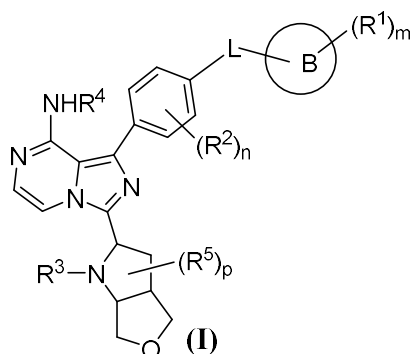


CLAIMS

1. A compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof,



wherein,

ring B is selected from the group consisting of 5-10 membered heteroaryl and C₆₋₁₀ aryl;

R¹ is independently selected from the group consisting of halogen, -OH, -NH₂, cyano, C₁₋₆ alkyl and C₁₋₆ alkoxy, wherein C₁₋₆ alkyl or C₁₋₆ alkoxy is optionally substituted with halogen; m is 0, 1, 2, 3 or 4;

L is selected from the group consisting of -C(O)NH-, -NHC(O)-, -O-, -NH-, -S-, -C(O)O-, -OC(O)-, -S(O)₂O- and -OS(O)₂-;

R² is independently selected from the group consisting of halogen, -OH, -NH₂, cyano, C₁₋₆ alkyl and C₁₋₆ alkoxy, wherein C₁₋₆ alkyl or C₁₋₆ alkoxy is optionally substituted with halogen; n is 0, 1, 2, 3 or 4;

R³ is selected from the group consisting of H, R^aC(O)-, R^aS(O)₂- and R^a-;

R⁵ is independently selected from the group consisting of halogen, -OH, -NH₂, cyano, C₁₋₆ alkyl and C₁₋₆ alkoxy;

p is 0, 1, 2 or 3;

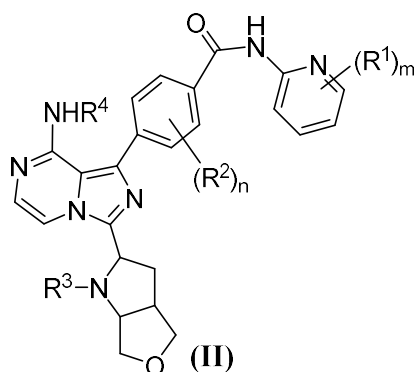
R⁴ is selected from the group consisting of hydrogen, R^aS(O)₂-, (R^aO)₂P(O)- and R^aC(O)-;

wherein R^a is independently selected from the group consisting of C₂₋₆ alkynyl, C₂₋₆ alkenyl, C₁₋₆ alkyl, C₃₋₆ cycloalkyl, (C₁₋₆ alkyl)NH-, (C₁₋₆ alkyl)₂N-, 3- to 6-membered heterocycloalkyl, 5- to 10-membered heteroaryl and C₆₋₁₀ aryl, wherein R^a is optionally substituted with (C₁₋₆ alkyl)₂N-, (C₁₋₆ alkyl)NH-, hydroxy, amino, halogen or cyano.

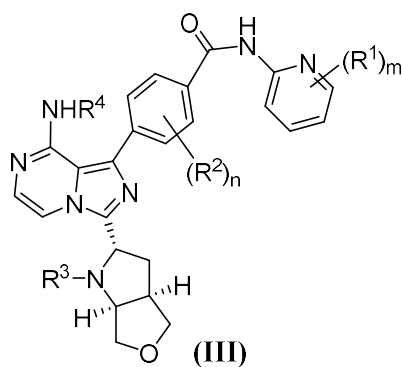
2. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to claim 1, wherein ring B is selected from the group consisting of 5- to 6-membered heteroaryl and phenyl; or ring B is selected from 6-membered heteroaryl.
3. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to claim 2, wherein ring B is pyridinyl.

4. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to claim 1 or 2, wherein R^1 is independently selected from the group consisting of halogen, C_{1-3} alkyl and C_{1-3} alkoxy, wherein C_{1-3} alkyl or C_{1-3} alkoxy is optionally substituted with halogen; or R^1 is independently selected from the group consisting of halogen and C_{1-3} alkyl optionally substituted with fluorine; or R^1 is trifluoromethyl.
5. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to claim 4, wherein R^1 is trifluoromethyl; and/or m is 0 or 1.
6. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 4, wherein m is 0, 1 or 2; or m is 0 or 1.
7. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 6, wherein L is selected from the group consisting of $-C(O)NH-$, $-NHC(O)-$, $-C(O)O-$ and $-OC(O)-$; or L is $-C(O)NH-$.
8. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 7, wherein R^2 is independently selected from the group consisting of halogen, $-OH$, $-NH_2$, C_{1-3} alkyl and C_{1-3} alkoxy; or R^2 is independently selected from halogen; or R^2 is fluorine.
9. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 8, wherein n is 0, 1 or 2; or n is 0 or 1.
10. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to claim 1, wherein R^2 is fluorine; and/or n is 0 or 1.
11. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 10, wherein R^3 is selected from the group consisting of H , $R^aC(O)-$ and $R^aS(O)_2-$; or R^3 is selected from $R^aC(O)-$.
12. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 8, wherein R^a is independently selected from the group consisting of C_{2-6} alkynyl, C_{2-6} alkenyl, C_{1-6} alkyl, C_{3-6} cycloalkyl, $(C_{1-6}$ alkyl) $NH-$, $(C_{1-6}$ alkyl) $_2N-$, 3- to 6-membered heterocycloalkyl, 5- to 10-membered heteroaryl and C_{6-10} aryl, wherein R^a is optionally substituted with $(C_{1-3}$ alkyl) $_2N-$, $(C_{1-3}$ alkyl) $NH-$, hydroxy or amino; or R^a is independently selected from the group consisting of C_{2-3} alkynyl, C_{2-3} alkenyl, C_{1-3} alkyl, C_{3-4} cycloalkyl, $(C_{1-3}$ alkyl) $NH-$ and $(C_{1-3}$ alkyl) $_2N-$, wherein R^a is optionally substituted with $(C_{1-3}$ alkyl) $_2N-$, $(C_{1-3}$ alkyl) $NH-$, hydroxy or amino.
13. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to claim 12, wherein R^a is independently selected from the group consisting of propynyl, C_{2-3} alkenyl, methyl, cyclopropyl, cyclobutyl, CH_3NH- , $(CH_3)_2CHNH-$ and $(CH_3)_2N-$, wherein methyl, C_{2-3} alkenyl and cyclopropyl are optionally substituted with $(CH_3)_2N-$, hydroxy or amino.

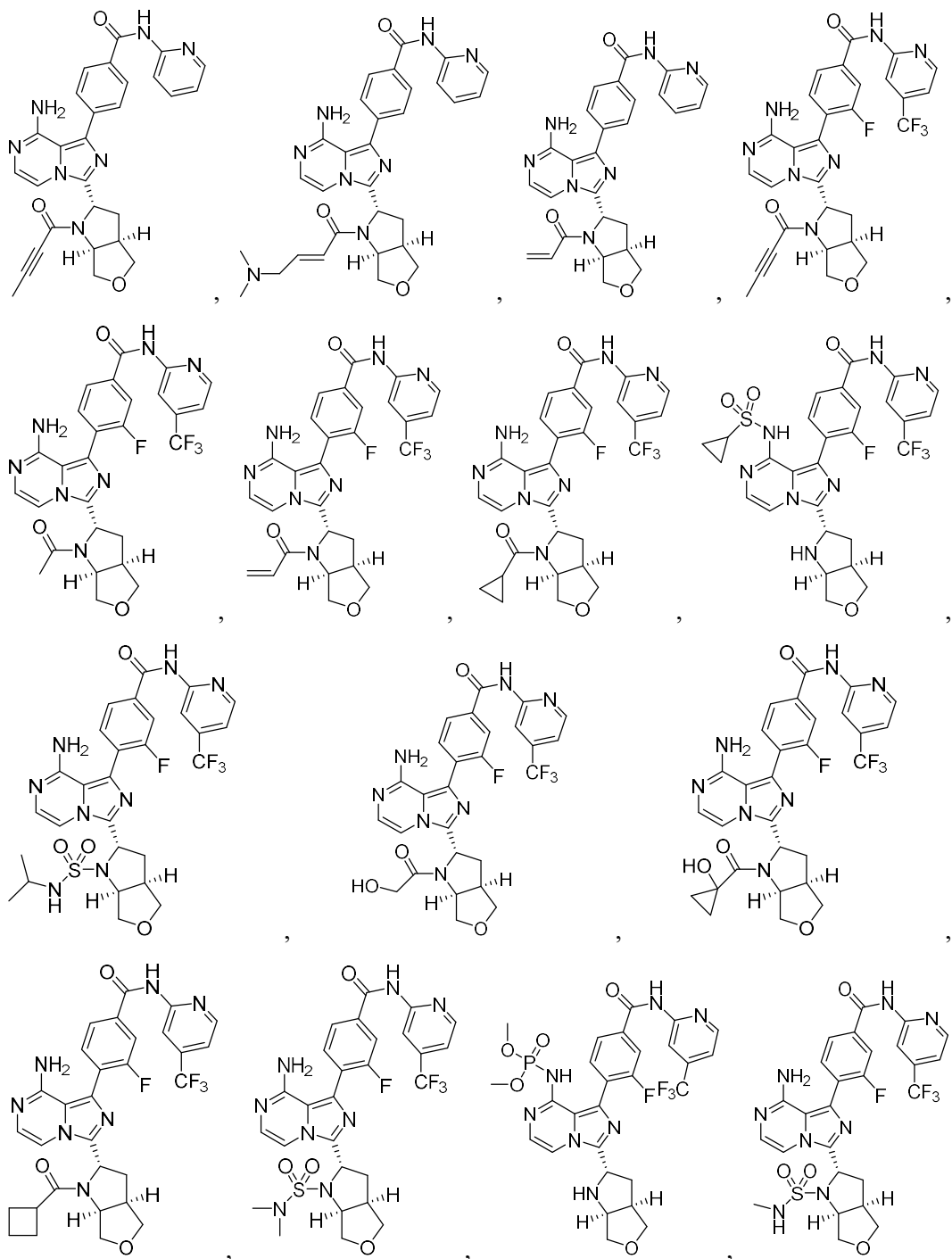
14. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to claim 1, wherein R^3 is selected from $R^aC(O)-$, R^a is independently selected from the group consisting of propynyl, C_{2-3} alkenyl or cyclopropyl.
15. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 14, wherein R^5 is independently selected from the group consisting of F, -OH, -NH₂, methyl and methoxy, and/or p is 0, 1 or 2; or p is 0.
16. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 15, wherein R^4 is selected from the group consisting of hydrogen, $R^aS(O)_2-$ and $(R^aO)_2P(O)-$; or R^4 is selected from the group consisting of hydrogen, C_{3-6} cycloalkyl- $S(O)_2-$ and $(C_{1-6}$ alkyl-O)₂P(O)-; or R^4 is selected from the group consisting of hydrogen, cyclopropyl- $S(O)_2-$ and $(CH_3O)_2P(O)-$.
17. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to claim 16, wherein R^4 is selected from the group consisting of hydrogen.
18. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to claim 1, wherein the compound of formula (I) is selected from a compound of formula (II),

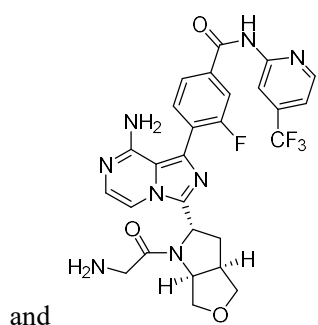


19. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to claim 1, wherein the compound of formula (I) is selected from a compound of formula (III),



20. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to claim 1, selected from the following compounds, a stereoisomer thereof or a pharmaceutically acceptable salt thereof:





21. A pharmaceutical composition comprising the compound, a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 20, and a pharmaceutically acceptable carrier.
22. A use of the compound, a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 20, or the pharmaceutical composition according to claim 21 in manufacture of a medicament for preventing or treating a BTK-related disease; optionally, the BTK-related disease is selected from autoimmune diseases, inflammatory diseases and cancer.