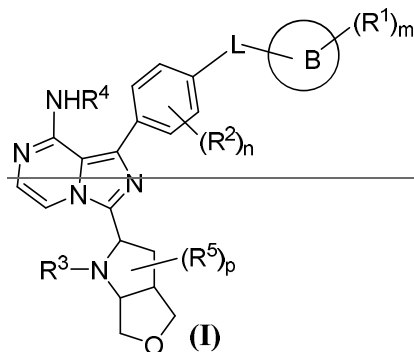


CLAIMS

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;

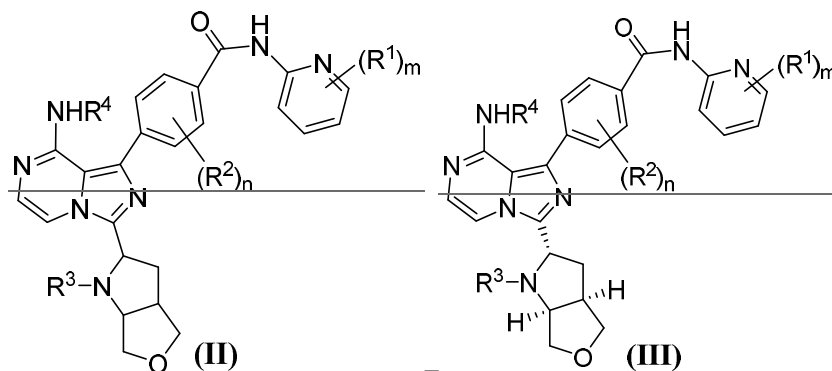
R⁴ is selected from the group consisting of hydrogen, R^aS(O)₂-, (R^aO)₂P(O)- and R^aC(O)-; wherein R^a is independently selected from the group consisting of C₂₋₆ alkynyl, C₂₋₆ alkenyl, C₁₋₆ alkyl, C₃₋₆ cycloalkyl, (C₁₋₆ alkyl)NH-, (C₁₋₆ alkyl)₂N-, 3- to 6-membered heterocycloalkyl, 5- to 10-membered 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; or ring B is pyridinyl.
3. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to claim 1 or 2, wherein R¹ is independently selected from the group

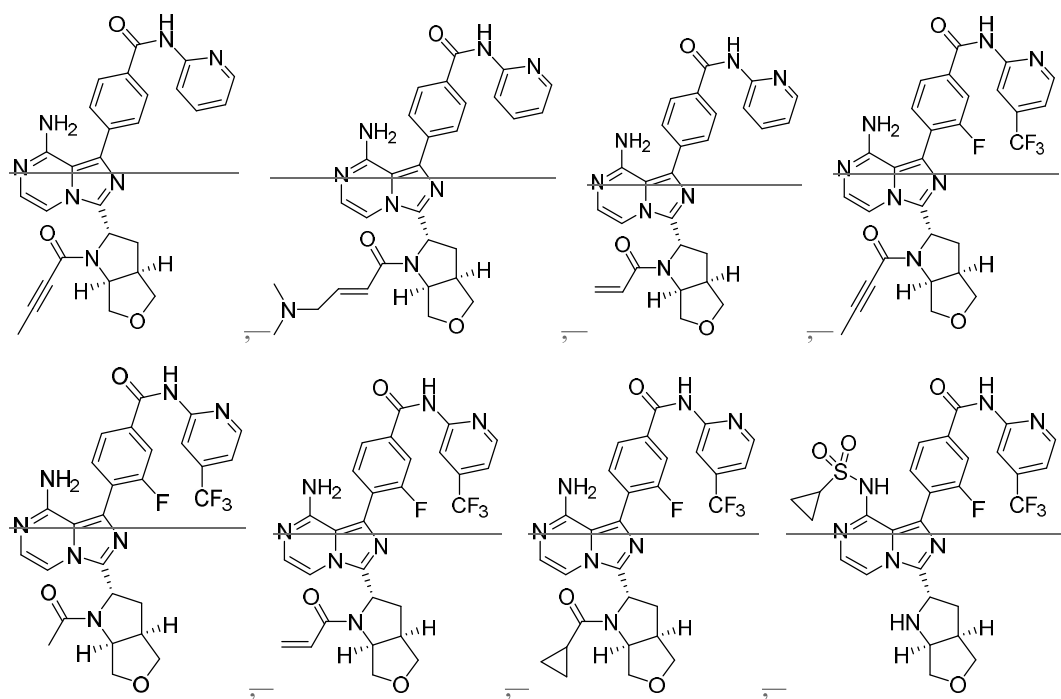
- consisting of halogen, C₁₋₃-alkyl and C₁₋₃-alkoxy, wherein C₁₋₃-alkyl or C₁₋₃-alkoxy is optionally substituted with halogen; or R¹ is independently selected from the group consisting of halogen and C₁₋₃-alkyl optionally substituted with fluorine; or R¹ is trifluoromethyl.
4. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, wherein m is 0, 1 or 2; or m is 0 or 1.
5. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 4, 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-.
6. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 5, wherein R² is independently selected from the group consisting of halogen, -OH, -NH₂, C₁₋₃-alkyl and C₁₋₃-alkoxy; or R² is independently selected from halogen; or R² is fluorine.
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 n is 0, 1 or 2; or n is 0 or 1.
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 R³ is selected from the group consisting of H, R^aC(O)- and R^aS(O)₂-.
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 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 (C₁₋₃-alkyl)₂N-, (C₁₋₃-alkyl)NH-, hydroxy or amino; or R^a is independently selected from the group consisting of C₂₋₃-alkynyl, C₂₋₃-alkenyl, C₁₋₃-alkyl, C₃₋₄-cycloalkyl, (C₁₋₃-alkyl)NH- and (C₁₋₃-alkyl)₂N-, wherein R^a is optionally substituted with (C₁₋₃-alkyl)₂N-, (C₁₋₃-alkyl)NH-, hydroxy or amino; or R^a is independently selected from the group consisting of propynyl, C₂₋₃-alkenyl, methyl, cyclopropyl, cyclobutyl, CH₃NH-, (CH₃)₂CHNH- and (CH₃)₂N-, wherein methyl, C₂₋₃-alkenyl and cyclopropyl are optionally substituted with (CH₃)₂N-, hydroxy or amino.
10. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 9, wherein R⁵ is independently selected from the group consisting of F, -OH, -NH₂, methyl and methoxy, and p is 0, 1 or 2; or p is 0.
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 R⁴ is selected from the group consisting of hydrogen, R^aS(O)₂- and (R^aO)₂P(O)-; or R⁴ is selected from the group consisting of hydrogen, C₃₋₆-cycloalkyl-S(O)₂- and (C₁₋₆-alkyl-O)₂P(O)-; or R⁴ is selected from the group

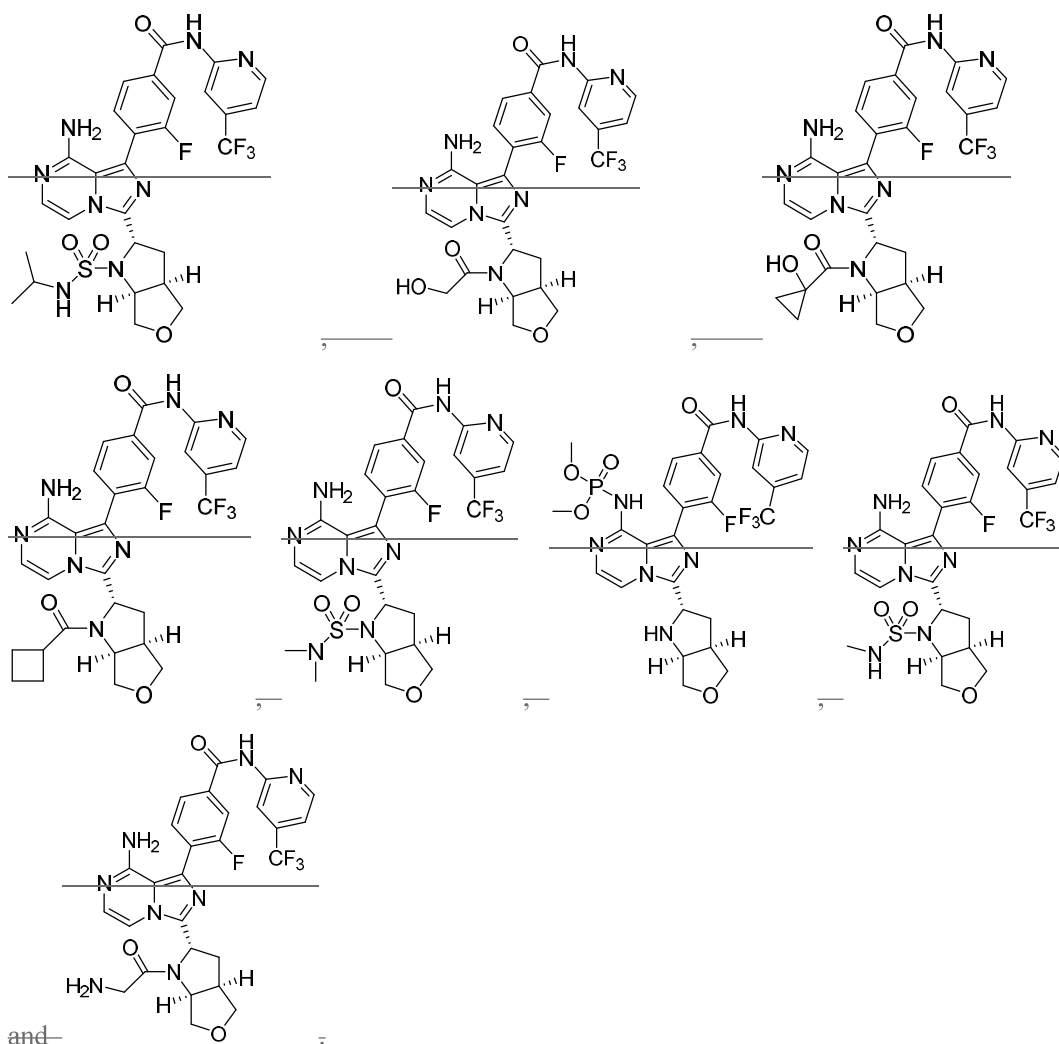
consisting of hydrogen, cyclopropyl-S(O)₂- and (CH₃O)₂-P(O)-.

12. 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 the group consisting of a compound of formula (II) and a compound of formula (III);



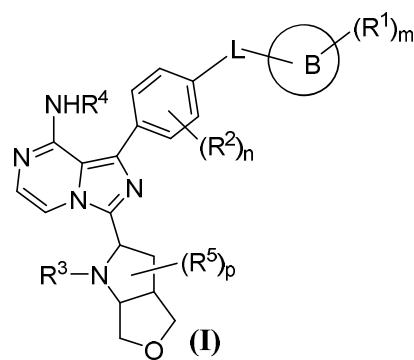
13. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to claim 1, selected from the following compounds, a stereoisomer thereof or a pharmaceutically acceptable salt thereof:





- ~~14. A pharmaceutical composition comprising the compound, a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 13.~~
- ~~15. The compound, a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 13, or the pharmaceutical composition according to claim 14 for use in preventing or treating a BTK-related disease.~~

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 R¹ is independently selected from the group consisting of halogen, C₁₋₃ alkyl and C₁₋₃ alkoxy, wherein C₁₋₃ alkyl or C₁₋₃ alkoxy is optionally substituted with halogen; or R¹ is independently selected from the group consisting

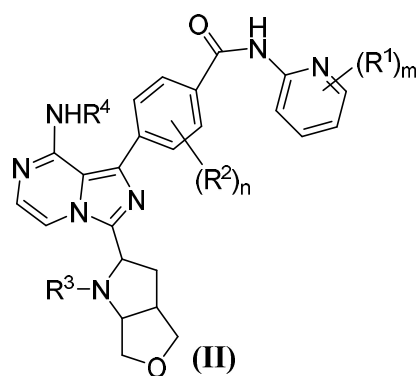
- of halogen and C₁₋₃ alkyl optionally substituted with fluorine; or R¹ is trifluoromethyl.
5. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to claim 4, wherein R¹ is trifluoromethyl; and/or m is 0 or 1.
 6. The compound of formula (I), a 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 R² is independently selected from the group consisting of halogen, -OH, -NH₂, C₁₋₃ alkyl and C₁₋₃ alkoxy; or R² is independently selected from halogen; or R² 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 R² 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 R³ is selected from the group consisting of H, R^aC(O)- and R^aS(O)₂-; or R³ 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 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 (C₁₋₃ alkyl)₂N-, (C₁₋₃ alkyl)NH-, hydroxy or amino; or R^a is independently selected from the group consisting of C₂₋₃ alkynyl, C₂₋₃ alkenyl, C₁₋₃ alkyl, C₃₋₄ cycloalkyl, (C₁₋₃ alkyl)NH- and (C₁₋₃ alkyl)₂N-, wherein R^a is optionally substituted with (C₁₋₃ alkyl)₂N-, (C₁₋₃ 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, C₂₋₃ alkenyl, methyl, cyclopropyl, cyclobutyl, CH₃NH-, (CH₃)₂CHNH- and (CH₃)₂N-, wherein methyl, C₂₋₃ alkenyl and cyclopropyl are optionally substituted with (CH₃)₂N-, hydroxy or amino.
 14. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to claim 1, wherein R³ is selected from R^aC(O)-, R^a is independently selected from the group consisting of propynyl, C₂₋₃ 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.

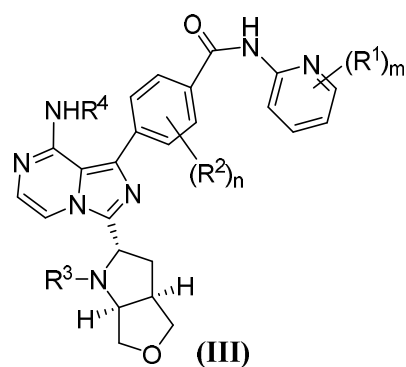
16. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 15, wherein R^4 is selected from the group consisting of hydrogen, $R^aS(O)_2$ - and $(R^aO)_2P(O)$ -; or R^4 is selected from the group consisting of hydrogen, C_{3-6} 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.

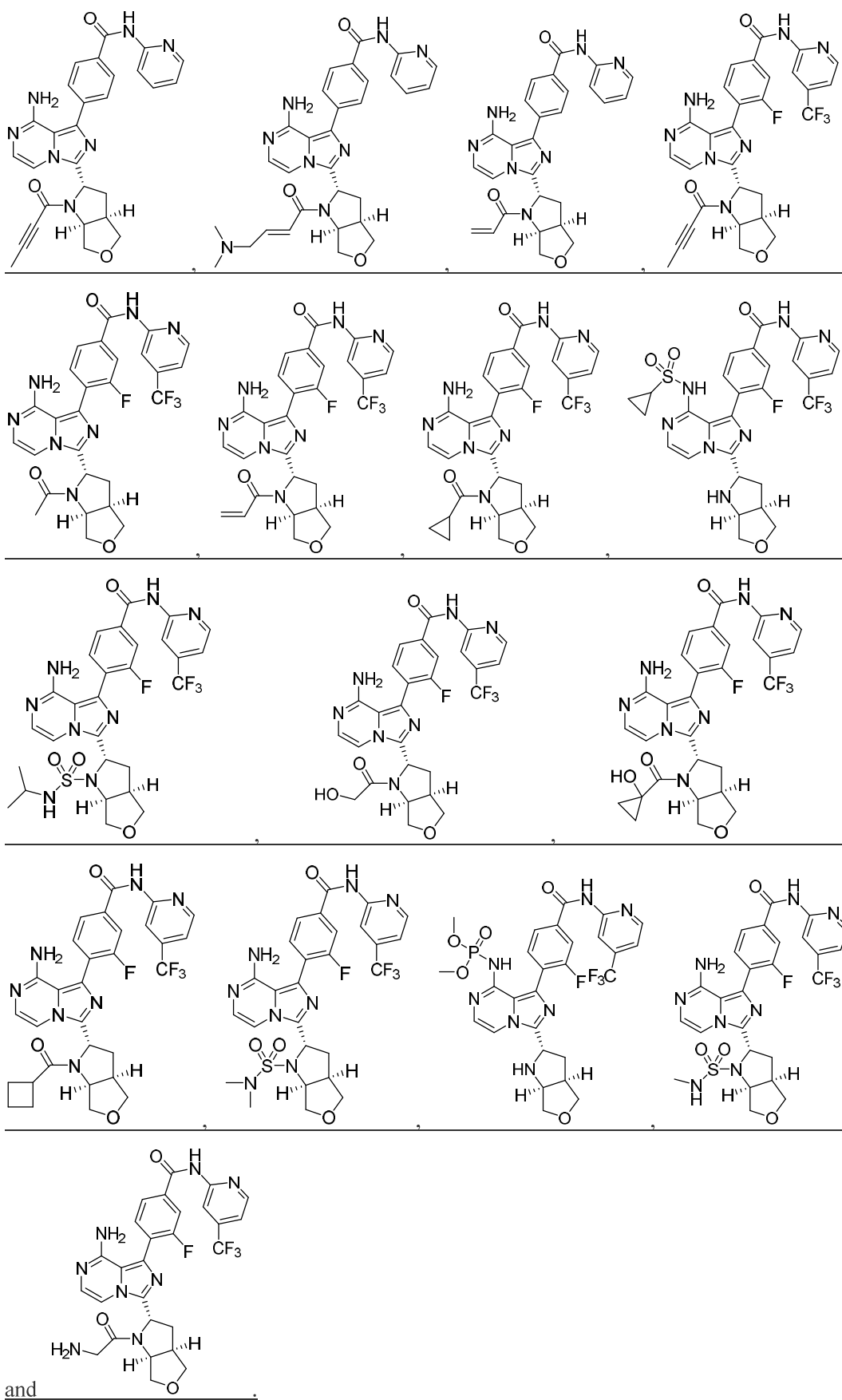
18. The compound of formula (I), a stereoisomer thereof or a pharmaceutically acceptable salt thereof according to claim 1, wherein the compound of formula (I) is selected from a compound of formula (II),



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.