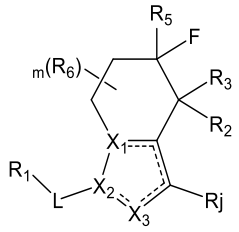
THE CLAIMS:

1. A compound of formula (V), or a stereoisomer, tautomer, pharmaceutically acceptable salt, prodrug, chelate, non-covalent complex, or solvate thereof,



formula (V)

wherein,

------ represents a single bond or a double bond;

L is a bond, -CH_2-, -S(=O)$_2$-, -C=C-, -C=O-, -C≡C- or -C_3-C_5 cycloalkyl;

X_1 and X_2 are each independently selected from C or N, one and only one of X_1 or X_2 is N, and the other is C;

X_3 is CR_f or NR_f;

R_1 is selected from C_6-C_{10} aryl, 5-18 membered heteroaryl or C_3-C_{10} cycloalkyl; the 5-18 membered heteroaryl optionally comprising 1, 2 or 3 heteroatoms independently selected from N, O or S; the C_6-C_{10} aryl, 5-18 membered heteroaryl, and C_3-C_{10} cycloalkyl are each optionally substituted with one or more halogen, -OH, -CN, oxo, amino, C_1-C_6 alkyl, C_1-C_6 alkoxyl, C_1-C_6 haloalkyl, -C_1-C_6 alkylene-OR_c, -C_0-C_6 alkylene-C=O-R_c, -NO_2, C(=O)OR_c and/or -S(=O)$_2R_c$;

R_2 is selected from halogen, -CN or -OH;

R_3 is selected from H, deuterium, halogen, -OH, C_1-C_{10} alkyl, C_2-C_{10} alkenyl, the C_1-C_{10} alkyl, C_2-C_{10} alkenyl, are each optionally substituted with one or more H, halogen, -CN, -OH, amino, C_1-C_5 alkyl, C_2-C_6 alkenyl and/or C_1-C_5 haloalkyl; or R_2 and R_3 together form an oxo group;

R_5 is selected from H, halogen, -OH, or C_1-C_6 alkyl; the C_1-C_6 alkyl is each optionally substituted with one or more halogen, -CN, -OH, amino, C_1-C_5 alkyl, C_2-C_6 alkenyl and/or C_1-C_5 haloalkyl;

R_6 is selected from -CN, halogen, -OH, -NO_2, -NH_2, oxo, C_1-C_6 alkyl, C_1-C_6 alkoxyl, C_1-C_6 haloalkyl, C_2-C_{10} alkenyl, C_2-C_{10} alkynyl, C_3-C_5 cycloalkyl or 3-6 membered heterocyclyl; the C_1-C_6 alkyl, C_1-C_6 alkoxyl, C_1-C_6 haloalkyl, C_2-C_{10} alkenyl, C_2-C_{10} alkynyl, C_3-C_5 cycloalkyl and 3-6 membered heterocyclyl are

each optionally substituted with one or more H, halogen, -CN, -OH, amino, oxo, C_1-C_5 alkyl, C_2-C_6 alkenyl and/or C_1-C_5 haloalkyl; or two R_6 together with the C atom to which they are attached form a substituted or unsubstituted C_3-C_5 cycloalkyl or 3-5 membered heterocyclyl;

or R_6 and R_5 together with the C atom to which they are attached form a substituted or unsubstituted C_3-C_4 cycloalkyl;

R_f is selected from absent, H, -CN, halogen, C_1-C_{10} alkyl, C_1-C_{10} haloalkyl, C_3-C_{10} cycloalkyl, oxo, or -NR_aR_b; the C_1-C_{10} alkyl, C_1-C_{10} haloalkyl and C_3-C_{10} cycloalkyl are each optionally substituted with one or more H, halogen, -CN, -OH, amino, C_1-C_5 alkyl, C_2-C_6 alkenyl and/or C_1-C_5 haloalkyl;

R_j is selected from -NO_2, -CN, halogen, C_1-C_{10} alkyl, C_2-C_{10} alkenyl, C_2-C_{10} alkynyl, C_1-C_{10} haloalkyl, C_3-C_{10} cycloalkyl, 3-10 membered heterocyclyl, C_6-C_{10} aryl, 5-10 membered heteroaryl, -C_1-C_6 alkylene-OR_c, -OR_c, -SR_c, -NR_aR_b, -$NC(=O)R_c$, -$S(=O)R_c$, -$S(=O)_2R_c$, -$S(=O)_2NR_aR_b$, -$S(=O)(=NR_a)R_b$, $P(=O)R_aR_b$, or $P(=S)R_aR_b$; wherein, the 5-10 membered heteroaryl and 3-10 membered heterocyclyl optionally comprising 1, 2 or 3 heteroatoms independently selected from N, O or S; the C_1-C_{10} alkyl, C_2-C_{10} alkenyl, C_2-C_{10} alkynyl, C_1-C_{10} haloalkyl, C_3-C_{10} cycloalkyl, 3-10 membered heterocyclyl, C_6-C_{10} aryl and 5-10 membered heteroaryl are each optionally substituted with one or more halogen, hydroxyl, amino, $P(=O)Me_2$, $P(=S)Me_2$, -$S(=O)_2$-C_1-C_3 alkyl, -$S(=O)_2$-C_3-C_5 cycloalkyl, -$S(=O)$-C_1-C_3 alkyl, -$S(=O)$-C_3-C_5 cycloalkyl, CN, C_1-C_6 alkyl, C_1-C_6 alkoxyl and/or C_1-C_6 haloalkyl;

R_a, R_b and R_c are each independently selected from H, C_1-C_{10} alkyl, C_1-C_{10} haloalkyl, C_2-C_{10} alkenyl, C_2-C_{10} alkynyl, C_3-C_{10} cycloalkyl, 3-10 membered heterocyclyl, C_6-C_{10} aryl or 5-10 membered heteroaryl;

m is 0, 1, 2, 3 or 4.

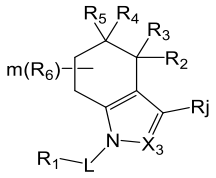
2. The compound or the stereoisomer, tautomer, pharmaceutically acceptable salt, prodrug, chelate, non-covalent complex, or solvate of claim 1, wherein, the R_3 is selected from H, deuterium, or C_1-C_3 alkyl; or R_2 and R_3 together form an oxo group.

3. The compound or the stereoisomer, tautomer, pharmaceutically acceptable salt, prodrug, chelate, non-covalent complex, or solvate of claim 1 or claim 2, wherein,

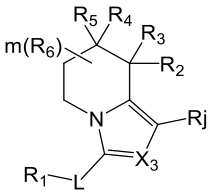
the R_3 is selected from H or deuterium.

4. The compound or the stereoisomer, tautomer, pharmaceutically acceptable salt, prodrug, chelate, non-covalent complex, or solvate of any one of claims 1-3, wherein, $R_5$is selected from H or halogen.

5. The compound or the stereoisomer, tautomer, pharmaceutically acceptable salt, prodrug, chelate, non-covalent complex, or solvate of any one of claims 1-4, wherein, the compound is of formula (III-1), or formula (III-2) ,



formula (III-1)

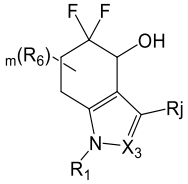


formula (III-2);

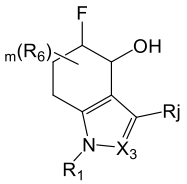
wherein, X_3 is CR_f.

6. The compound or the stereoisomer, tautomer, pharmaceutically acceptable salt, prodrug, chelate, non-covalent complex, or solvate of any one of claims 1-5, wherein, L is a bond.

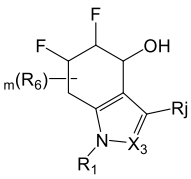
7. The compound or the stereoisomer, tautomer, pharmaceutically acceptable salt, prodrug, chelate, non-covalent complex, or solvate of any one of claims 1-6, wherein, the compound is of formula (VI-1), formula (VI-2), formula (VI-3), formula (VI-4) or formula (VI-5):



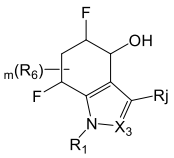
formula (VI-1)



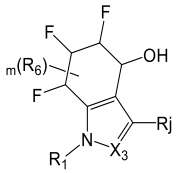
formula (VI-2)



formula (VI-3)



formula (VI-4)



formula (VI-5).

8. The compound or the stereoisomer, tautomer, pharmaceutically acceptable salt, prodrug, chelate, non-covalent complex, or solvate of any one of claims 1-7, wherein, R_6 is H, -CN, halogen, C_1-C_6 alkyl, C_1-C_6 alkoxyl or C_1-C_6 haloalkyl, the C_1-C_6 alkyl, C_1-C_6 alkoxyl and C_1-C_6 haloalkyl are each optionally substituted with one or more H, halogen, -CN, -OH, oxo and/or amino.

9. The compound or the stereoisomer, tautomer, pharmaceutically acceptable salt, prodrug, chelate, non-covalent complex, or solvate of any one of claims 1-8, wherein, R_6 is halogen or C_1-C_6 alkyl.

10. The compound or the stereoisomer, tautomer, pharmaceutically acceptable salt, prodrug, chelate, non-covalent complex, or solvate of any one of claims 1-9, wherein, the R_f is selected from H, -CN, halogen, C_1-C_3 alkyl or C_1-C_3 haloalkyl.

11. The compound or the stereoisomer, tautomer, pharmaceutically acceptable salt, prodrug, chelate, non-covalent complex, or solvate of any one of claims 1-10, wherein, the R_f is H.

12. The compound or the stereoisomer, tautomer, pharmaceutically acceptable salt, prodrug, chelate, non-covalent complex, or solvate of any one of claims 1-11, wherein, R_1 is C_6-C_8 aryl, 5-8-membered heteroaryl or C_3-C_6 cycloalkyl, the 5-8-membered heteroaryl optionally comprising 1, 2 or 3 heteroatoms independently selected from N, O or S, the C_6-C_8 aryl, 5-8 membered heteroaryl or C_3-C_6 cycloalkyl are each optionally substituted with one or more halogen, -OH, -CN, oxo, amino, C_1-C_6 alkyl, C_1-C_6 alkoxyl, C_1-C_6 haloalkyl, -C_1-C_6 alkylene-OR_c, -C_0-C_6 alkylene-C=O-R_c, -NO_2, $C(=O)OR_c$ and/or -$S(=O)_2R_c$.

13. The compound or the stereoisomer, tautomer, pharmaceutically acceptable salt, prodrug, chelate, non-covalent complex, or solvate of any one of claims 1-12, wherein, R_1 is phenyl, 5-6 membered heteroaryl or C_3-C_6cycloalkyl, the 5-6 membered heteroaryl optionally comprising 1, 2 or 3 heteroatoms independently selected from N, O or S; the phenyl, 5-6 membered heteroaryl and C_3-C_6 cycloalkyl are each optionally substituted with one or more halogen, -CN and/or C_1-C_4 haloalkyl.

14. The compound or the stereoisomer, tautomer, pharmaceutically acceptable salt, prodrug, chelate, non-covalent complex, or solvate of any one of claims 1-13, wherein, the R_j is selected from H, -CN, halogen, C_1-C_{10} alkyl, C_2-C_{10} alkenyl, C_1-C_{10} haloalkyl, C_3-C_{10} cycloalkyl, C_6-C_{10} aryl, 5-10 membered heteroaryl, -$S(=O)R_c$, -C_1-C_6 alkylene-OR_c, -$S(=O)_2R_c$ or $P(=O)R_aR_b$; the 5-10 membered heteroaryl optionally comprising 1, 2 or 3 heteroatoms independently selected from N, O or S; the C_1-C_{10} alkyl, C_2-C_{10} alkenyl, C_1-C_{10} haloalkyl, C_3-C_{10} cycloalkyl, C_6-C_{10} aryl, 5-10 membered

heteroaryl are each optionally substituted with one or more halogen, hydroxyl, $P(=O)Me_2$, $P(=S)Me_2$, $-S(=O)_2-C_1-C_3$alkyl, $-S(=O)_2-C_3-C_5$cycloalkyl, $-S(=O)-C_1-C_3$alkyl, $-S(=O)-C_3-C_5$cycloalkyl, CN, C_1-C_6 alkyl and/or C_1-C_6 haloalkyl;

the R_a and R_b independently selected from H, C_1-C_4 alkyl;

the R_c is selected from H, C_1-C_3 alkyl or C_1-C_3 haloalkyl.

15. The compound or the stereoisomer, tautomer, pharmaceutically acceptable salt, prodrug, chelate, non-covalent complex, or solvate of any one of claims 1-14, wherein,

the R_j is selected from C_1-C_4 haloalkyl, CN, $-S(=O)_2R_c$ or 5-membered heteroaryl, the 5-membered heteroaryl optionally comprising 1, 2 or 3 heteroatoms independently selected from N, O or S; the 5-membered heteroaryl is optionally substituted with one or more halogen, C_1-C_3alkyl and/or C_1-C_3haloalkyl;

the R_c is selected from H, C_1-C_3 alkyl or C_1-C_3 haloalkyl.

16. The compound or the stereoisomer, tautomer, pharmaceutically acceptable salt, prodrug, chelate, non-covalent complex, or solvate of claim 1, wherein, the compound is selected from:

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-iodo-1,5,6,7-tetrahydro-4*H*-indol-4-one;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-iodo-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-3-iodo-1-(4-(trifluoromethyl)phenyl)-1,5,6,7-tetrahydro-4*H*-indol-4-one;

5,5-difluoro-3-iodo-1-(4-(trifluoromethyl)phenyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5-(5,5-difluoro-4-hydroxy-3-iodo-4,5,6,7-tetrahydro-1H-indol-1-yl)-2-fluorobenzonitrile;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(trifluoromethyl)-1,5,6,7-tetrahydro-4*H*-indol-4-one;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3,5-difluorophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-phenyl-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3,5-difluorophenyl)-5,5-difluoro-3-(trifluoromethyl)-1,5,6,7-tetrahydro-4*H*-indol-4-one;

5,5-difluoro-1-phenyl-3-(trifluoromethyl)-1,5,6,7-tetrahydro-4*H*-indol-4-one;

3-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-5-fluorobenzonitrile;

4-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)benzonitrile;

5,5-difluoro-1-(4-fluoro-3-methoxyphenyl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1H-indol-4-ol;

1-(3-chlorophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(3-fluorophenyl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(5-chloropyridin-3-yl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(2-fluorophenyl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

3-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)benzonitrile;

1-(3,5-dichlorophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(4-chlorophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-bromo-5-fluorophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(pyridin-3-yl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(3-fluoro-5-(trifluoromethyl)phenyl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-3-(trifluoromethyl)-1-(4-(trifluoromethyl)phenyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(p-tolyl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(3-fluoro-5-hydroxyphenyl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorobenzyl)-5,5-difluoro-3-(trifluoromethyl)-1,5,6,7-tetrahydro-4*H*-indol-4-one;

1-(3-chloro-5-fluorobenzyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-benzyl-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-((3,3-difluorocyclobutyl)methyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)(3,3-difluorocyclobutyl)methanone;

1-cyclohexyl-5,5-difluoro-3-(trifluoromethyl)-1,5,6,7-tetrahydro-4*H*-indol-4-one;

1-cyclohexyl-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3,3-difluorocyclobutyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3,3-difluorocyclobutyl)-5,5-difluoro-3-(methylsulfonyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

(*S*)-1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(thiophen-2-yl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3,5-difluorophenyl)-5,5-difluoro-3-(thiophen-2-yl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(1-methyl-1*H*-pyrrol-2-yl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-3-cyclopropyl-5,5-difluoro-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(furan-2-yl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5-(5,5-difluoro-4-hydroxy-3-(thiazol-5-yl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-2-fluorobenzonitrile;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(furan-3-yl)-1,5,6,7-tetrahydro-4*H*-indol-4-one;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(furan-3-yl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(1*H*-pyrazol-3-yl)-4,5,6,7-tetrahydro-1H-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(5-methyl-1*H*-pyrazol-3-yl)-4,5,6,7-tetrahydro-1H-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(1-methyl-1*H*-pyrazol-5-yl)-4,5,6,7-tetrahydro-1H-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(thiophen-3-yl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-methyl-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(thiazol-4-yl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(thiazol-5-yl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

(*S*)-1-(3,5-difluorophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-3-(difluoromethyl)-5,5-difluoro-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-vinyl-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(hydroxymethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

3-(3-chloro-5-fluorophenyl)-7-fluoro-1-(trifluoromethyl)-5,6,7,8-tetrahydroindolizin-8-ol;

5-(7,7-difluoro-8-hydroxy-1-(trifluoromethyl)-5,6,7,8-tetrahydroindolizin-3-yl)-2-fluorobenzonitrile;

(*S*)-5-(7,7-difluoro-8-hydroxy-1-(trifluoromethyl)-5,6,7,8-tetrahydroindolizin-3-yl)-2-fluorobenzonitrile;

3-(3-chloro-5-fluorophenyl)-7,7-difluoro-1-(trifluoromethyl)-5,6,7,8-tetrahydroindolizin-8-ol;

7-fluoro-3-phenyl-1-(trifluoromethyl)-5,6,7,8-tetrahydroindolizin-8-ol;

3-(3,5-difluorophenyl)-7-fluoro-1-(trifluoromethyl)-5,6,7,8-tetrahydroindolizin-8-ol;

7-fluoro-3-(4-fluoro-3-(trifluoromethyl)phenyl)-1-(trifluoromethyl)-5,6,7,8-tetrahydroindolizin-8-ol;

2-fluoro-5-(7-fluoro-8-hydroxy-1-(trifluoromethyl)-5,6,7,8-tetrahydroindolizin-3-yl)benzonitrile;

3-(3,5-difluorophenyl)-7,7-difluoro-1-(trifluoromethyl)-5,6,7,8-tetrahydroindolizin-8-ol;

3-(7,7-difluoro-8-hydroxy-1-(trifluoromethyl)-5,6,7,8-tetrahydroindolizin-3-yl)-5-fluorobenzonitrile;

(*E*)-3-(2-cyclohexylvinyl)-7,7-difluoro-1-(trifluoromethyl)-5,6,7,8-tetrahydroindolizin-8-ol;

3-(cyclopropylethynyl)-7,7-difluoro-1-(trifluoromethyl)-5,6,7,8-tetrahydroindolizin-8-ol;

3-(3-(difluoromethyl)-4-fluorophenyl)-7,7-difluoro-1-(trifluoromethyl)-5,6,7,8-tetrahydroindolizin-8-ol;

7,7-difluoro-1-(trifluoromethyl)-3-(3,4,5-trifluorophenyl)-5,6,7,8-tetrahydroindolizin-8-ol;

7,7-difluoro-3-(4-fluoro-3-(trifluoromethyl)phenyl)-1-(trifluoromethyl)-5,6,7,8-tetrahydroindolizin-8-ol;

3-(3-(difluoromethyl)-4-fluorophenyl)-7,7-difluoro-1-(trifluoromethyl)-6,7-dihydroindolizin-8(5*H*)-one;

7,7-difluoro-1-(trifluoromethyl)-3-(3,4,5-trifluorophenyl)-6,7-dihydroindolizin-8(5*H*)-one;

7,7-difluoro-3-(4-fluoro-3-(trifluoromethyl)phenyl)-1-(trifluoromethyl)-6,7-dihydroindolizin-8(5*H*)-one;

7,7-difluoro-3-(1-phenylcyclopropyl)-1-(trifluoromethyl)-5,6,7,8-tetrahydroindolizin-8-ol;

7,7-difluoro-3-(phenylethynyl)-1-(trifluoromethyl)-5,6,7,8-tetrahydroindolizin-8-ol;

(1-(3-chloro-5-fluorophenyl)-5,5-difluoro-4-hydroxy-4,5,6,7-tetrahydro-1*H*-indol-3-yl)dimethylphosphine oxide;

(*S*)-5-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-2-fluorobenzonitrile;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-4-hydroxy-4,5,6,7-tetrahydro-1*H*-indole-3-carbonitrile;

1-(3-chloro-5-fluorophenyl)-5,6-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(4-fluoro-3-(hydroxymethyl)phenyl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(6-fluoropyridin-2-yl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5-(5,5-difluoro-4-hydroxy-4-methyl-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-2-fluorobenzonitrile;

5-(5,5-difluoro-4-hydroxy-6,6-dimethyl-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-2-fluorobenzonitrile;

2-fluoro-5-(5-fluoro-4-hydroxy-6,6-dimethyl-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)benzonitrile;

(4*S*,5*S*)-1-(3-(difluoromethyl)-4-fluorophenyl)-5-fluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

(4*R*,5*R*)-1-(3-(difluoromethyl)-4-fluorophenyl)-5-fluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

(4*S*,5*R*)-1-(3-(difluoromethyl)-4-fluorophenyl)-5-fluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

(4*R*,5*S*)-1-(3-(difluoromethyl)-4-fluorophenyl)-5-fluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-2,5,5-trifluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

(*S*)-2-chloro-1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(methylsulfonyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

3-(5,5-difluoro-4-hydroxy-3-(methylsulfonyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-5-fluorobenzonitrile;

3-(3-(difluoromethyl)-5,5-difluoro-4-hydroxy-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-5-fluorobenzonitrile;

3-(3-((difluoromethyl)sulfonyl)-5,5-difluoro-4-hydroxy-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-5-fluorobenzonitrile;

1-(3-chloro-5-fluorophenyl)-3,5,5-trifluoro-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indole-2-carbonitrile;

(*R*)-1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

(*S*)-1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3,5-difluorophenyl)-5,5-difluoro-3-(methylsulfonyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3,5-difluorophenyl)-5,5-difluoro-3-(methylsulfonyl)-1,5,6,7-tetrahydro-4*H*-indol-4-one;

3-(3-chloro-5-fluorophenyl)-6,6-difluoro-1-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-7-ol;

1-(3-chloro-4-fluorophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-2-fluorobenzonitrile;

4-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-2-fluorobenzonitrile;

5,5-difluoro-1-(1-methyl-1*H*-pyrrol-2-yl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

2-chloro-4-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)benzonitrile;

4-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)phthalonitrile;

5,5-difluoro-1-(furan-2-yl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

2-cyano-5-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)benzoic acid;

2-acetyl-4-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)benzonitrile;

1-(3-chloro-5-fluorophenyl)-5,6-difluoro-3-(methylsulfonyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(4-chlorophenyl)-5,6-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

2-fluoro-5-((4S)-5-fluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)benzonitrile;

5,6-difluoro-1-(5-fluoropyridin-3-yl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(5-fluoropyridin-3-yl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

(*S*)-5-(5,5-difluoro-4-hydroxy-3-(methylsulfonyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-2-fluorobenzonitrile;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-((S)-methylsulfinyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-((R)-methylsulfinyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

2-chloro-5-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)benzonitrile;

1-(4-chloro-3-nitrophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

3-fluoro-5-(5-fluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1H-indol-1-yl)benzonitrile;

1-(3-amino-5-fluorophenyl)-5-fluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5,7-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5-fluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5-fluoro-2-methyl-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-phenyl-1,5,6,7-tetrahydro-4*H*-indol-4-one;

1-(3-chloro-5-fluorophenyl)-5,5-difluoro-3-phenyl-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

(*S*)-2-bromo-1-(3,5-difluorophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(thiophen-3-yl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-3-(trifluoromethyl)-1-(3,4,5-trifluorophenyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3,5-dichloro-4-fluorophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

3-(3-chloro-5-fluorophenyl)-6,7-difluoro-1-(trifluoromethyl)-5,6,7,8-tetrahydroindolizin-8-ol;

3-(3-chloro-5-fluorophenyl)-6,7-difluoro-1-(trifluoromethyl)-5,6,7,8-tetrahydroimidazo[1,5-a]pyridin-8-ol;

3-(3-chloro-5-fluorophenyl)-5,6-difluoro-1-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-7-ol;

3-(3-chloro-5-fluorophenyl)-5,6-difluoro-1-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indazol-7-ol;

3-chloro-5-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)benzonitrile;

4-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-2-methoxybenzonitrile;

5,5-difluoro-1-(4-fluoro-3-(trifluoromethyl)phenyl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

4-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-2-(trifluoromethyl)benzonitrile;

5,5-difluoro-1-(3-fluoro-4-methoxyphenyl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(pyridin-4-yl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(4-fluorophenyl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(3-(methylsulfonyl)phenyl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(2-methoxypyridin-4-yl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

4-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)picolinonitrile;

1-(3,4-difluorophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(2-fluoropyridin-4-yl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(3-cyano-4-fluorophenyl)-5,5-difluoro-4-hydroxy-4,5,6,7-tetrahydro-1*H*-indole-3-carbonitrile;

(*S*)-4-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)phthalonitrile;

1-(3-(difluoromethyl)-4-fluorophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(4-fluoro-3-methylphenyl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(6-fluoropyridin-3-yl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5,5-difluoro-1-(5-fluoropyridin-2-yl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

1-(2-chloropyridin-4-yl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

(*S*)-1-(3-(difluoromethyl)-4-fluorophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

(*R*)-1-(3-(difluoromethyl)-4-fluorophenyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

(*R*)-5-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-2-fluorobenzonitrile;

5-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4-vinyl-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-2-fluorobenzonitrile;

(*S*)-5-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)nicotinonitrile;

5,5-difluoro-1-(4-fluorophenyl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indole-4-carbonitrile;

5-(5,5-difluoro-4-hydroxy-6-methyl-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-2-fluorobenzonitrile;

5-((4*S*)-5,5-difluoro-4-hydroxy-6-methyl-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-2-fluorobenzonitrile;

(*E*)-5,5-difluoro-1-styryl-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

(*E*)-5,5-difluoro-1-styryl-3-(trifluoromethyl)-1,5,6,7-tetrahydro-4*H*-indol-4-one;

(*E*)-1-(2-cyclohexylvinyl)-5,5-difluoro-3-(trifluoromethyl)-1,5,6,7-tetrahydro-4*H*-indol-4-one;

5,5-difluoro-1-(phenylsulfonyl)-3-(trifluoromethyl)-1,5,6,7-tetrahydro-4*H*-indol-4-one;

5,5-difluoro-1-(phenylsulfonyl)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

(*E*)-1-(2-cyclohexylvinyl)-5,5-difluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

5-(5,5-difluoro-4-oxo-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-2-fluorobenzonitrile;

5-(5,5-difluoro-4-oxo-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-2-fluorobenzaldehyde;

1-(3-(difluoromethyl)-4-fluorophenyl)-5,5-difluoro-3-(trifluoromethyl)-1,5,6,7-tetrahydro-4H-indol-4-one;

2-fluoro-5-(5-fluoro-4-oxo-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)benzaldehyde;

1-(3-(difluoromethyl)-4-fluorophenyl)-5-fluoro-3-(trifluoromethyl)-1,5,6,7-tetrahydro-4*H*-indol-4-one;

3-fluoro-5-(5-fluoro-4-hydroxy-3-(methylsulfonyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)benzonitrile;

3-(3-chloro-5-fluorophenyl)-7,7-difluoro-1-(trifluoromethyl)-5,6,7,8-tetrahydroimidazo[1,5-a]pyridin-8-ol;

3-(3-chloro-5-fluorophenyl)-6,6-difluoro-1-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indazol-7-ol;

(*S*)-1-(3,5-difluorophenyl)-5,5-difluoro-3-(methylsulfonyl)-2-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-4-ol;

(*S*)-2-fluoro-5-(4,5,5-trifluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)benzonitrile;

(*R*)-2-fluoro-5-(4,5,5-trifluoro-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)benzonitrile;

(*Z*)-5-(5,5-difluoro-4-(hydroxyimino)-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl)-2-fluorobenzonitrile; or

(*S*)-5-(5,5-difluoro-4-hydroxy-3-(trifluoromethyl)-4,5,6,7-tetrahydro-1*H*-indol-1-yl-4-d)-2-fluorobenzonitrile.

17. A pharmaceutical composition, wherein, comprising at least one compound of any one of claims 1-16 and at least one pharmaceutically acceptable excipient.

18. The compound according to any one of claims 1-16 or the pharmaceutical composition of claim 17 for use in the treatment of disease mediated by HIF-2α; the disease is VHL syndrome, autoimmune disease, inflammatory disease and/or cancer.

19. The compound according to any one of claims 1-16 or the pharmaceutical composition of claim 18 for use in the treatment of disease mediated by HIF-2α, wherein, the cancer is selected from hematological cancer, lymphoma, multiple myeloma, digestive system tumor, reproductive system tumor, brain tumor, nervous system tumor, neoplasm.

20. The compound according to any one of claims 1-16 or the pharmaceutical composition of claim 19 for use in the treatment of disease mediated by HIF-2α, wherein, the cancer is selected from glioma, pheochromocytoma, paraganglioma, colon cancer, rectal cancer, prostate cancer, lung cancer, pancreatic cancer, liver cancer, kidney cancer, cervical cancer, uterine cancer, stomach cancer, ovarian cancer, breast cancer, skin cancer, brain cancer, meningioma, neurocytoma, meningioma and medulloblastoma.