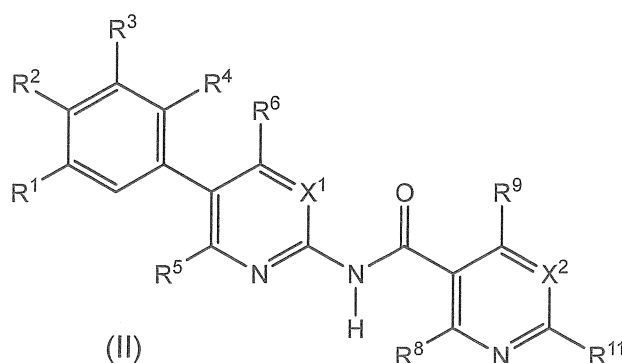


Claims

1. A compound or salt of formula II



wherein

X¹ is selected from N and CR⁷;

X² is selected from N and CR¹⁰;

each of R¹, R³, and R⁴ is independently selected from -H, halogen, substituted or unsubstituted C₁₋₈ alkyl, substituted or unsubstituted C₃₋₆ cycloalkyl, substituted or unsubstituted C₂₋₈ alkenyl, substituted or unsubstituted C₂₋₈ alkynyl, -CN, -NO₂, -C(O)R^A, -CO₂R^A, -C(O)NR^AR^B, -OR^A, -OC(O)R^A, -OC(O)NR^AR^B, -NR^CC(O)R^A, -NR^CC(O)NR^AR^B, -NR^AR^B, -NR^CCO₂R^A, -NR^CS(O)₂R^A, -SR^A, -S(O)R^A, -S(O)₂R^A, -S(O)₂NR^AR^B, substituted or unsubstituted C₆₋₁₀ aryl, substituted or unsubstituted 5- to 10-membered heteroaryl, and substituted or unsubstituted 3- to 10-membered heterocyclyl;

R² is independently selected from -H, halogen, substituted or unsubstituted C₁₋₈ alkyl, substituted or unsubstituted C₃₋₆ cycloalkyl, substituted or unsubstituted C₂₋₈ alkenyl, substituted or unsubstituted C₂₋₈ alkynyl, -CN, -NO₂, -C(O)R^A, -CO₂R^A, -C(O)NR^AR^B, -OR^A, -OC(O)R^A, -OC(O)NR^AR^B, -NR^CC(O)R^A, -NR^CC(O)NR^AR^B, -NR^AR^B, -NR^CCO₂R^A, -NR^CS(O)₂R^A, -SR^A, -S(O)R^A, -S(O)₂R^A, -S(O)₂NR^AR^B, substituted or unsubstituted C₆₋₁₀ aryl, substituted or unsubstituted 5- to 10-membered heteroaryl, and unsubstituted 3- to 10-membered heterocyclyl;

each of R⁵, R⁶, R⁷, R¹⁰, and R¹¹ is independently selected from -H, halogen, substituted or unsubstituted C₁₋₈ alkyl, substituted or unsubstituted C₂₋₈ alkenyl, substituted or unsubstituted C₂₋₈ alkynyl, -CN, -NO₂, -C(O)R^A, -CO₂R^A, -C(O)NR^AR^B, -OR^A, -OC(O)R^A, -OC(O)NR^AR^B, -NR^CC(O)R^A, -NR^CC(O)NR^AR^B, -NR^AR^B, -NR^CCO₂R^A, -NR^CS(O)₂R^A, -SR^A, -S(O)R^A, -S(O)₂R^A, -S(O)₂NR^AR^B, substituted or unsubstituted C₆₋₁₀ aryl, substituted or unsubstituted 5- to 10-membered heteroaryl, and substituted or unsubstituted 3- to 10-membered heterocyclyl;

each of R⁸ and R⁹ is independently selected from -H, halogen, -OR^A, -NH₂, -NO₂, -O(CO)R^A, -O(CO)NR^AR^B, -SH, and -SR^A;

each of R^A, R^B, and R^C, when present, is independently selected from -H, halogen, substituted or unsubstituted C₁₋₈ alkyl, substituted or unsubstituted C₃₋₆ cycloalkyl, substituted or unsubstituted C₂₋₈ alkenyl, substituted or unsubstituted C₂₋₈ alkynyl, -CN, =O, -NO₂, -OR', -OC(O)R', -CO₂R', -C(O)R', -C(O)NR'R'', -OC(O)NR'R'', -NR'''C(O)R', -NR'''C(O)NR'R'', -NR'R'', -NR'''CO₂R', -SR', -S(O)R', -S(O)₂R', -S(O)₂NR'R'', -NR'S(O)₂R'', substituted or unsubstituted C₆₋₁₀ aryl, substituted or unsubstituted 5- to 10-membered heteroaryl and substituted or unsubstituted 3- to 10-membered heterocyclyl;

R', R'', and R''' are each independently hydrogen, unsubstituted C₁₋₄ alkyl, and substituted or unsubstituted C₃₋₆ cycloalkyl or R' and R'' together with the atoms which they substitute form a substituted or unsubstituted 5-, 6-, or 7-membered ring;

provided that when X¹ is N, X² is CH, and each of R¹, R², R³, R⁴, R⁸, R⁹, and R¹¹ is hydrogen, then R⁵ and R⁶ cannot both be Cl or OCH₃;

provided that when X¹ and X² are both CH, then at least one of R¹, R², R³, R⁴, R⁵, R⁶, R⁸, R⁹, and R¹¹ is not hydrogen; and

provided that when X¹ is CH, X² is C-Cl, and R¹¹ is Cl or O-isopropyl, then at least one of R¹, R², R³, R⁴, R⁵, R⁶, R⁸, and R⁹ is not hydrogen.

2. The compound or salt of claim 1, wherein each of R¹, R², R³, and R⁴ is independently selected from -H, halogen, substituted or unsubstituted C₁₋₈

alkyl, substituted or unsubstituted C₃₋₆ cycloalkyl, -C(O)NR^AR^B, -OR^A, -NR^AR^B, substituted or unsubstituted 5- to 10-membered heteroaryl, and substituted or unsubstituted 3- to 10-membered heterocyclyl.

3. The compound or salt of any one of claims 2 and 3, wherein each of R¹, R², R³, and R⁴ is -H.

4. The compound or salt of claim 1, wherein at least one of R¹, R³, and R⁴ is halogen, substituted or unsubstituted C₁₋₈ alkyl, substituted or unsubstituted C₃₋₆ cycloalkyl, -C(O)NR^AR^B, -OR^A, -NR^AR^B, -S(O)₂R^A, substituted or unsubstituted 5- to 10-membered heteroaryl, or substituted or unsubstituted 3- to 10-membered heterocyclyl.

5. The compound or salt of any one of claims 1 and 4, wherein
R¹ is selected from -H, chloro, trifluoromethyl, cyclopropyl, -(C=O)NHCH₃, -OCH₃, -O-cyclopropyl, -NH-cyclopropyl, 1-methyl-piperazin-1-yl, (4-methylpiperazin-1-yl)ethoxyl, phenyl, oxetan-3-yl, cyclobutyl, *tert*-butyl, -S(O)₂-cyclopropyl, piperazin-1-yl, pyrrolidin-3-yl-amino, and -OH;
R² is selected from -H, chloro, and -OCH₃;
R³ is selected from -H, chloro, cyclopropyl, -(C=O)NHCH₃, -OCH₃, -O-cyclopropyl, -NH-cyclopropyl, -S(O)₂-cyclopropyl, 1-methyl-piperazin-1-yl, (4-methylpiperazin-1-yl)ethoxyl, phenyl, oxetan-3-yl, cyclobutyl, *tert*-butyl, -S(O)₂-cyclopropyl, piperazin-1-yl, pyrrolidin-3-yl-amino, and -OH; and
R⁴ is selected from -H, chloro, trifluoromethyl, and -OCH₃;
wherein at least one of R¹, R², R³, and R⁴ is not -H.

6. The compound or salt of any one of claims 1, 4, and 5, wherein at least one of R¹ and R³ is selected from -S(O)₂-cyclopropyl and 1-methyl-piperazin-1-yl.

7. The compound or salt of any one of claims 1, 4, 5, and 6, wherein one of R¹ and R³ is selected from -S(O)₂-cyclopropyl and 1-methyl-piperazin-1-yl

and the other of R¹ and R³ is selected from -H, -Cl, -S(O)₂-cyclopropyl, -NH-cyclopropyl, and cyclopropyl.

8. The compound or salt of any one of claims 1 and 4-7, wherein at least one of R¹ and R³ is -S(O)₂-cyclopropyl.

9. The compound or salt of any one of claims 1, 4, and 5-8, wherein R¹ is -S(O)₂-cyclopropyl and R³ is -H.

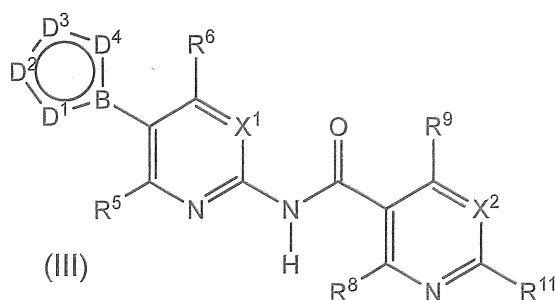
10. The compound or salt of any one of claims 1, 4, 5, and 6, wherein at least one of R¹ and R³ is 1-methyl-piperazin-1-yl.

11. The compound or salt of any one of claims 1, 4, and 5, wherein at least one of R¹ and R³ is piperazin-1-yl.

12. The compound or salt of any one of claims 1, 4, and 5, wherein at least one of R¹ and R³ is -O-cyclopropyl and the other of R¹ and R³ is -H.

13. The compound or salt of any one of claims 1, 4, and 5, wherein each of R¹ and R³ is selected from cyclopropyl, -O-cyclopropyl, -NH-cyclopropyl, -S(O)₂-cyclopropyl, 1-methyl-piperazin-1-yl, piperazin-1-yl, and oxetan-3-yl.

14. A compound or salt of formula III



wherein

X¹ is selected from N and CR⁷;

X² is selected from N and CR¹⁰;

each of D¹, D², D³, and D⁴ is selected from CR¹, CR², CR³, CR⁴, N, O, and S;

B is selected from C and N;

each of R¹, R², R³, and R⁴ is independently selected from -H, halogen, substituted or unsubstituted C₁₋₈ alkyl, substituted or unsubstituted C₃₋₆ cycloalkyl, substituted or unsubstituted C₂₋₈ alkenyl, substituted or unsubstituted C₂₋₈ alkynyl, -CN, -NO₂, -C(O)R^A, -CO₂R^A, -C(O)NR^AR^B, -OR^A, -OC(O)R^A, -OC(O)NR^AR^B, -NR^CC(O)R^A, -NR^CC(O)NR^AR^B, -NR^AR^B, -NR^CCO₂R^A, -NR^CS(O)₂R^A, -SR^A, -S(O)R^A, -S(O)₂R^A, -S(O)₂NR^AR^B, substituted or unsubstituted C₆₋₁₀ aryl, substituted or unsubstituted 5- to 10-membered heteroaryl, and substituted or unsubstituted 3- to 10-membered heterocyclyl;

each of R⁶, R⁷, R¹⁰, and R¹¹ is independently selected from -H, halogen, substituted or unsubstituted C₁₋₈ alkyl, substituted or unsubstituted C₂₋₈ alkenyl, substituted or unsubstituted C₂₋₈ alkynyl, -CN, -NO₂, -C(O)R^A, -CO₂R^A, -C(O)NR^AR^B, -OR^A, -OC(O)R^A, -OC(O)NR^AR^B, -NR^CC(O)R^A, -NR^CC(O)NR^AR^B, -NR^AR^B, -NR^CCO₂R^A, -NR^CS(O)₂R^A, -SR^A, -S(O)R^A, -S(O)₂R^A, -S(O)₂NR^AR^B, substituted or unsubstituted C₆₋₁₀ aryl, substituted or unsubstituted 5- to 10-membered heteroaryl, and substituted or unsubstituted 3- to 10-membered heterocyclyl;

R⁵ is selected from -H, halogen, substituted or unsubstituted C₁₋₈ alkyl, substituted or unsubstituted C₂₋₈ alkenyl, substituted or unsubstituted C₂₋₈ alkynyl, -CN, -NO₂, -C(O)R^A, -CO₂R^A, -C(O)NR^AR^B, -OR^A, -OC(O)R^A, -OC(O)NR^AR^B, -NR^CC(O)R^A, -NR^CC(O)NR^AR^B, -NR^AR^B, -NR^CCO₂R^A, -NR^CS(O)₂R^A, -SR^A, -S(O)R^A, -S(O)₂R^A, -S(O)₂NR^AR^B, substituted or unsubstituted C₆₋₁₀ aryl, substituted or unsubstituted 5- to 10-membered heteroaryl, and substituted or unsubstituted 3- to 10-membered heterocyclyl;

each of R⁸ and R⁹ is independently selected from -H, halogen, -OR^A,

-NH₂, -NO₂, -O(CO)R^A, -O(CO)NR^AR^B, -SH, and -SR^A;

each of R^A, R^B, and R^C, when present, is independently selected from -H, halogen, substituted or unsubstituted C₁₋₈ alkyl, substituted or unsubstituted C₃₋₆ cycloalkyl, substituted or unsubstituted C₂₋₈ alkenyl, substituted or unsubstituted C₂₋₈ alkynyl, -CN, =O, -NO₂, -OR', -OC(O)R', -CO₂R', -C(O)R', -C(O)NR'R'', -OC(O)NR'R'', -NR'''C(O)R', -NR'''C(O)NR'R'', -NR'R'', -NR'''CO₂R', -SR', -S(O)R', -S(O)₂R', -S(O)₂NR'R'', -NR'S(O)₂R'', substituted or unsubstituted C₆₋₁₀ aryl, substituted or unsubstituted 5- to 10-membered heteroaryl and substituted or unsubstituted 3- to 10-membered heterocyclyl;

R', R'', and R''' are each independently selected from -H, unsubstituted C₁₋₄ alkyl, and substituted or unsubstituted C₃₋₆ cycloalkyl or R' and R'' together with the atoms which they substitute form a substituted or unsubstituted 5-, 6-, or 7-membered ring;

provided that when B and D¹ are N, then D² and D⁴ cannot be C-pyridin-3-yl or C-trifluoromethyl.

15. The compound or salt of claim 14, wherein B is C.

16. The compound or salt of any one of claims 14 and 15, wherein each of D¹, D², and D⁴ is CH and D³ is S.

17. The compound or salt of any one of claims 14 and 15, wherein each of D², D³, and D⁴ is CH and D¹ is S.

18. The compound or salt of any one of claims 14 and 15, wherein each of D¹, D³, and D⁴ is CH and D² is O.

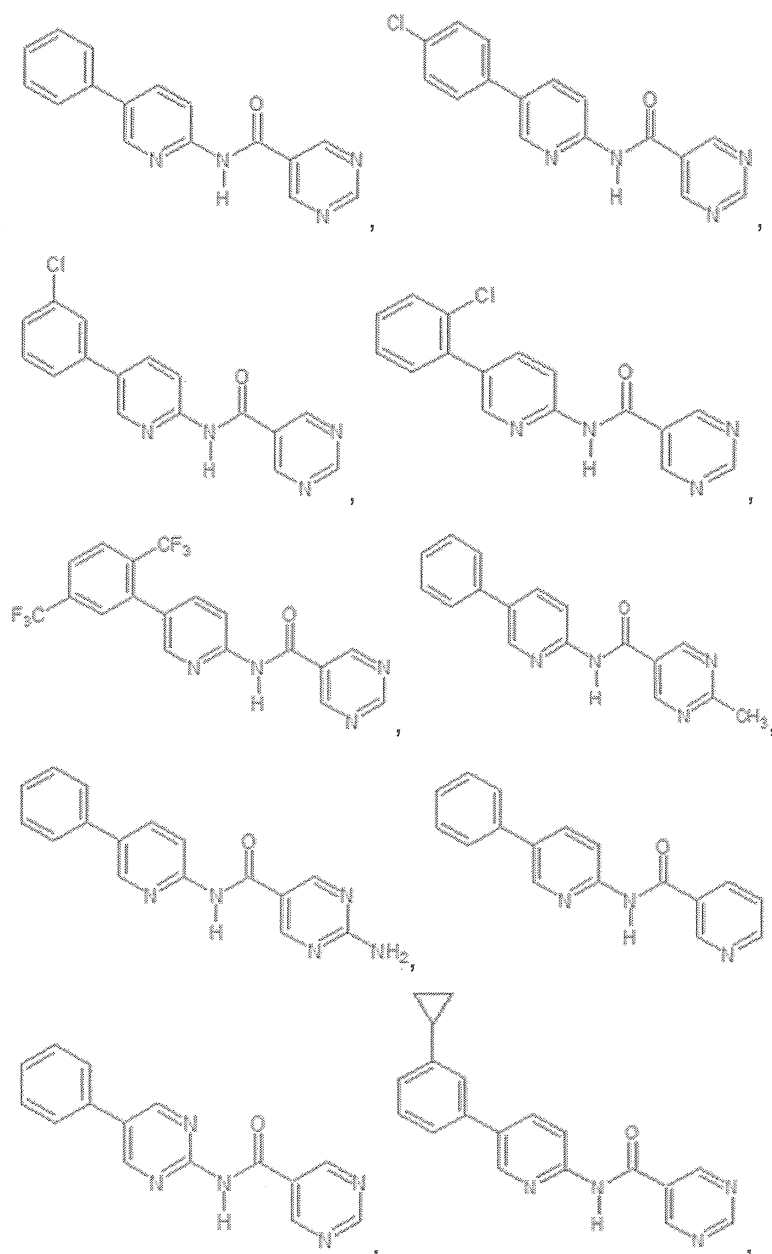
19. The compound or salt of any one of claims 14 and 15, wherein each of D¹, D², and D³ is CH and D⁴ is O.

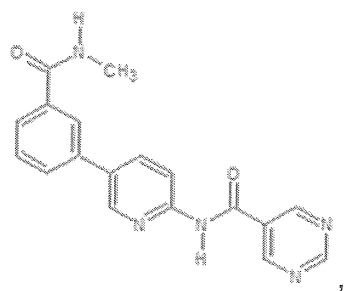
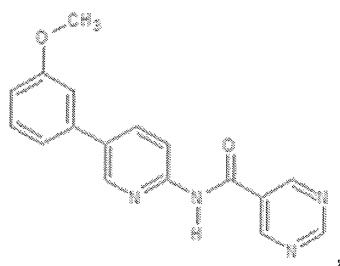
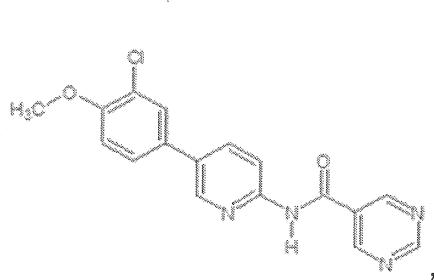
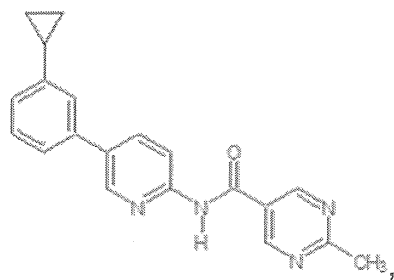
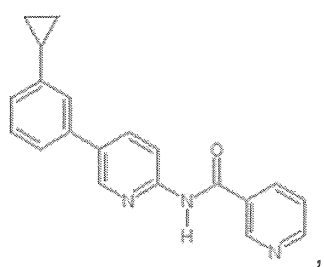
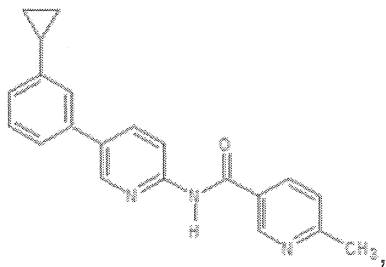
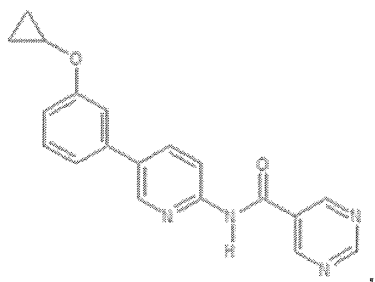
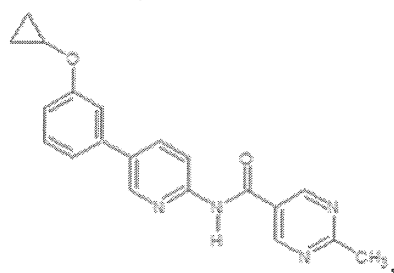
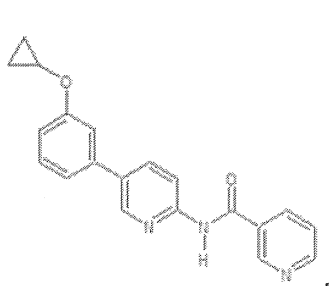
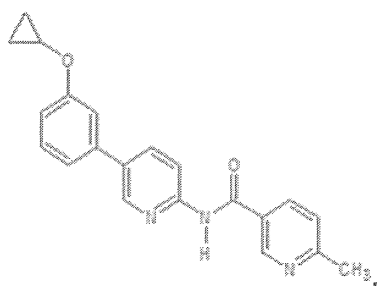
20. The compound or salt of any one of claims 1-19, wherein X¹ is C-H.

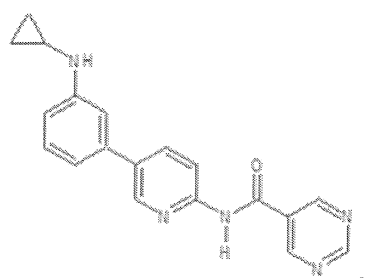
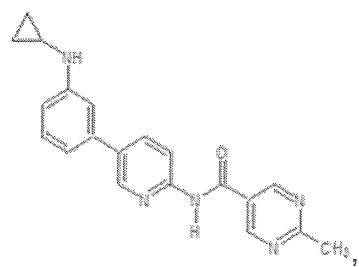
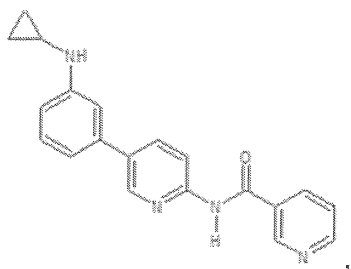
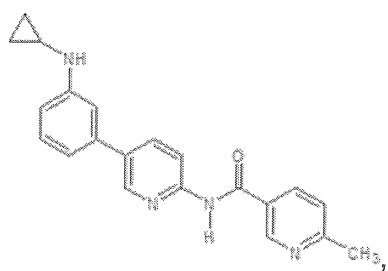
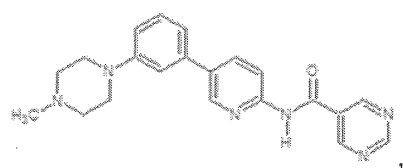
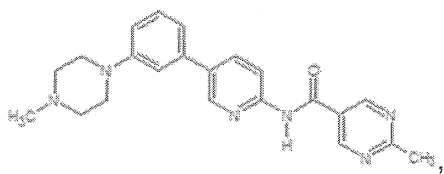
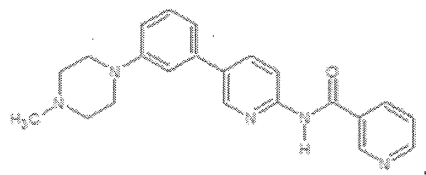
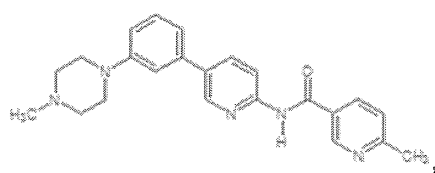
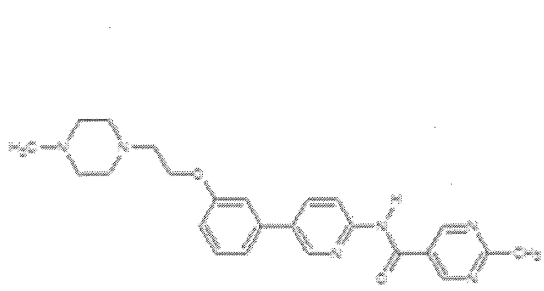
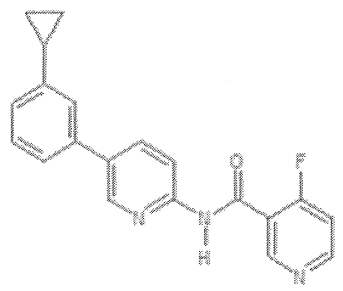
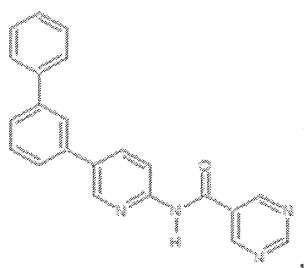
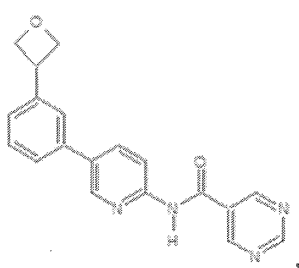
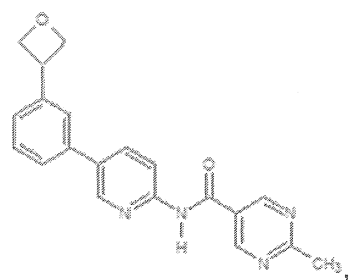
21. The compound or salt of any one of claims 1-19, wherein X^1 is C-F.
22. The compound or salt of any one of claims 1-21, wherein X^2 is C-H.
23. The compound or salt of any one of claims 1-21, wherein X^2 is N.
24. The compound or salt of any one of claims 1-23, wherein R^5 and R^6 are both -H.
25. The compound or salt of any one of claims 1-23, where R^5 is $-\text{CH}_3$ and R^6 is -H.
26. The compound or salt of any one of claims 1-25, wherein each of R^8 and R^9 is independently selected from -H and halogen.
27. The compound or salt of any one of claims 1-25, wherein R^8 and R^9 is -H.
28. The compound or salt of any one of claims 1-25, wherein R^8 is fluoro and R^9 is -H.
29. The compound or salt of any one of claims 1-28, wherein R^{11} is selected from -H, substituted or unsubstituted C_{1-8} alkyl, and $-\text{NR}^{\text{A}}\text{R}^{\text{B}}$.
30. The compound or salt of any one of claims 1-29, wherein R^{11} is selected from -H, $-\text{CH}_3$, and $-\text{NH}_2$.
31. The compound or salt of any one of claims 1-30, wherein R^{11} is -H.
32. The compound or salt of any one of claims 1-30, wherein R^{11} is $-\text{CH}_3$.
33. The compound or salt of any one of claims 1-30, wherein R^{11} is $-\text{NH}_2$.

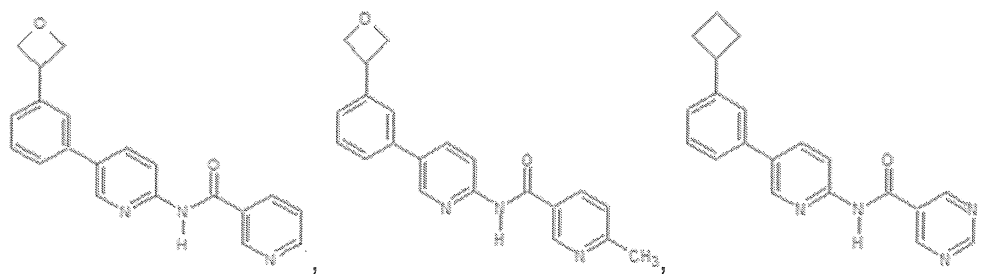
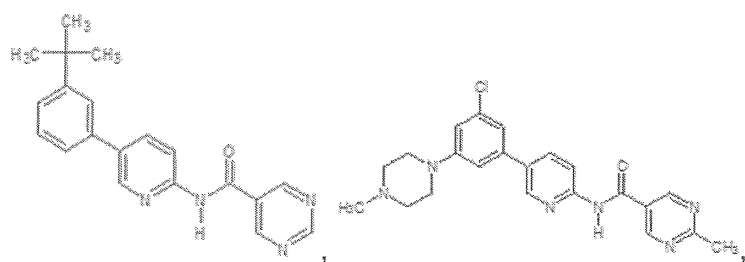
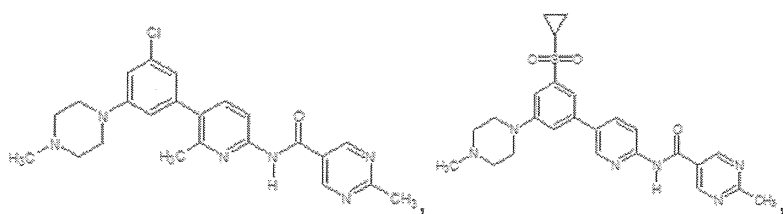
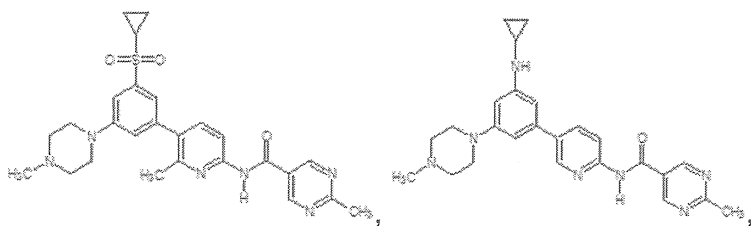
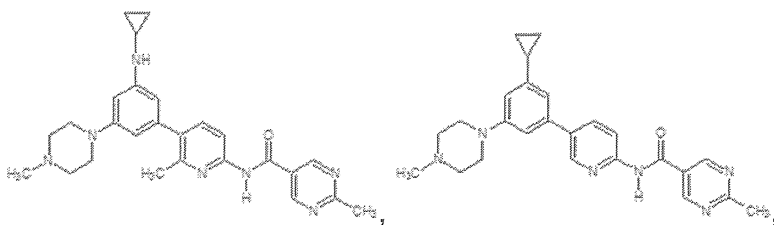
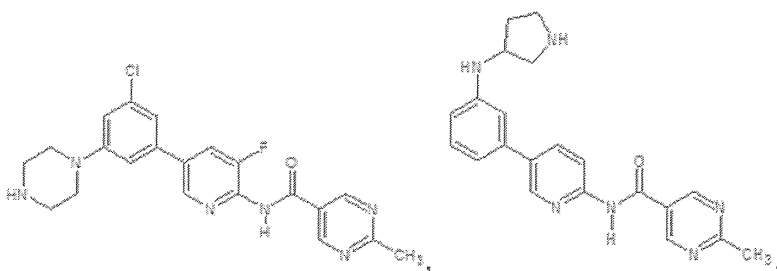
34. The compound or salt of any one of claims 1-19 and 21-30, wherein X^1 is N and R^7 is absent.

35. A compound or salt thereof, wherein the compound is selected from the group consisting of:



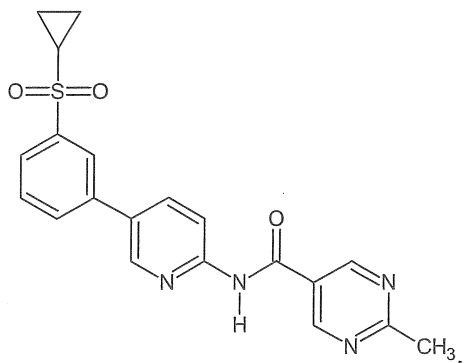








36. A compound or salt thereof, wherein the compound is



37. A pharmaceutical composition comprising a compound of any one of claims 1-36 and a pharmaceutically acceptable carrier or excipient.