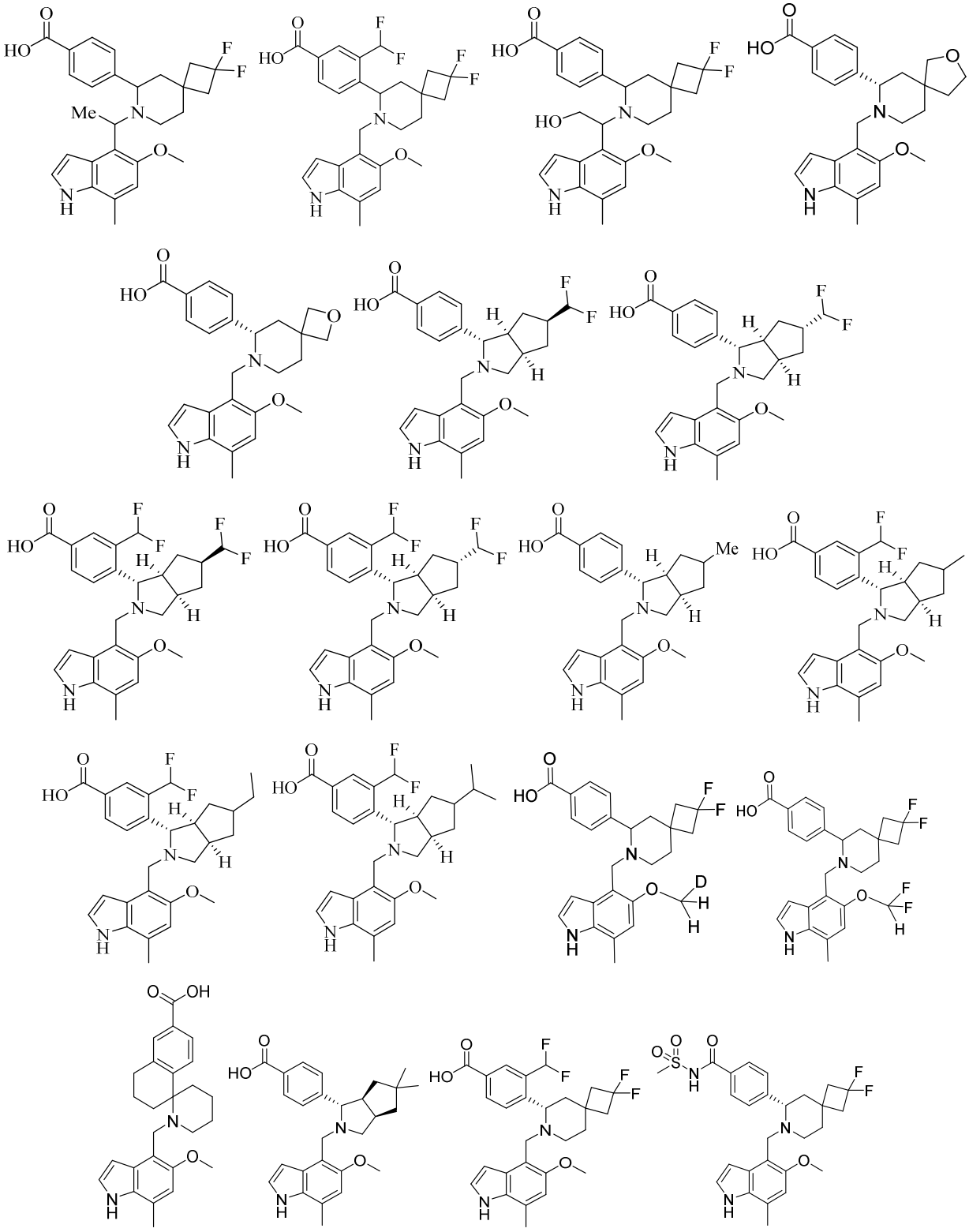


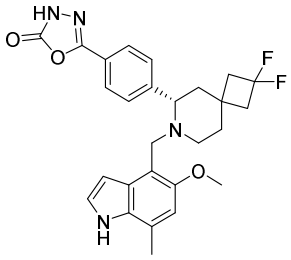
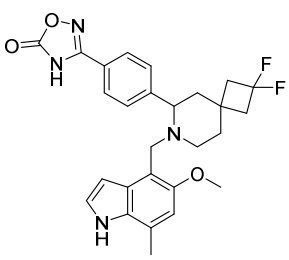
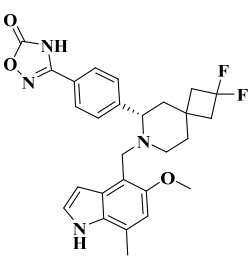
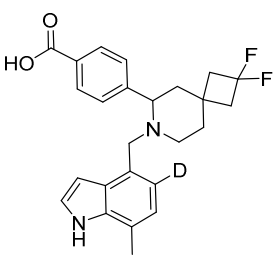


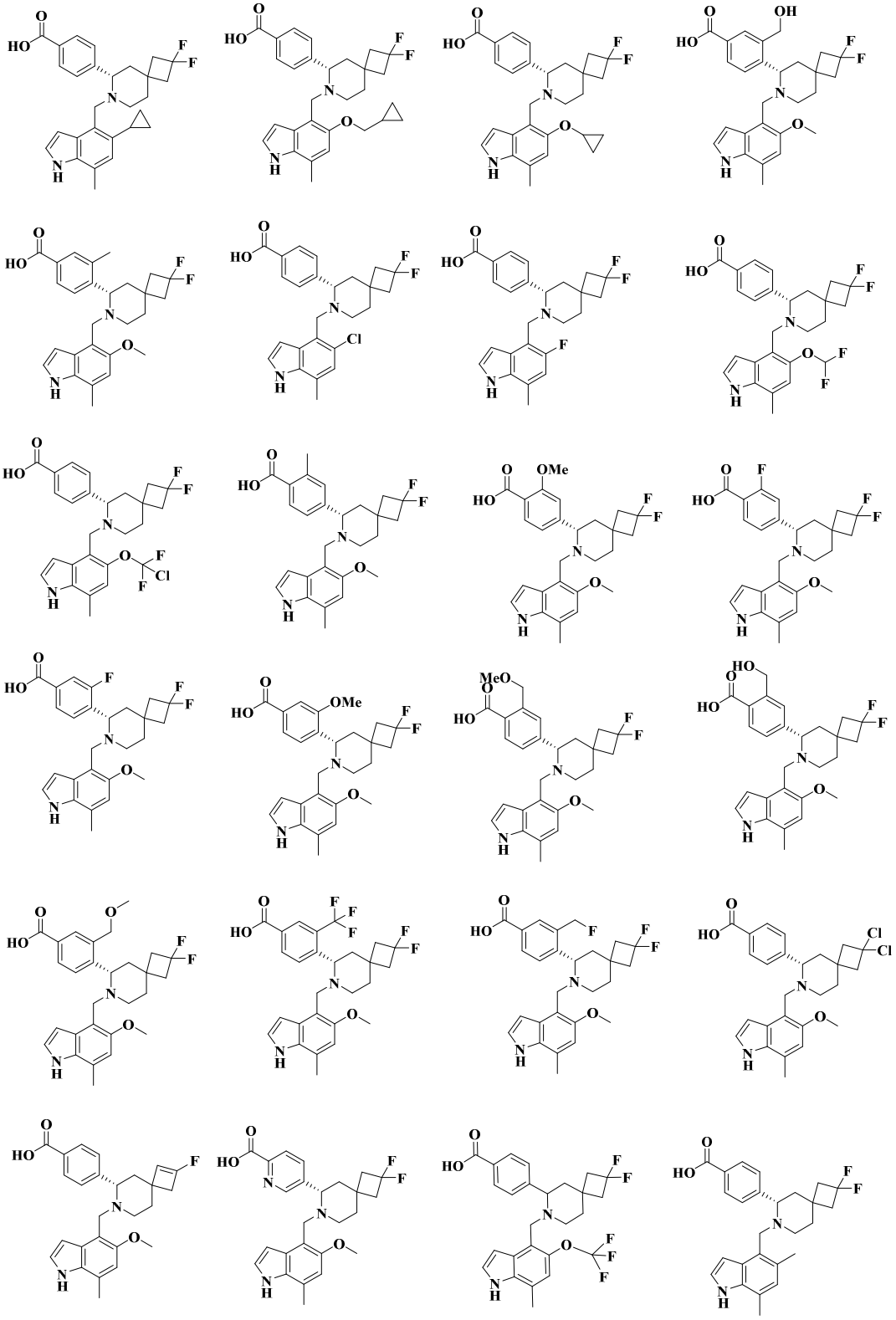


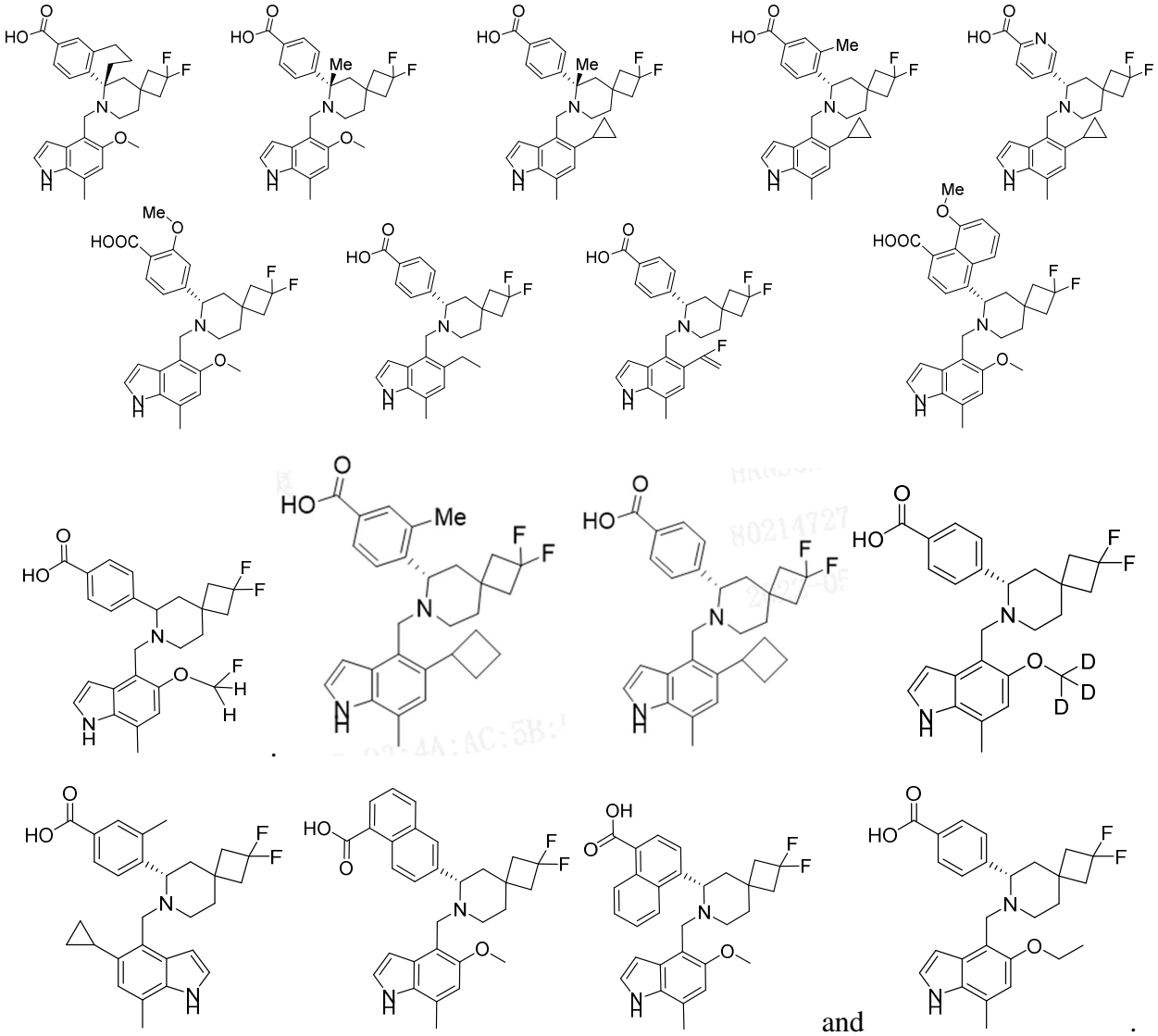










and .

17. A pharmaceutical composition comprising a therapeutically effective amount of the compound of any one of claims 1 to 16, or tautomer, pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier or excipient;

preferably,(i) the amount of the compound, tautomer, cis- or trans-isomer, mesomer, racemate, enantiomer, diastereomer, or mixture thereof, or pharmaceutically acceptable salts thereof, is about 0.1%~95% by weight of free base; preferably, is about 0.5%~85% by weight of free base;

more preferably, is about 1%~60% by weight of free base;

more preferably, is about 10%~50% by weight of free base;

more preferably, is about 15-40% by weight of free base;

more preferably, is about 20-30% by weight of free base;

more preferably, is about 20-25% by weight of free base;

or (ii) the pharmaceutical composition is in the form of tablet, capsule, liquid or injection;

or (iii) the pharmaceutical composition is in an immediate release dosage or sustained release dosage;

or (iv) the pharmaceutical composition comprises at least one pharmaceutically acceptable excipients, carries, or vehicles selected from the group consisting of fillers, disintegrants, glidants, lubricants or diluents;

or (v) the unit dosage of the compound, tautomer, cis- or trans-isomer, mesomer, racemate, enantiomer, diastereomer, or mixture thereof, or pharmaceutically acceptable salts thereof, is about 1-1000mg by weight of free base;

preferably, is about 1-500mg by weight of free base;

more preferably, is about 3-300mg by weight of free base;

more preferably, is about 5-200mg by weight of free base;

more preferably, is 1mg, 2mg, 3mg, 5mg, 10mg, 20mg, 40mg, 50mg, 60mg, 80mg, 100mg, 200mg, 300mg, 400mg or 500mg by weight of free base.

18. Use of the compound according to any one of claims 1-16 or the pharmaceutical composition of any one of claim 17 in the manufacture of a medicament for modulating complement alternative pathway activity in a subject.

19. Use of the compound according to any one of claims 1-16 or the pharmaceutical composition of any one of claim 17 in the manufacture of a medicament for treating a disorder or a disease, wherein the disorder or the disease is mediated by complement activation, in particular mediated by activation of the complement alternative pathway.

20. The use of claim 19, in which the disease or disorder is selected from the group consisting of age-related macular degeneration, geographic atrophy, diabetic retinopathy, uveitis, retinitis pigmentosa, macular edema, Behcet's uveitis, multifocal choroiditis, Vogt-Koyangi-Harada syndrome, imtermediate uveitis, birdshot retino-chorioditis, sympathetic ophthalmia, ocular dicatricial pemphigoid, ocular pemphigus, nonartertic ischemic optic neuropathy, post-operative inflammation, retinal vein occlusion, neurological disorders, multiple sclerosis, stroke, Guillain Barre Syndrome, traumatic brain injury, Parkinson's disease, disorders of inappropriate or undesirable complement activation, hemodialysis complications, hyperacute allograft rejection, xenograft rejection, interleukin-2 induced toxicity during IL-2 therapy, inflammatory disorders, inflammation of autoimmune diseases, Crohn's disease, adult respiratory distress syndrome, myocarditis, post- ischemic reperfusion conditions, myocardial infarction, balloon angioplasty, post-pump syndrome in cardiopulmonary bypass or renal bypass, atherosclerosis, hemodialysis, renal ischemia, mesenteric artery reperfusion after aortic reconstruction, infectious disease or sepsis, immune complex disorders and autoimmune diseases, rheumatoid arthritis, systemic lupus erythematosus , SLE nephritis, proliferative nephritis, liver fibrosis, hemolytic anemia, myasthenia gravis, tissue regeneration, neural regeneration, dyspnea, hemoptysis, ARDS, asthma, chronic obstructive pulmonary disease, emphysema, pulmonary embolisms and infarcts, pneumonia, fibrogenic dust diseases, pulmonary fibrosis, asthma, allergy, bronchoconstriction, hypersensitivity pneumonitis, parasitic diseases, Goodpasture's Syndrome, pulmonary vasculitis, Pauci-immune vasculitis, immune complex-associated inflammation, antiphospholipid syndrome, membrane nephropathy, paroxysmal sleep hemoglobin urine, IgA nephropathy, glomerulonephritis and obesity.