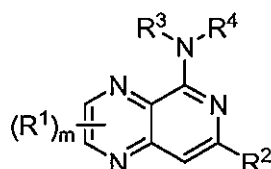


WHAT IS CLAIMED IS:

1. At least one compound of formula (I):



(I)

and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein

R^1 is independently chosen from hydrogen, halo, -CN, hydroxyl, optionally substituted C_1 - C_6 alkyl, optionally substituted C_3 - C_6 cycloalkyl, optionally substituted amino, and optionally substituted C_1 - C_6 alkoxy,

R^2 is $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted alkenyl, and optionally substituted alkynyl;

or is cycloalkyl, heterocycle, aryl, heteroaryl, which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, -CN, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^3 and R^4 are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, -CN, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

or R³ and R⁴, together with the N atom to which they are attached, can form a 4-12 membered mono-cyclic, fused bicyclic or spirocyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, -NR⁵R⁶, -OR⁷, -S(O)_nR⁸, -C(O)R⁹, -C(O)OR⁷, -CN, -C(O)NR⁵R⁶, -NR⁵C(O)R⁹, -NR⁵S(O)_nR⁸, -NR⁵S(O)_nNR¹⁰R¹¹, -NR⁵C(O)OR⁷, -NR⁵C(O)NR¹⁰R¹¹, -NO₂, -S(O)_nNR⁵R⁶, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

m is 0, 1 or 2,

n is 1 or 2,

R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, and R¹¹ are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R⁵ and R⁶, R⁵ and R⁷, R⁵ and R⁸, R⁵ and R⁹, and R⁵ and R¹⁰ together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

2. At least one compound of claim 1, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R¹ is independently chosen from hydrogen, halo, hydroxyl, optionally substituted C₁-C₆ alkyl, optionally substituted C₃-C₆ cycloalkyl, optionally substituted amino, and optionally substituted C₁-C₆ alkoxy.

3. At least one compound of claim 1 or 2, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R¹ is independently chosen from

hydrogen, halo, -CN, hydroxyl; or is chosen from methyl, ethyl, *n*-propyl, *i*-propyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, *N*-methylamino, *N*-ethylamino, *N*-*n*-propylamino, *N*-*i*-propylamino, methoxy, ethoxy, propoxy, isopropoxy, each of which is optionally substituted.

4. At least one compound of any one of claims 1 to 3, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R¹ is independently chosen from hydrogen, hydroxyl, and alkyl.

5. At least one compound of any one of claims 1 to 4, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein m is 1.

6. At least one compound of any one of claims 1 to 5, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R² is C₅-C₁₀aryl, 3-8 membered heterocycle, or 5-10 membered heteroaryl, which is optionally substituted by one or more groups selected from halo, -NR⁵R⁶, -OR⁷, -S(O)_nR⁸, -C(O)R⁹, -C(O)OR⁷, -CN, -C(O)NR⁵R⁶, -NR⁵C(O)R⁹, -NR⁵S(O)_nR⁸, -NR⁵S(O)_nNR¹⁰R¹¹, -NR⁵C(O)OR⁷, -NR⁵C(O)NR¹⁰R¹¹, -NO₂, -S(O)_nNR⁵R⁶, optionally substituted C₁-C₆ alkyl, optionally substituted C₃-C₈ cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl, optionally substituted C₅-C₁₀ aryl, optionally substituted C₂-C₆ alkenyl, and optionally substituted C₂-C₆ alkynyl,

R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, and R¹¹ are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R⁵ and R⁶, R⁵ and R⁷, R⁵ and R⁸, R⁵ and R⁹, and R⁵ and R¹⁰ together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted

lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

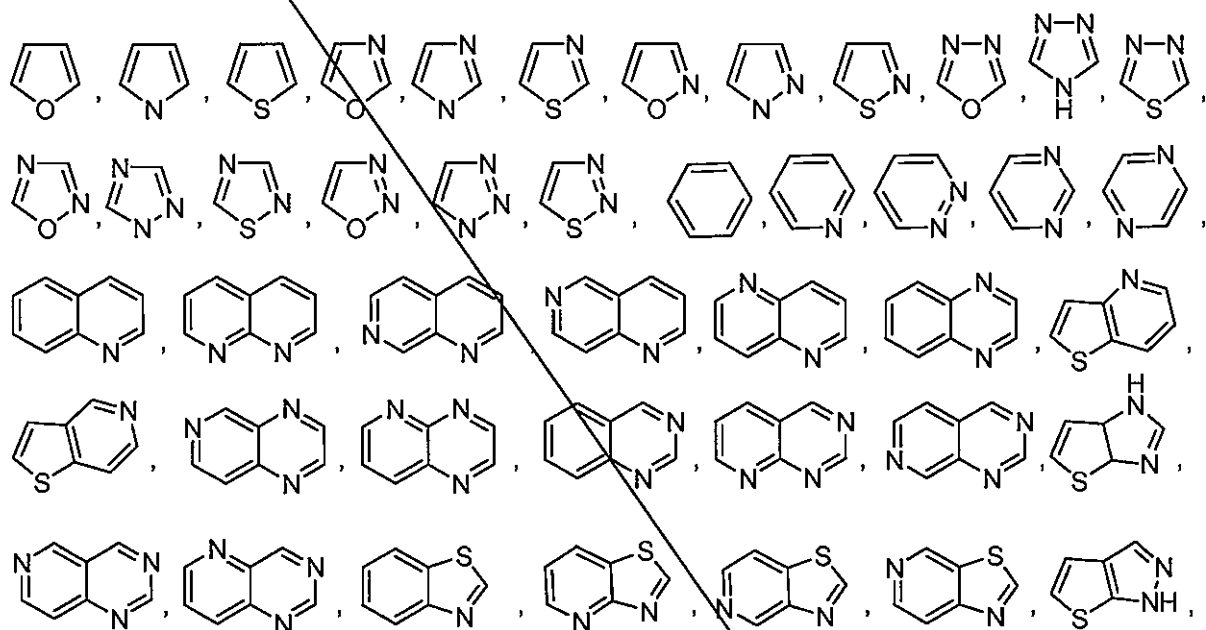
7. At least one compound of any one of claims 1 to 6, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^2 is independently chosen from phenyl, naphthyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholyl, homomorpholyl, thiomorpholyl, diazepanyl, oxazepanyl, which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholyl, homomorpholyl, thiomorpholyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, phenyl, naphthyl, each of which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

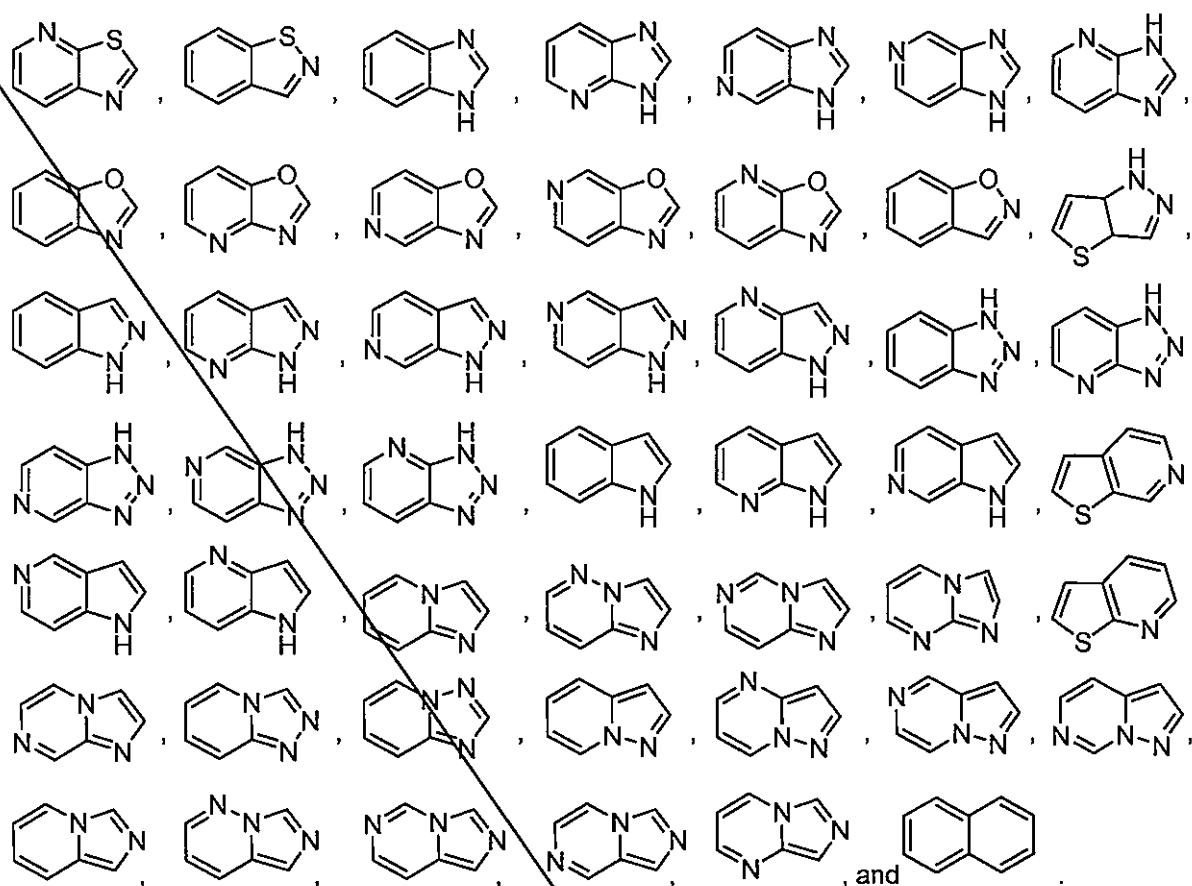
R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally

substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

8. At least one compound of any one of claims 1 to 7, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^2 is independently chosen from





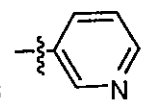
which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, phenyl, naphthyl, each of which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide..

9. At least one compound of any one of claims 1-8, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at

least one pharmaceutically acceptable salt thereof, wherein R^2 is

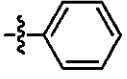


which is optionally substituted by one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, - $NR^5S(O)_nNR^{10}R^{11}$, - $NR^5C(O)OR^7$, - $NR^5C(O)NR^{10}R^{11}$, - NO_2 , - $S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, phenyl, naphthyl, each of which is optionally substituted by one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, - $NR^5S(O)_nNR^{10}R^{11}$, - $NR^5C(O)OR^7$, - $NR^5C(O)NR^{10}R^{11}$, - NO_2 , - $S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted

heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide, or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

10. At least one compound of any one of claims 1-8, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at

least one pharmaceutically acceptable salt thereof, wherein R^2 is ,

which is optionally substituted by one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, - $NR^5S(O)_nNR^{10}R^{11}$, - $NR^5C(O)OR^7$, - $NR^5C(O)NR^{10}R^{11}$, - NO_2 , - $S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, phenyl, naphthyl, each of which is optionally substituted by one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, - $NR^5S(O)_nNR^{10}R^{11}$, - $NR^5C(O)OR^7$, - $NR^5C(O)NR^{10}R^{11}$, - NO_2 , - $S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted

heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide, or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

11. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^3 and R^4 are independently selected from hydrogen, C_1 - C_6 alkyl, C_3 - C_8 cycloalkyl, C_5 - C_{10} aryl, 5-10 membered heteroaryl, and 3-8 membered heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, - $NR^5S(O)_nNR^{10}R^{11}$, - $NR^5C(O)OR^7$, - $NR^5C(O)NR^{10}R^{11}$, - NO_2 , - $S(O)_nNR^5R^6$, optionally substituted C_1 - C_6 alkyl, optionally substituted C_3 - C_8 cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl, optionally substituted C_5 - C_{10} aryl, optionally substituted C_2 - C_6 alkenyl, and optionally substituted C_2 - C_6 alkynyl,

or R^3 and R^4 , together with the N atom to which they are attached, can form a 4-12 membered mono-cyclic, fused bicyclic or spirocyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, - $NR^5S(O)_nNR^{10}R^{11}$, - $NR^5C(O)OR^7$, - $NR^5C(O)NR^{10}R^{11}$, - NO_2 , - $S(O)_nNR^5R^6$, optionally substituted C_1 - C_6

alkyl, optionally substituted C₃-C₈ cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl, optionally substituted C₅-C₁₀ aryl, optionally substituted C₂-C₆ alkenyl, and optionally substituted C₂-C₆ alkynyl,

R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, and R¹¹ are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide, or R⁵ and R⁶, R⁵ and R⁷, R⁶ and R⁸, R⁵ and R⁹, and R⁵ and R¹⁰ together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

12. At least one compound of any one of claims 1 to 11, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R³ and R⁴ are independently selected from hydrogen, methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, phenyl, naphthyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, and pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, -NR⁵R⁶, -OR⁷, -S(O)_nR⁸, -C(O)R⁹, -C(O)OR⁷, -CN, -C(O)NR⁵R⁶, -NR⁵C(O)R⁹, -NR⁵S(O)_nR⁸, -NR⁵S(O)_nNR¹⁰R¹¹, -NR⁵C(O)OR⁷, -NR⁵C(O)NR¹⁰R¹¹, -NO₂, -S(O)_nNR⁵R⁶; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl,

pyrazinyl, pyridazinyl, pyrazolyl, imidazolynyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolynyl, indolyl, quinolynyl, phenyl, naphthyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, each of which is optional substituted, or R³ and R⁴, together with the N atom to which they are attached, can form a 4-12 membered mono-cyclic, fused bicyclic or spirocyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, -NR⁵R⁶, -OR⁷, -S(O)_nR⁸, -C(O)R⁹, -C(O)OR⁷, -CN, -C(O)NR⁵R⁶, -NR⁵C(O)R⁹, -NR⁵S(O)_nR⁸, -NR⁵S(O)_nNR¹⁰R¹¹, -NR⁵C(O)OR⁷, -NR⁵C(O)NR¹⁰R¹¹, -NO₂, -S(O)_nNR⁵R⁶; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, optionally substituted cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, optionally substituted pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholynyl, homomorpholynyl, thiomorpholynyl, diazepanyl, oxazepanyl, optionally substituted pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolynyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolynyl, indolyl, quinolynyl, optionally substituted phenyl, naphthyl, optionally substituted C₂-C₆ alkenyl, and optionally substituted C₂-C₆ alkynyl, each of which is optional substituted,

R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, and R¹¹ are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R⁵ and R⁶, R⁵ and R⁷, R⁵ and R⁸, R⁵ and R⁹, and R⁵ and R¹⁰ together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

13. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at

least one pharmaceutically acceptable salt thereof, wherein R^3 and R^4 are independently selected from hydrogen, alkyl, cycloalkyl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide, or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

14. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^4 is H and R^3 is lower alkyl, which is optionally substituted with one or more groups selected from alkyl, cycloalkyl, heterocycle and heteroaryl, each of which is optionally substituted by one or more groups chosen from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide, or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

15. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^3 and R^4 , together with the N atom to which they are attached can form a 4-7 membered mono-cyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide, or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted

with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

16. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^3 and R^4 , together with the N atom to which they are attached can form a 7-14 membered fused bicyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)nR^8$, $-NR^5S(O)nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

17. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^3 and R^4 , together with the N atom to which they are attached can form a 7-14 membered spirocyclic ring

optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide, or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

18. At least one compound of formula (I) according to claim 1, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein

R^1 is independently chosen from hydrogen, halo, hydroxyl, optionally substituted C_1 - C_6 alkyl, optionally substituted C_3 - C_6 cycloalkyl, optionally substituted amino, and optionally substituted C_1 - C_6 alkoxy,

R^2 is C_5 - C_{10} aryl, 3-8 membered heterocycle, or 5-10 membered heteroaryl, which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted C_1 - C_6 alkyl, optionally substituted C_3 - C_8 cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl,

optionally substituted C₅-C₁₀ aryl, optionally substituted C₂-C₆ alkenyl, and optionally substituted C₂-C₆ alkynyl,

R³ and R⁴ are independently selected from hydrogen, C₁-C₆ alkyl, C₃-C₈ cycloalkyl, C₅-C₁₀ aryl, 5-10 membered heteroaryl, and 3-8 membered heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, -NR⁵R⁶, -OR⁷, -S(O)_nR⁸, -C(O)R⁹, -C(O)OR⁷, -CN, -C(O)NR⁵R⁶, -NR⁵C(O)R⁹, -NR⁵S(O)_nR⁸, -NR⁵S(O)_nNR¹⁰R¹¹, -NR⁵C(O)OR⁷, -NR⁵C(O)NR¹⁰R¹¹, -NO₂, -S(O)_nNR⁵R⁶, optionally substituted C₁-C₆ alkyl, optionally substituted C₃-C₈ cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl, optionally substituted C₅-C₁₀ aryl, optionally substituted C₂-C₆ alkenyl, and optionally substituted C₂-C₆ alkynyl,

or R³ and R⁴, together with the N atom to which they are attached, can form a 4-12 membered mono-cyclic, fused bicyclic or spirocyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, -NR⁵R⁶, -OR⁷, -S(O)_nR⁸, -C(O)R⁹, -C(O)OR⁷, -CN, -C(O)NR⁵R⁶, -NR⁵C(O)R⁹, -NR⁵S(O)_nR⁸, -NR⁵S(O)_nNR¹⁰R¹¹, -NR⁵C(O)OR⁷, -NR⁵C(O)NR¹⁰R¹¹, -NO₂, -S(O)_nNR⁵R⁶, optionally substituted C₁-C₆ alkyl, optionally substituted C₃-C₈ cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl, optionally substituted C₅-C₁₀ aryl, optionally substituted C₂-C₆ alkenyl, and optionally substituted C₂-C₆ alkynyl,

m is 0, 1 or 2,

n is 1 or 2

R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, and R¹¹ are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R⁵ and R⁶, R⁵ and R⁷, R⁵ and R⁸, R⁵ and R⁹, and R⁵ and R¹⁰ together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted

lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide..

19. At least one compound of formula (I) according to claim 1, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein

R^1 is independently chosen from hydrogen, halo, -CN, hydroxyl; or is chosen from methyl, ethyl, *n*-propyl, *i*-propyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, *N*-methylamino, *N*-ethylamino, *N*-*n*-propylamino, *N*-*i*-propylamino, methoxy, ethoxy, propoxy, isopropoxy, each of which is optional substituted.

R^2 is independently chosen from phenyl, naphthyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, which is optionally substituted by one or more groups selected from halo, -NR⁵R⁶, -OR⁷, -S(O)_nR⁸, -C(O)R⁹, -C(O)OR⁷, -CN, -C(O)NR⁵R⁶, -NR⁵C(O)R⁹, -NR⁵S(O)_nR⁸, -NR⁵S(O)_nNR¹⁰R¹¹, -NR⁵C(O)OR⁷, -NR⁵C(O)NR¹⁰R¹¹, -NO₂, -S(O)_nNR⁵R⁶; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, phenyl, naphthyl, each of which is optionally substituted by one or more groups selected from halo, -NR⁵R⁶, -OR⁷, -S(O)_nR⁸, -C(O)R⁹, -C(O)OR⁷, -CN, -C(O)NR⁵R⁶, -NR⁵C(O)R⁹, -NR⁵S(O)_nR⁸, -NR⁵S(O)_nNR¹⁰R¹¹, -NR⁵C(O)OR⁷, -NR⁵C(O)NR¹⁰R¹¹, -NO₂, -S(O)_nNR⁵R⁶, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl

R^3 and R^4 are independently selected from hydrogen, methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, phenyl, naphthyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl,

benzothienyl, benzoimidazolyl, indolyl, quinolyl, and pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, phenyl, naphthyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl, each of which is optional substituted.

or R^3 and R^4 , together with the N atom to which they are attached, can form a 4-12 membered mono-cyclic, fused bicyclic or spirocyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, optionally substituted cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, optionally substituted pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, optionally substituted pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, optionally substituted phenyl, naphthyl, optionally substituted C_2 - C_6 alkenyl, and optionally substituted C_2 - C_6 alkynyl, each of which is optional substituted.

m is 0, 1 or 2,

n is 1 or 2,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, phenyl, naphthyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl,

and pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl; cyano, or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, methoxy, ethoxy, *n*-propoxy, *i*-propoxy, *n*-butoxy, *i*-butoxy, *t*-butoxy, methylsulfonyl, ethylsulfonyl, *n*-propylsulfonyl, *i*-propylsulfonyl, acetyl, *n*-propionyl, *i*-propionyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, amino, amide, sulfonamide, each of which is optional substituted.

or R⁵ and R⁶, R⁵ and R⁷, R⁵ and R⁸, R⁵ and R⁹, and R⁵ and R¹⁰ together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl; cyano, or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, methoxy, ethoxy, *n*-propoxy, *i*-propoxy, *n*-butoxy, *i*-butoxy, *t*-butoxy, methylsulfonyl, ethylsulfonyl, *n*-propylsulfonyl, *i*-propylsulfonyl, acetyl, *n*-propionyl, *i*-propionyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, amino, amide, sulfonamide, each of which is optional substituted.

20. At least one compound of any one of claims 1 to 19, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein the optionally substituted lower alkyl is chosen from CF₃, CF₂H, aminoalkyl, hydroxyalkyl, alkoxyalkyl, and haloalkyl.

21. At least one compound chosen from compounds 1 to 516 and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof.

22. A composition comprising at least one compound of any one of claims 1 to 21, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof and at least one pharmaceutically acceptable carrier.

23. A pharmaceutical composition for treating a Syk kinase mediated disease comprising a therapeutically effective amount of a compound of Formula (I) of claim 1 and a pharmaceutically acceptable excipient.

24. A medicament for treating a Syk kinase mediated disease, wherein the medicament comprises a therapeutically effective amount of a compound of Formula (I) of claim 1.

25. Use of a compound of Formula (I) of claim 1 in the manufacture of a medicament for treating a Syk- mediated disease in a subject in need thereof.

26. A method for inhibiting a Syk kinase, comprising administering to a system or a subject in need thereof a therapeutically effective amount of a compound of Formula (I) of claim 1.

27. A method for treating a Syk-mediated disease comprising administering to a subject in need thereof a therapeutically effective amount of a compound of Formula (I) of claim 1.

28. The method of claim 27, wherein the disease is an inflammatory disease, an allergic disease, a cell- proliferative disease, an autoimmune disease or cytopenia.

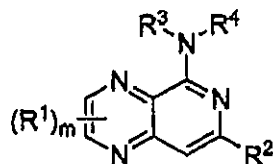
29. The method of claim 28, wherein the disease is allergic asthma, allergic rhinitis, rheumatoid arthritis, multiple sclerosis, lupus, systemic lupus erythematosus, lymphoma, B cell lymphoma, T cell lymphoma, leukemia, myelodysplastic syndrome, anemia, leucopenia, neutropenia, thrombocytopenia, granulocytopenia, pancytopenia or idiopathic thrombocytopenic purpura.

30. A compound for use in a method of medical treatment, wherein the method of medical treatment is for treating a Syk kinase mediated disease, wherein the disease is selected from allergic asthma, allergic rhinitis, rheumatoid arthritis, multiple sclerosis, lupus, systemic lupus erythematosus, lymphoma, B cell lymphoma, T cell lymphoma, leukemia, myelodysplastic syndrome, anemia, leucopenia, neutropenia, thrombocytopenia, granulocytopenia, pancytopenia and idiopathic thrombocytopenic purpura, and wherein the compound is a compound of Formula (I) of claim 1.

AMENDED CLAIMS

received by the International Bureau on 20 September 2012 (20.09.2012)

1. At least one compound of formula (I):



(I)

and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein

R¹ is independently chosen from hydrogen, halo, -CN, hydroxyl, optionally substituted C₁-C₆ alkyl, optionally substituted C₃-C₆ cycloalkyl, optionally substituted amino, and optionally substituted C₁-C₆ alkoxy,

R² is

heterocycle, aryl, or heteroaryl, which is optionally substituted by one or more groups selected from halo, -NR⁵R⁶, -OR⁷, -S(O)_nR⁸, -C(O)R⁹, -C(O)OR⁷, -CN, -C(O)NR⁵R⁶, -NR⁵C(O)R⁹, -NR⁵S(O)_nR⁸, -NR⁵S(O)_nNR¹⁰R¹¹, -NR⁵C(O)OR⁷, -NR⁵C(O)NR¹⁰R¹¹, -NO₂, -S(O)_nNR⁵R⁶, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R³ and R⁴ are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, -NR⁵R⁶, -OR⁷, -S(O)_nR⁸, -C(O)R⁹, -C(O)OR⁷, -CN, -C(O)NR⁵R⁶, -NR⁵C(O)R⁹, -NR⁵S(O)_nR⁸, -NR⁵S(O)_nNR¹⁰R¹¹, -NR⁵C(O)OR⁷, -NR⁵C(O)NR¹⁰R¹¹, -NO₂, -S(O)_nNR⁵R⁶, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

or R³ and R⁴, together with the N atom to which they are attached, can form a 4-12 membered mono-cyclic, fused bicyclic or spirocyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, -NR⁵R⁶, -OR⁷, -S(O)_nR⁸, -

$C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

m is 0, 1 or 2,

n is 1 or 2,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^6 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

2. At least one compound of claim 1, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^1 is independently chosen from hydrogen, halo, hydroxyl, optionally substituted C_1 - C_6 alkyl, optionally substituted C_3 - C_6 cycloalkyl, optionally substituted amino, and optionally substituted C_1 - C_6 alkoxy.

3. At least one compound of claim 1 or 2, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^1 is independently chosen from hydrogen, halo, $-CN$, hydroxyl; or is chosen from methyl, ethyl, *n*-propyl, *i*-propyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, *N*-methylamino, *N*-ethylamino, *N*-*n*-propylamino, *N*-*i*-propylamino, methoxy, ethoxy, propoxy, isopropoxy, each of which is optionally substituted.

4. At least one compound of any one of claims 1 to 3, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^1 is independently chosen from hydrogen, hydroxyl, and alkyl.

5. At least one compound of any one of claims 1 to 4, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein m is 1.

6. At least one compound of any one of claims 1 to 5, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^2 is C_5 - C_{10} aryl, 3-8 membered heterocycle, or 5-10 membered heteroaryl, which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted C_1 - C_6 alkyl, optionally substituted C_3 - C_8 cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl, optionally substituted C_5 - C_{10} aryl, optionally substituted C_2 - C_6 alkenyl, and optionally substituted C_2 - C_6 alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

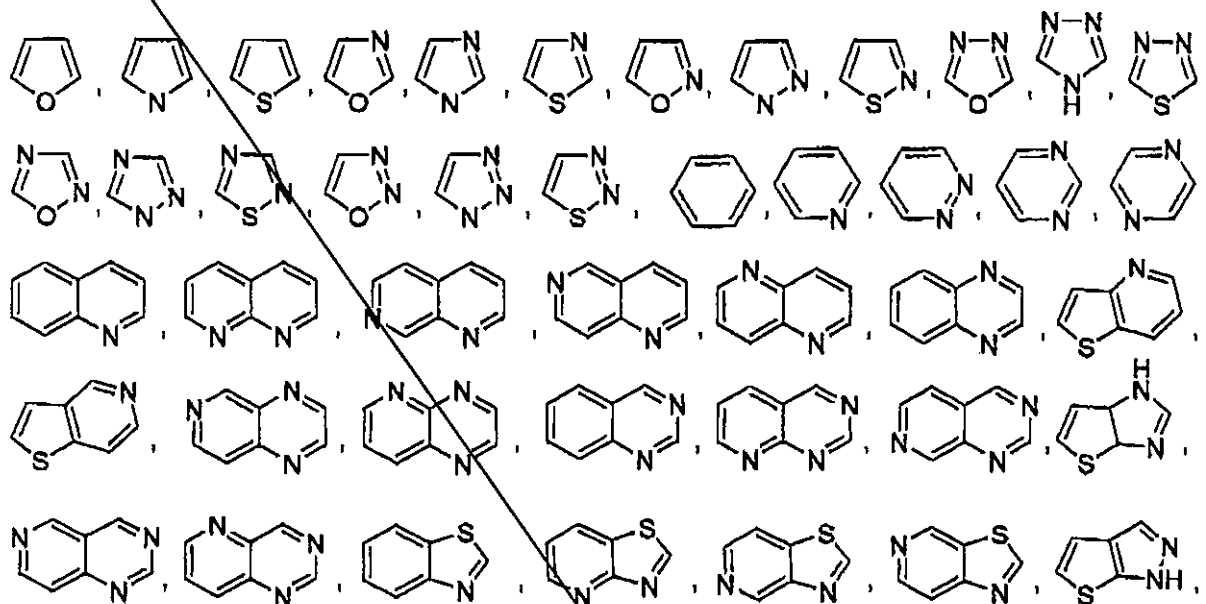
7. At least one compound of any one of claims 1 to 6, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^2 is independently chosen from phenyl, naphthyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, phenyl, naphthyl, each of which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

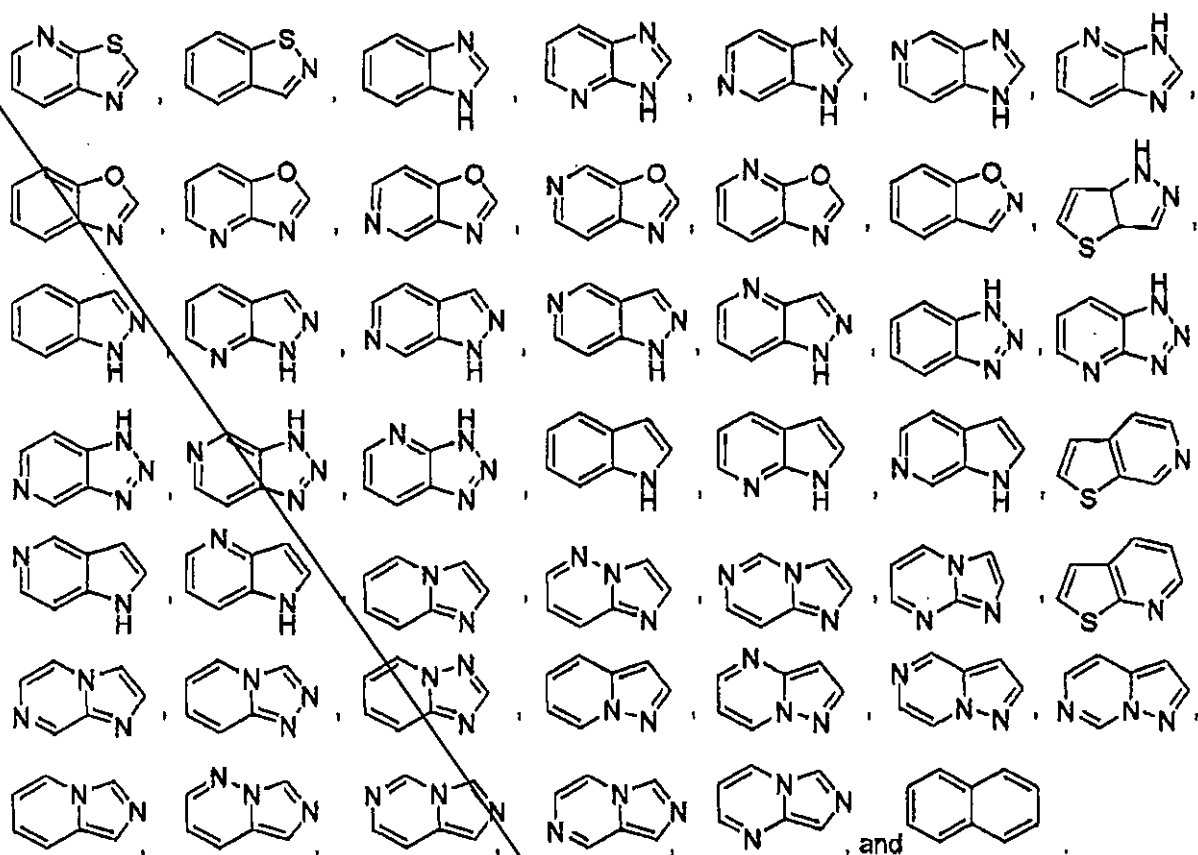
R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted

cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

8. At least one compound of any one of claims 1 to 7, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^2 is independently chosen from





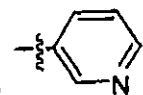
which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidiny, tetrahydrofuryl, piperidiny, piperaziny, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazoliny, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazoliny, indolyl, quinoliny, phenyl, naphthyl, each of which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide..

9. At least one compound of any one of claims 1-8, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at

least one pharmaceutically acceptable salt thereof, wherein R^2 is

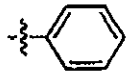


which is optionally substituted by one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, - $NR^5S(O)_nNR^{10}R^{11}$, - $NR^5C(O)OR^7$, - $NR^5C(O)NR^{10}R^{11}$, - NO_2 , - $S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, phenyl, naphthyl, each of which is optionally substituted by one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, - $NR^5S(O)_nNR^{10}R^{11}$, - $NR^5C(O)OR^7$, - $NR^5C(O)NR^{10}R^{11}$, - NO_2 , - $S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted

heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide, or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

10. At least one compound of any one of claims 1-8, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at

least one pharmaceutically acceptable salt thereof, wherein R^2 is ,

which is optionally substituted by one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, - $NR^5S(O)_nNR^{10}R^{11}$, - $NR^5C(O)OR^7$, - $NR^5C(O)NR^{10}R^{11}$, - NO_2 , - $S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, phenyl, naphthyl, each of which is optionally substituted by one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, - $NR^5S(O)_nNR^{10}R^{11}$, - $NR^5C(O)OR^7$, - $NR^5C(O)NR^{10}R^{11}$, - NO_2 , - $S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted

heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide, or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

11. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^3 and R^4 are independently selected from hydrogen, C_1 - C_6 alkyl, C_3 - C_8 cycloalkyl, C_5 - C_{10} aryl, 5-10 membered heteroaryl, and 3-8 membered heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, - $NR^5S(O)_nNR^{10}R^{11}$, - $NR^5C(O)OR^7$, - $NR^5C(O)NR^{10}R^{11}$, - NO_2 , - $S(O)_nNR^5R^6$, optionally substituted C_1 - C_6 alkyl, optionally substituted C_3 - C_8 cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl, optionally substituted C_5 - C_{10} aryl, optionally substituted C_2 - C_6 alkenyl, and optionally substituted C_2 - C_6 alkynyl,

or R^3 and R^4 , together with the N atom to which they are attached, can form a 4-12 membered mono-cyclic, fused bicyclic or spirocyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, - $NR^5S(O)_nNR^{10}R^{11}$, - $NR^5C(O)OR^7$, - $NR^5C(O)NR^{10}R^{11}$, - NO_2 , - $S(O)_nNR^5R^6$, optionally substituted C_1 - C_6

alkyl, optionally substituted C₃-C₈ cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl, optionally substituted C₅-C₁₀ aryl, optionally substituted C₂-C₈ alkenyl, and optionally substituted C₂-C₈ alkynyl,

R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, and R¹¹ are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide, or R⁵ and R⁶, R⁵ and R⁷, R⁵ and R⁸, R⁵ and R⁹, and R⁵ and R¹⁰ together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

12. At least one compound of any one of claims 1 to 11, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R³ and R⁴ are independently selected from hydrogen, methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, phenyl, naphthyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothieryl, benzoimidazolyl, indolyl, quinolyl, and pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholyl, homomorpholyl, thiomorpholyl, diazepanyl, oxazepanyl, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, -NR⁵R⁶, -OR⁷, -S(O)_nR⁸, -C(O)R⁹, -C(O)OR⁷, -CN, -C(O)NR⁵R⁶, -NR⁵C(O)R⁹, -NR⁵S(O)_nR⁸, -NR⁵S(O)_nNR¹⁰R¹¹, -NR⁵C(O)OR⁷, -NR⁵C(O)NR¹⁰R¹¹, -NO₂, -S(O)_nNR⁵R⁶; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholyl, homomorpholyl, thiomorpholyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl,

pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, phenyl, naphthyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, each of which is optional substituted,

or R³ and R⁴, together with the N atom to which they are attached, can form a 4-12 membered mono-cyclic, fused bicyclic or spirocyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, -NR⁵R⁶, -OR⁷, -S(O)_nR⁸, -C(O)R⁹, -C(O)OR⁷, -CN, -C(O)NR⁵R⁶, -NR⁵C(O)R⁹, -NR⁵S(O)_nR⁸, -NR⁵S(O)_nNR¹⁰R¹¹, -NR⁵C(O)OR⁷, -NR⁵C(O)NR¹⁰R¹¹, -NO₂, -S(O)_nNR⁵R⁶; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, optionally substituted cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, optionally substituted pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, optionally substituted pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, optionally substituted phenyl, naphthyl, optionally substituted C₂-C₆ alkenyl, and optionally substituted C₂-C₆ alkynyl, each of which is optional substituted,

R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, and R¹¹ are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R⁵ and R⁶, R⁵ and R⁷, R⁵ and R⁸, R⁵ and R⁹, and R⁵ and R¹⁰ together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

13. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at

least one pharmaceutically acceptable salt thereof, wherein R^3 and R^4 are independently selected from hydrogen, alkyl, cycloalkyl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide, or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

14. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^4 is H and R^3 is lower alkyl, which is optionally substituted with one or more groups selected from alkyl, cycloalkyl, heterocycle and heteroaryl, each of which is optionally substituted by one or more groups chosen from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide, or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

15. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^3 and R^4 , together with the N atom to which they are attached can form a 4-7 membered mono-cyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide, or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted

with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

16. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^3 and R^4 , together with the N atom to which they are attached can form a 7-14 membered fused bicyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)nR^8$, $-NR^5S(O)nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^6 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

17. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^3 and R^4 , together with the N atom to which they are attached can form a 7-14 membered spirocyclic ring

optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, $-NR^6R^8$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^6S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide, or R^5 and R^6 , R^6 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

18. At least one compound of formula (I) according to claim 1, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein

R^1 is independently chosen from hydrogen, halo, hydroxyl, optionally substituted C_1 - C_6 alkyl, optionally substituted C_3 - C_6 cycloalkyl, optionally substituted amino, and optionally substituted C_1 - C_6 alkoxy,

R^2 is C_5 - C_{10} aryl, 3-8 membered heterocycle, or 5-10 membered heteroaryl, which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted C_1 - C_6 alkyl, optionally substituted C_3 - C_8 cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl,

optionally substituted C₅-C₁₀ aryl, optionally substituted C₂-C₆ alkenyl, and optionally substituted C₂-C₆ alkynyl,

R³ and R⁴ are independently selected from hydrogen, C₁-C₈ alkyl, C₃-C₈ cycloalkyl, C₅-C₁₀ aryl, 5-10 membered heteroaryl, and 3-8 membered heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, -NR⁵R⁶, -OR⁷, -S(O)_nR⁸, -C(O)R⁹, -C(O)OR⁷, -CN, -C(O)NR⁵R⁶, -NR⁵C(O)R⁹, -NR⁵S(O)_nR⁸, -NR⁵S(O)_nNR¹⁰R¹¹, -NR⁵C(O)OR⁷, -NR⁵C(O)NR¹⁰R¹¹, -NO₂, -S(O)_nNR⁵R⁶, optionally substituted C₁-C₆ alkyl, optionally substituted C₃-C₈ cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl, optionally substituted C₅-C₁₀ aryl, optionally substituted C₂-C₆ alkenyl, and optionally substituted C₂-C₆ alkynyl,

or R³ and R⁴, together with the N atom to which they are attached, can form a 4-12 membered mono-cyclic, fused bicyclic or spirocyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, -NR⁵R⁶, -OR⁷, -S(O)_nR⁸, -C(O)R⁹, -C(O)OR⁷, -CN, -C(O)NR⁵R⁶, -NR⁵C(O)R⁹, -NR⁵S(O)_nR⁸, -NR⁵S(O)_nNR¹⁰R¹¹, -NR⁵C(O)OR⁷, -NR⁵C(O)NR¹⁰R¹¹, -NO₂, -S(O)_nNR⁵R⁶, optionally substituted C₁-C₆ alkyl, optionally substituted C₃-C₈ cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl, optionally substituted C₅-C₁₀ aryl, optionally substituted C₂-C₆ alkenyl, and optionally substituted C₂-C₆ alkynyl,

m is 0, 1 or 2,

n is 1 or 2

R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, and R¹¹ are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R⁵ and R⁶, R⁶ and R⁷, R⁵ and R⁸, R⁵ and R⁹, and R⁵ and R¹⁰ together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted

lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide..

19. At least one compound of formula (I) according to claim 1, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein

R^1 is independently chosen from hydrogen, halo, -CN, hydroxyl; or is chosen from methyl, ethyl, *n*-propyl, *i*-propyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, *N*-methylamino, *N*-ethylamino, *N*-*n*-propylamino, *N*-*i*-propylamino, methoxy, ethoxy, propoxy, isopropoxy, each of which is optional substituted.

R^2 is independently chosen from phenyl, naphthyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholyl, homomorpholyl, thiomorpholyl, diazepanyl, oxazepanyl, which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, -CN, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholyl, homomorpholyl, thiomorpholyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, phenyl, naphthyl, each of which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, -CN, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl

R^3 and R^4 are independently selected from hydrogen, methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, phenyl, naphthyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl,

benzothienyl, benzoimidazolyl, indolyl, quinolyl, and pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, phenyl, naphthyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl, each of which is optional substituted.

or R^3 and R^4 , together with the N atom to which they are attached, can form a 4-12 membered mono-cyclic, fused bicyclic or spirocyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, optionally substituted cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, optionally substituted pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, optionally substituted pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, optionally substituted phenyl, naphthyl, optionally substituted C_2 - C_6 alkenyl, and optionally substituted C_2 - C_6 alkynyl, each of which is optional substituted.

m is 0, 1 or 2,

n is 1 or 2,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, phenyl, naphthyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl,

and pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl; cyano, or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, methoxy, ethoxy, *n*-propoxy, *i*-propoxy, *n*-butoxy, *i*-butoxy, *t*-butoxy, methylsulfonyl, ethylsulfonyl, *n*-propylsulfonyl, *i*-propylsulfonyl, acetyl, *n*-propionyl, *i*-propionyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, amino, amide, sulfonamide, each of which is optional substituted.

or R⁵ and R⁶, R⁵ and R⁷, R⁵ and R⁸, R⁵ and R⁹, and R⁵ and R¹⁰ together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl; cyano, or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, methoxy, ethoxy, *n*-propoxy, *i*-propoxy, *n*-butoxy, *i*-butoxy, *t*-butoxy, methylsulfonyl, ethylsulfonyl, *n*-propylsulfonyl, *i*-propylsulfonyl, acetyl, *n*-propionyl, *i*-propionyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, amino, amide, sulfonamide, each of which is optional substituted.

20. At least one compound of any one of claims 1 to 19, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein the optionally substituted lower alkyl is chosen from CF₃, CF₂H, aminoalkyl, hydroxyalkyl, alkoxyalkyl, and haloalkyl.

21. At least one compound chosen from compounds 1 to 516 and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof.

22. A composition comprising at least one compound of any one of claims 1 to 21, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof and at least one pharmaceutically acceptable carrier.

23. A pharmaceutical composition for treating a Syk kinase mediated disease comprising a therapeutically effective amount of a compound of Formula (I) of claim 1 and a pharmaceutically acceptable excipient.

24. A medicament for treating a Syk kinase mediated disease, wherein the medicament comprises a therapeutically effective amount of a compound of Formula (I) of claim 1.

25. Use of a compound of Formula (I) of claim 1 in the manufacture of a medicament for treating a Syk- mediated disease in a subject in need thereof.

26. A method for inhibiting a Syk kinase, comprising administering to a system or a subject in need thereof a therapeutically effective amount of a compound of Formula (I) of claim 1.

27. A method for treating a Syk-mediated disease comprising administering to a subject in need thereof a therapeutically effective amount of a compound of Formula (I) of claim 1.

28. The method of claim 27, wherein the disease is an inflammatory disease, an allergic disease, a cell- proliferative disease, an autoimmune disease or cytopenia.

29. The method of claim 28, wherein the disease is allergic asthma, allergic rhinitis, rheumatoid arthritis, multiple sclerosis, lupus, systemic lupus erythematosus, lymphoma, B cell lymphoma, T cell lymphoma, leukemia, myelodysplastic syndrome, anemia, leucopenia, neutropenia, thrombocytopenia, granulocytopenia, pancytopenia or idiopathic thrombocytopenic purpura.

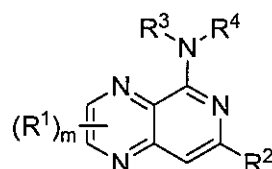
30. A compound for use in a method of medical treatment, wherein the method of medical treatment is for treating a Syk kinase mediated disease, wherein the disease is selected from allergic asthma, allergic rhinitis, rheumatoid arthritis, multiple sclerosis, lupus, systemic lupus erythematosus, lymphoma, B cell lymphoma, T cell lymphoma, leukemia, myelodysplastic syndrome, anemia, leucopenia, neutropenia, thrombocytopenia, granulocytopenia, pancytopenia and idiopathic thrombocytopenic purpura, and wherein the compound is a compound of Formula (I) of claim 1.

Statement under Article 19 (1)

Claim 1 is amended to restrict R² to optionally substituted heterocycle, aryl or heteroaryl. Since none of the Documents cited in the International Search Report discloses or suggests pyridopyrazine compounds substituted at 7-position with optionally substituted heterocycle, aryl or heteroaryl, the novelty and inventiveness of the amended claim 1 should be acknowledged.

WHAT IS CLAIMED IS:

1. At least one compound of formula (I):



(I)

and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein

R^1 is independently chosen from hydrogen, halo, -CN, hydroxyl, optionally substituted C_1 - C_6 alkyl, optionally substituted C_3 - C_6 cycloalkyl, optionally substituted amino, and optionally substituted C_1 - C_6 alkoxy,

R^2 is heterocycle, aryl, or heteroaryl, which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, -CN, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^3 and R^4 are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, -CN, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

or R^3 and R^4 , together with the N atom to which they are attached, can form a 4-12 membered mono-cyclic, fused bicyclic or spirocyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, -CN, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, -

$\text{NR}^5\text{S}(\text{O})_n\text{NR}^{10}\text{R}^{11}$, $-\text{NR}^5\text{C}(\text{O})\text{OR}^7$, $-\text{NR}^5\text{C}(\text{O})\text{NR}^{10}\text{R}^{11}$, $-\text{NO}_2$, $-\text{S}(\text{O})_n\text{NR}^5\text{R}^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

m is 0, 1 or 2,

n is 1 or 2,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacetyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacetyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

2. At least one compound of claim 1, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^1 is independently chosen from hydrogen, halo, hydroxyl, optionally substituted $\text{C}_1\text{-C}_6$ alkyl, optionally substituted $\text{C}_3\text{-C}_6$ cycloalkyl, optionally substituted amino, and optionally substituted $\text{C}_1\text{-C}_6$ alkoxy.

3. At least one compound of claim 1 or 2, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^1 is independently chosen from hydrogen, halo, $-\text{CN}$, hydroxyl; or is chosen from methyl, ethyl, *n*-propyl, *i*-propyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, *N*-methylamino, *N*-ethylamino, *N*-*n*-propylamino, *N*-*i*-propylamino, methoxy, ethoxy, propoxy, isopropoxy, each of which is optionally substituted.

4. At least one compound of any one of claims 1 to 3, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^1 is independently chosen from hydrogen, hydroxyl, and alkyl.

5. At least one compound of any one of claims 1 to 4, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein m is 1.

6. At least one compound of any one of claims 1 to 5, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^2 is C_5 - C_{10} aryl, 3-8 membered heterocycle, or 5-10 membered heteroaryl, which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted C_1 - C_6 alkyl, optionally substituted C_3 - C_8 cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl, optionally substituted C_5 - C_{10} aryl, optionally substituted C_2 - C_6 alkenyl, and optionally substituted C_2 - C_6 alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxyl, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxyl, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

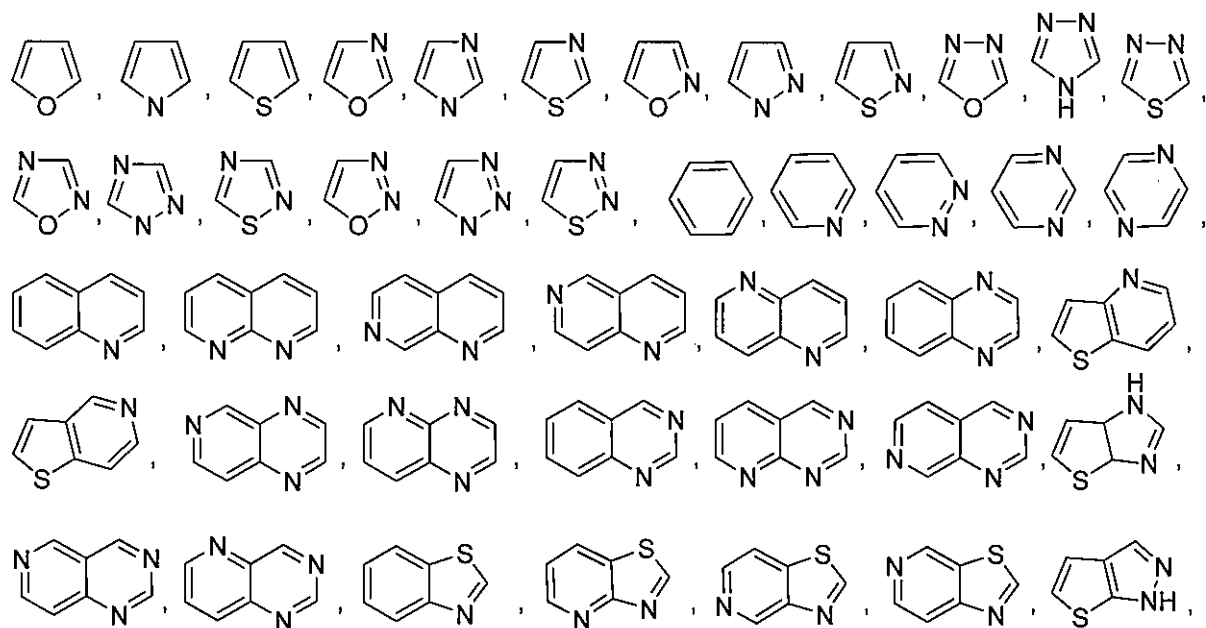
7. At least one compound of any one of claims 1 to 6, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^2 is independently chosen from phenyl, naphthyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholyl, homomorpholyl, thiomorpholyl, diazepanyl, oxazepanyl, which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholyl, homomorpholyl, thiomorpholyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, phenyl, naphthyl, each of which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

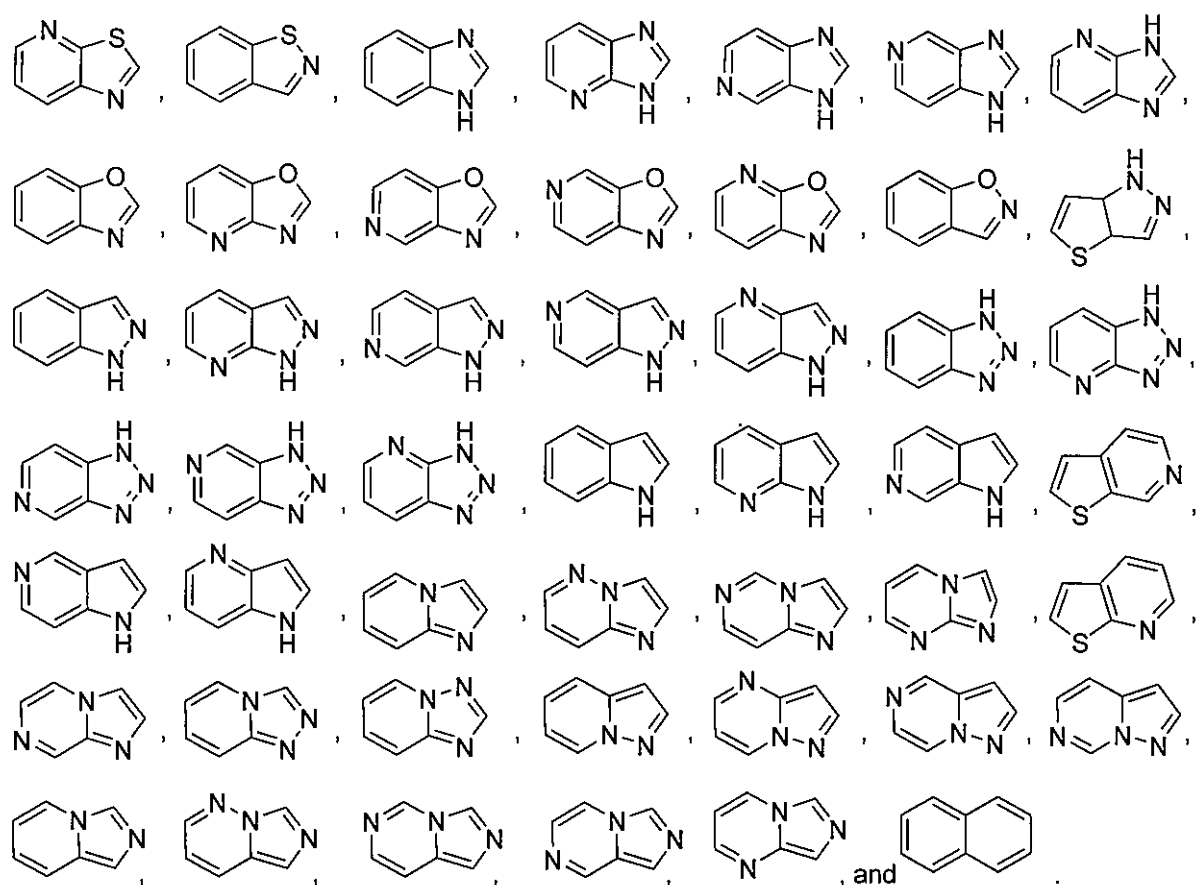
R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted

lower alkylsulfonyl, optionally substituted lower alkylacetyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

8. At least one compound of any one of claims 1 to 7, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^2 is independently chosen from



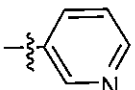


which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, phenyl, naphthyl, each of which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide..

9. At least one compound of any one of claims 1-8, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at

least one pharmaceutically acceptable salt thereof, wherein R^2 is ,

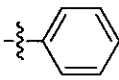
which is optionally substituted by one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, - $NR^5S(O)_nNR^{10}R^{11}$, - $NR^5C(O)OR^7$, - $NR^5C(O)NR^{10}R^{11}$, - NO_2 , - $S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, phenyl, naphthyl, each of which is optionally substituted by one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, - $NR^5S(O)_nNR^{10}R^{11}$, - $NR^5C(O)OR^7$, - $NR^5C(O)NR^{10}R^{11}$, - NO_2 , - $S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted

heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

10. At least one compound of any one of claims 1-8, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at

least one pharmaceutically acceptable salt thereof, wherein R^2 is ,

which is optionally substituted by one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, - $NR^5S(O)_nNR^{10}R^{11}$, - $NR^5C(O)OR^7$, - $NR^5C(O)NR^{10}R^{11}$, - NO_2 , - $S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, phenyl, naphthyl, each of which is optionally substituted by one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, - $NR^5S(O)_nNR^{10}R^{11}$, - $NR^5C(O)OR^7$, - $NR^5C(O)NR^{10}R^{11}$, - NO_2 , - $S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted

heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

11. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^3 and R^4 are independently selected from hydrogen, C_1 - C_6 alkyl, C_3 - C_8 cycloalkyl, C_5 - C_{10} aryl, 5-10 membered heteroaryl, and 3-8 membered heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, - $NR^5S(O)_nNR^{10}R^{11}$, - $NR^5C(O)OR^7$, - $NR^5C(O)NR^{10}R^{11}$, - NO_2 , - $S(O)_nNR^5R^6$, optionally substituted C_1 - C_6 alkyl, optionally substituted C_3 - C_8 cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl, optionally substituted C_5 - C_{10} aryl, optionally substituted C_2 - C_6 alkenyl, and optionally substituted C_2 - C_6 alkynyl,

or R^3 and R^4 , together with the N atom to which they are attached, can form a 4-12 membered mono-cyclic, fused bicyclic or spirocyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, - NR^5R^6 , - OR^7 , - $S(O)_nR^8$, - $C(O)R^9$, - $C(O)OR^7$, -CN, - $C(O)NR^5R^6$, - $NR^5C(O)R^9$, - $NR^5S(O)_nR^8$, -

$\text{NR}^5\text{S(O)}_n\text{NR}^{10}\text{R}^{11}$, $-\text{NR}^5\text{C(O)}\text{OR}^7$, $-\text{NR}^5\text{C(O)}\text{NR}^{10}\text{R}^{11}$, $-\text{NO}_2$, $-\text{S(O)}_n\text{NR}^5\text{R}^6$, optionally substituted $\text{C}_1\text{-C}_6$ alkyl, optionally substituted $\text{C}_3\text{-C}_8$ cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl, optionally substituted $\text{C}_5\text{-C}_{10}$ aryl, optionally substituted $\text{C}_2\text{-C}_6$ alkenyl, and optionally substituted $\text{C}_2\text{-C}_6$ alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

12. At least one compound of any one of claims 1 to 11, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^3 and R^4 are independently selected from hydrogen, methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, phenyl, naphthyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, and pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholyl, homomorpholyl, thiomorpholyl, diazepanyl, oxazepanyl, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, $-\text{NR}^5\text{R}^6$, $-\text{OR}^7$, $-\text{S(O)}_n\text{R}^8$, $-\text{C(O)}\text{R}^9$, $-\text{C(O)}\text{OR}^7$, $-\text{CN}$, $-\text{C(O)}\text{NR}^5\text{R}^6$, $-\text{NR}^5\text{C(O)}\text{R}^9$, $-\text{NR}^5\text{S(O)}_n\text{R}^8$, $-\text{NR}^5\text{S(O)}_n\text{NR}^{10}\text{R}^{11}$, $-\text{NR}^5\text{C(O)}\text{OR}^7$, $-\text{NR}^5\text{C(O)}\text{NR}^{10}\text{R}^{11}$, $-\text{NO}_2$, $-\text{S(O)}_n\text{NR}^5\text{R}^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl,

cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolynyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolynyl, indolyl, quinolynyl, phenyl, naphthyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, each of which is optional substituted,

or R³ and R⁴, together with the N atom to which they are attached, can form a 4-12 membered mono-cyclic, fused bicyclic or spirocyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, -NR⁵R⁶, -OR⁷, -S(O)_nR⁸, -C(O)R⁹, -C(O)OR⁷, -CN, -C(O)NR⁵R⁶, -NR⁵C(O)R⁹, -NR⁵S(O)_nR⁸, -NR⁵S(O)_nNR¹⁰R¹¹, -NR⁵C(O)OR⁷, -NR⁵C(O)NR¹⁰R¹¹, -NO₂, -S(O)_nNR⁵R⁶; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, optionally substituted cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, optionally substituted pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, optionally substituted pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolynyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolynyl, indolyl, quinolynyl, optionally substituted phenyl, naphthyl, optionally substituted C₂-C₆ alkenyl, and optionally substituted C₂-C₆ alkynyl, each of which is optional substituted,

R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, and R¹¹ are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R⁵ and R⁶, R⁵ and R⁷, R⁵ and R⁸, R⁵ and R⁹, and R⁵ and R¹⁰ together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted

cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

13. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^3 and R^4 are independently selected from hydrogen, alkyl, cycloalkyl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

14. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^4 is H and R^3 is lower alkyl, which is optionally substituted with one or more groups selected from alkyl, cycloalkyl, heterocycle and heteroaryl, each of which is optionally substituted by one

or more groups chosen from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

15. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^3 and R^4 , together with the N atom to which they are attached can form a 4-7 membered mono-cyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for

hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

16. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^3 and R^4 , together with the N atom to which they are attached can form a 7-14 membered fused bicyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)nR^8$, $-NR^5S(O)nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally

substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

17. At least one compound of any one of claims 1 to 10, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein R^3 and R^4 , together with the N atom to which they are attached can form a 7-14 membered spirocyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl,

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R^5 and R^6 , R^5 and R^7 , R^5 and R^8 , R^5 and R^9 , and R^5 and R^{10} together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide.

18. At least one compound of formula (I) according to claim 1, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein

R^1 is independently chosen from hydrogen, halo, hydroxyl, optionally substituted C_1 - C_6 alkyl, optionally substituted C_3 - C_6 cycloalkyl, optionally substituted amino, and optionally substituted C_1 - C_6 alkoxy,

R^2 is C_5 - C_{10} aryl, 3-8 membered heterocycle, or 5-10 membered heteroaryl, which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted C_1 - C_6 alkyl, optionally substituted C_3 - C_8 cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl, optionally substituted C_5 - C_{10} aryl, optionally substituted C_2 - C_6 alkenyl, and optionally substituted C_2 - C_6 alkynyl,

R^3 and R^4 are independently selected from hydrogen, C_1 - C_6 alkyl, C_3 - C_8 cycloalkyl, C_5 - C_{10} aryl, 5-10 membered heteroaryl, and 3-8 membered heterocycle, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted C_1 - C_6 alkyl, optionally substituted C_3 - C_8 cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl, optionally substituted C_5 - C_{10} aryl, optionally substituted C_2 - C_6 alkenyl, and optionally substituted C_2 - C_6 alkynyl,

or R^3 and R^4 , together with the N atom to which they are attached, can form a 4-12 membered mono-cyclic, fused bicyclic or spirocyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted C_1 - C_6 alkyl, optionally substituted C_3 - C_8 cycloalkyl, optionally substituted 3-8 membered heterocycle, optionally substituted 5-10 membered heteroaryl, optionally substituted C_5 - C_{10} aryl, optionally substituted C_2 - C_6 alkenyl, and optionally substituted C_2 - C_6 alkynyl,

m is 0, 1 or 2,

n is 1 or 2

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , and R^{11} are independently selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocycle, each of which except for

hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide,

or R⁵ and R⁶, R⁵ and R⁷, R⁵ and R⁸, R⁵ and R⁹, and R⁵ and R¹⁰ together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl, cyano, optionally substituted lower alkyl, optionally substituted lower alkoxy, optionally substituted lower alkylsulfonyl, optionally substituted lower alkylacyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted amino, and optionally substituted amide, optionally substituted sulfonamide..

19. At least one compound of formula (I) according to claim 1, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein

R¹ is independently chosen from hydrogen, halo, -CN, hydroxyl; or is chosen from methyl, ethyl, *n*-propyl, *i*-propyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, *N*-methylamino, *N*-ethylamino, *N*-*n*-propylamino, *N*-*i*-propylamino, methoxy, ethoxy, propoxy, isopropoxy, each of which is optional substituted.

R² is independently chosen from phenyl, naphthyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolynyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolynyl, indolyl, quinolynyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholynyl, homomorpholynyl, thiomorpholynyl, diazepanyl, oxazepanyl, which is optionally substituted by one or more groups selected from halo, -NR⁵R⁶, -OR⁷, -S(O)_nR⁸, -C(O)R⁹, -C(O)OR⁷, -CN, -C(O)NR⁵R⁶, -NR⁵C(O)R⁹, -NR⁵S(O)_nR⁸, -NR⁵S(O)_nNR¹⁰R¹¹, -NR⁵C(O)OR⁷, -NR⁵C(O)NR¹⁰R¹¹, -NO₂, -S(O)_nNR⁵R⁶; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholynyl, homomorpholynyl, thiomorpholynyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolynyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolynyl, indolyl, quinolynyl,

phenyl, naphthyl, each of which is optionally substituted by one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$, optionally substituted lower alkyl, optionally substituted cycloalkyl, optionally substituted heterocycle, optionally substituted heteroaryl, optionally substituted aryl, optionally substituted alkenyl, and optionally substituted alkynyl

R^3 and R^4 are independently selected from hydrogen, methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, phenyl, naphthyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, and pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazolyl, indolyl, quinolyl, phenyl, naphthyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl, each of which is optional substituted.

or R^3 and R^4 , together with the N atom to which they are attached, can form a 4-12 membered mono-cyclic, fused bicyclic or spirocyclic ring optionally containing an additional 1-3 hetero-atoms chosen from N, O and S, which is optionally substituted with one or more groups selected from halo, $-NR^5R^6$, $-OR^7$, $-S(O)_nR^8$, $-C(O)R^9$, $-C(O)OR^7$, $-CN$, $-C(O)NR^5R^6$, $-NR^5C(O)R^9$, $-NR^5S(O)_nR^8$, $-NR^5S(O)_nNR^{10}R^{11}$, $-NR^5C(O)OR^7$, $-NR^5C(O)NR^{10}R^{11}$, $-NO_2$, $-S(O)_nNR^5R^6$; or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, optionally substituted cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, optionally substituted pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholinyl, homomorpholinyl, thiomorpholinyl, diazepanyl, oxazepanyl, optionally substituted pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl,

benzoimidazoliny, indolyl, quinoliny, optionally substituted phenyl, naphthyl, optionally substituted C₂-C₆ alkenyl, and optionally substituted C₂-C₆ alkynyl, each of which is optional substituted.

m is 0, 1 or 2,

n is 1 or 2,

R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, and R¹¹ are independently selected from hydrogen, methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, phenyl, naphthyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, imidazoliny, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, benzofuryl, benzothienyl, benzoimidazoliny, indolyl, quinoliny, and pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholiny, homomorpholiny, thiomorpholiny, diazepanyl, oxazepanyl, each of which except for hydrogen, is optionally substituted with one or more groups selected from halo, hydroxyl; cyano, or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, methoxy, ethoxy, *n*-propoxy, *i*-propoxy, *n*-butoxy, *i*-butoxy, *t*-butoxy, methylsulfonyl, ethylsulfonyl, *n*-propylsulfonyl, *i*-propylsulfonyl, acetyl, *n*-propionyl, *i*-propionyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholiny, homomorpholiny, thiomorpholiny, diazepanyl, oxazepanyl, amino, amide, sulfonamide, each of which is optional substituted.

or R⁵ and R⁶, R⁵ and R⁷, R⁵ and R⁸, R⁵ and R⁹, and R⁵ and R¹⁰ together with the atom(s) to which they are attached can form a ring, which is optionally substituted with one or more groups selected from halo, hydroxyl; cyano, or selected from methyl, ethyl, *n*-propyl, *i*-propyl, *n*-butyl, *i*-butyl, and *t*-butyl, methoxy, ethoxy, *n*-propoxy, *i*-propoxy, *n*-butoxy, *i*-butoxy, *t*-butoxy, methylsulfonyl, ethylsulfonyl, *n*-propylsulfonyl, *i*-propylsulfonyl, acetyl, *n*-propionyl, *i*-propionyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, pyrrolidinyl, tetrahydrofuryl, piperidinyl, piperazinyl, morpholiny, homomorpholiny, thiomorpholiny, diazepanyl, oxazepanyl, amino, amide, sulfonamide, each of which is optional substituted.

20. At least one compound of any one of claims 1 to 19, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof, wherein the optionally substituted

lower alkyl is chosen from CF₃, CF₂H, aminoalkyl, hydroxyalkyl, alkoxyalkyl, and haloalkyl.

21. At least one compound chosen from compounds 1 to 516 and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof.

22. A composition comprising at least one compound of any one of claims 1 to 21, and/or its racemic mixture, enantiomers, diastereomers, tautomers, or mixtures of optional ratio, or at least one pharmaceutically acceptable salt thereof and at least one pharmaceutically acceptable carrier.

23. A pharmaceutical composition for treating a Syk kinase mediated disease comprising a therapeutically effective amount of a compound of Formula (I) of claim 1 and a pharmaceutically acceptable excipient.

24. A medicament for treating a Syk kinase mediated disease, wherein the medicament comprises a therapeutically effective amount of a compound of Formula (I) of claim 1.

25. Use of a compound of Formula (I) of claim 1 in the manufacture of a medicament for treating a Syk- mediated disease in a subject in need thereof, wherein the disease is an inflammatory disease, an allergic disease, a cell-proliferative disease, an autoimmune disease or cytopenia.

26. A compound of formula (I) of claim 1 for use in inhibiting a Syk kinase.

27. A compound of formula (I) of claim 1 for use in treating a Syk-mediated disease.

28. The compound of claim 27, wherein the disease is an inflammatory disease, an allergic disease, a cell- proliferative disease, an autoimmune disease or cytopenia.

29. The compound of claim 28, wherein the disease is allergic asthma, allergic rhinitis, rheumatoid arthritis, multiple sclerosis, lupus, systemic lupus erythematosus, lymphoma, B cell lymphoma, T cell lymphoma, leukemia, myelodysplastic syndrome, anemia, leucopenia, neutropenia, thrombocytopenia, granulocytopenia, pancytopenia or idiopathic thrombocytopenic purpura.

30. A compound for use in a method of medical treatment, wherein the method of medical treatment is for treating a Syk kinase mediated disease, wherein the disease is selected from allergic asthma, allergic rhinitis, rheumatoid arthritis, multiple sclerosis, lupus, systemic lupus erythematosus, lymphoma, B cell lymphoma, T cell lymphoma, leukemia, myelodysplastic syndrome, anemia, leucopenia, neutropenia, thrombocytopenia, granulocytopenia, pancytopenia and idiopathic thrombocytopenic purpura, and wherein the compound is a compound of Formula (I) of claim 1.