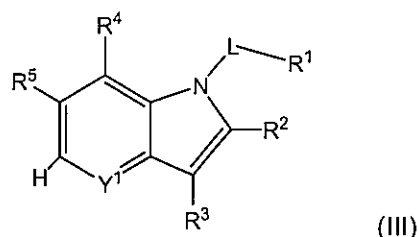


Claims

1. A compound of formula (III):



or a pharmaceutically acceptable salt, solvate, a tautomer, a stereoisomer or a deuterated analog thereof,

Y¹ is N;

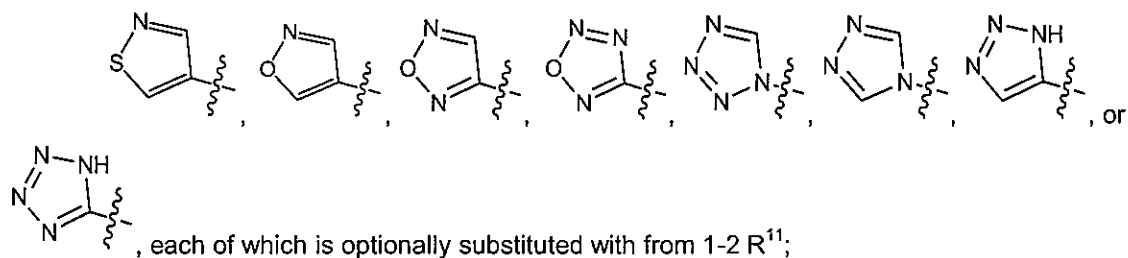
R¹ is optionally substituted C₁₋₆alkyl, optionally substituted deuterated C₁₋₆alkyl, optionally substituted C₂₋₆ alkenyl, optionally substituted C₂₋₆ alkynyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted C₃₋₆-cycloalkyl, optionally substituted cycloalkenyl, optionally substituted heterocycloalkyl, optionally substituted heterocycloalkylalkyl, optionally substituted C₃₋₆-cycloalkylalkyl, optionally substituted aryl-C₁₋₄alkyl, optionally substituted heteroarylalkyl, or optionally substituted heterocycloalkylalkyl;

R² is H;

R³ is H, halogen, -CN, optionally substituted C₁₋₆alkyl, optionally substituted deuterated C₁₋₆alkyl, optionally substituted aryl, optionally substituted aryl-C₁₋₄alkyl, optionally substituted heteroaryl, optionally substituted heteroaryl-C₁₋₄alkyl, optionally substituted C₃₋₈ cycloalkyl, optionally substituted C₃₋₈ cycloalkenyl, optionally substituted C₃₋₈ cycloalkyl-C₁₋₄alkyl, optionally substituted C₂₋₆ alkynyl, optionally substituted heterocycloalkyl, optionally substituted heterocycloalkyl-C₁₋₄alkyl, or R^j;

R⁴ is H;

R⁵ is:



wherein the wavy line indicates the point of attachment to the rest of molecule and

each R¹¹ is independently D, halogen, C₁₋₆alkyl, deuterated C₁₋₆alkyl, C₁₋₄haloalkyl, C₁₋₄haloalkoxy, or CN;

L is -C(R⁶)(R⁷)-, -C(O)-, -S(O)-, -S-, -P(O)(R^a)-, -CH=C(R^b)-, or -Si(R^c)(R^c);

R⁶ is H or D;

R⁷ is H, D, halogen, -OH, C₁₋₆alkyl, deuterated C₁₋₆alkyl, C₂₋₆alkenyl, C₂₋₆alkynyl, aryl, aryl-C₁₋₄alkyl, C₁₋₆alkoxy, C₃₋₆cycloalkyl, C₃₋₆cycloalkyl-C₁₋₄alkyl, heterocycloalkyl, heterocycloalkyl-C₁₋₄alkyl, heteroaryl, heteroarylalkyl, C₁₋₆haloalkyl, C₁₋₆haloalkoxy, -OR^d, -NR^dR^d, -C(O)OR^d, -OC(O)R^d, -OC(O)OR^d, -C(O)R^d,

-NHC(O)R^d, -C(O)NR^dR^d, -SO₂R^d, -NHSO₂R^d, or -SO₂NR^dR^d,

wherein R⁷ is further optionally substituted with from 1-3 R^h groups;

R^a is optionally substituted C₁₋₆alkyl, optionally substituted aryl, or optionally substituted heteroaryl;

R^b is H or C₁₋₆alkyl;

each R^c is independently C₁₋₆alkyl or C₁₋₆alkoxy;

each R^d is independently H, C₁₋₆alkyl, C₃₋₆cycloalkyl, C₃₋₆cycloalkyl-C₁₋₄alkyl, or aryl;

each R^h is independently halogen, -CN, -OH, -NH₂, -NO₂, -CH=C(R^k)(R^k), -C(O)OH,

-C(S)OH, -C(O)NH₂, -C(S)NH₂, -S(O)₂NH₂, -NHC(O)NH₂, -NHC(S)NH₂, -NHS(O)₂NH₂, -C(NH)NH₂, -ORⁱ, -SRⁱ,

-OC(O)Rⁱ, -OC(S)Rⁱ, -P(=O)HRⁱ, -P(=O)RⁱRⁱ, -PH(=O)ORⁱ, -P(=O)(ORⁱ)₂, -OP(=O)(ORⁱ)₂, -C(O)H, -O(CO)ORⁱ,

-C(O)Rⁱ, -C(S)Rⁱ, -C(O)ORⁱ, -C(S)ORⁱ, -S(O)Rⁱ, -S(O)₂Rⁱ, -C(O)NHRⁱ, -C(S)NHRⁱ, -C(O)NRⁱRⁱ, -C(S)NRⁱRⁱ, -S(O)₂NHRⁱ, -S(O)₂NRⁱRⁱ, -C(NH)NHRⁱ, -C(NH)NRⁱRⁱ, -NHC(O)Rⁱ, -NHC(S)Rⁱ, -NRⁱC(O)Rⁱ, -NRⁱC(S)Rⁱ, -NHS(O)₂Rⁱ, -NRⁱS(O)₂Rⁱ, -NHC(O)NHRⁱ, -NHC(S)NHRⁱ, -NRⁱC(O)NH₂, -NRⁱC(S)NH₂, -NRⁱC(O)NHRⁱ, -NRⁱC(S)NHRⁱ,

-NHC(O)NRⁱRⁱ, -NHC(S)NRⁱRⁱ, -NRⁱC(O)NRⁱRⁱ, -NRⁱC(S)NRⁱRⁱ, -NHS(O)₂NHRⁱ, -NRⁱS(O)₂NH₂, -NRⁱS(O)₂NHRⁱ,

-NHS(O)₂NRⁱRⁱ, -NRⁱS(O)₂NRⁱRⁱ, Rⁱ, -NHRⁱ, or -NRⁱRⁱ, and

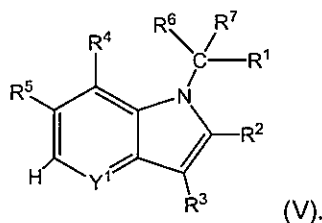
each Rⁱ is independently C₁₋₆alkyl, aryl, aryl-C₁₋₂alkyl, C₃₋₆cycloalkyl, C₃₋₆cycloalkyl-C₁₋₄alkyl, heteroaryl, heteroaryl-C₁₋₄alkyl, heterocycloalkyl, or heterocycloalkyl-C₁₋₄alkyl;

R^j is halogen, -CN, -OH, -NH₂, -NO₂, -C(O)OH, -C(S)OH, -C(O)NH₂, -C(S)NH₂, -S(O)₂NH₂, -NHC(O)NH₂, -NHC(S)NH₂, -NHS(O)₂NH₂, -C(NH)NH₂, -CH=C(R^k)(R^k), -OR^k, -SR^k, -OC(O)R^k, -OC(S)R^k, -P(=O)HR^k, -P(=O)R^kR^k, -PH(=O)OR^k, -P(=O)(OR^k)₂, -OP(=O)(OR^k)₂, -C(O)H, -O(CO)OR^k, -C(O)R^k, -C(S)R^k,

-C(O)OR^k, -C(S)OR^k, -S(O)R^k, -S(O)₂R^k, -C(O)NHR^k, -C(S)NHR^k, -C(O)NR^kR^k, -C(S)NR^kR^k, -S(O)₂NHR^k, -S(O)₂NR^kR^k, -C(NH)NHR^k, -C(NH)NR^kR^k, -NHC(O)R^k, -NHC(S)R^k, -NR^kC(O)R^k, -NR^kC(S)R^k, -NHS(O)₂R^k,
 -NR^kS(O)₂R^k, -NHC(O)NHR^k, -NHC(S)NHR^k, -NR^kC(O)NH₂, -NR^kC(S)NH₂, -NR^kC(O)NHR^k, -NR^kC(S)NH^k
 R^k,
 -NHC(O)NR^kR^k, -NHC(S)NR^kR^k, -NR^kC(O)NR^kR^k, -NR^kC(S)NR^kR^k, -NHS(O)₂NHR^k, -NR^kS(O)₂NH₂,
 -NR^kS(O)₂NHR^k, -NHS(O)₂NR^kR^k, -NR^kS(O)₂NR^kR^k, -NHR^k, or -NR^kR^k; and

each R^k is independently H, C₁₋₆alkyl, aryl, arylalkyl, heteroaryl, heteroarylalkyl, heterocycloalkyl, heterocycloalkylalkyl, cycloalkyl, or cycloalkylalkyl; or two R^k groups when attached to the same carbon or nitrogen atom are taken together to form a 3- to 6-membered carbocyclic ring or 3- to 8-membered heterocyclic ring having from 1-2 heteroatoms as ring members independently selected from O, N, and S, wherein the nitrogen or sulfur ring atoms are optionally oxidized, and wherein R^k is optionally substituted with from 1-3 R^h.

2. The compound of claim 1, having formula (V):



3. The compound of claim 1, wherein R⁷ is D, halogen, -OH, C₁₋₆alkyl, deuterated C₁₋₆alkyl, aryl, aryl-C₁₋₄alkyl, C₁₋₆alkoxy, C₃₋₆cycloalkyl, C₃₋₆cycloalkyl-C₁₋₄alkyl, heterocycloalkyl, heterocycloalkyl-C₁₋₄alkyl, heteroaryl, heteroarylalkyl, C₁₋₆haloalkyl, C₁₋₆haloalkoxy, -OR^d, -NR^dR^d, -C(O)OR^d, -OC(O)R^d, -OC(O)OR^d, -C(O)R^d, -NHC(O)R^d, -C(O)NR^dR^d, -SO₂R^d, -NHSO₂R^d, or -SO₂NR^dR^d.

4. The compound of claim 1, wherein L is a -C(O)-, -S-, -P(O)(C₁₋₆alkyl)-, -P(O)(aryl)-, -CH(OH)-, -CHF-, -CH(C₁₋₆alkyl)-, -CH(C₃₋₆cycloalkyl)-, or -CH(haloalkyl)-.

5. The compound of claim 1, wherein L is -C(R⁶)(R⁷)-; R⁶ is H; and R⁷ is -OH, C₁₋₆alkyl, aryl, C₃₋₆cycloalkyl, heterocycloalkyl, heteroaryl, C₁₋₆haloalkyl, -OR^d, -C(O)NR^dR^d, or -SO₂R^d.

6. The compound of claim 1, wherein R⁵ is 4-isoxazolyl, and R¹¹ is C₁₋₆alkyl.

7. The compound of claim 1, wherein R⁵ is 4-isoxazolyl, and R¹¹ is D, CH₃, or CD₃.

8. The compound of claim 1, wherein R¹ is deuterated C₁₋₆alkyl, C₁₋₆alkyl, aryl, aryl-C₁₋₄alkyl, C₃₋₆-cycloalkyl, C₃₋₆-cycloalkylalkyl, heteroaryl, heteroarylalkyl, heterocycloalkyl, heterocycloalkylalkyl, C₂₋₆alkenyl, or C₂₋₆alkynyl, each of which is optionally substituted with from 1-3 Rⁱ groups.

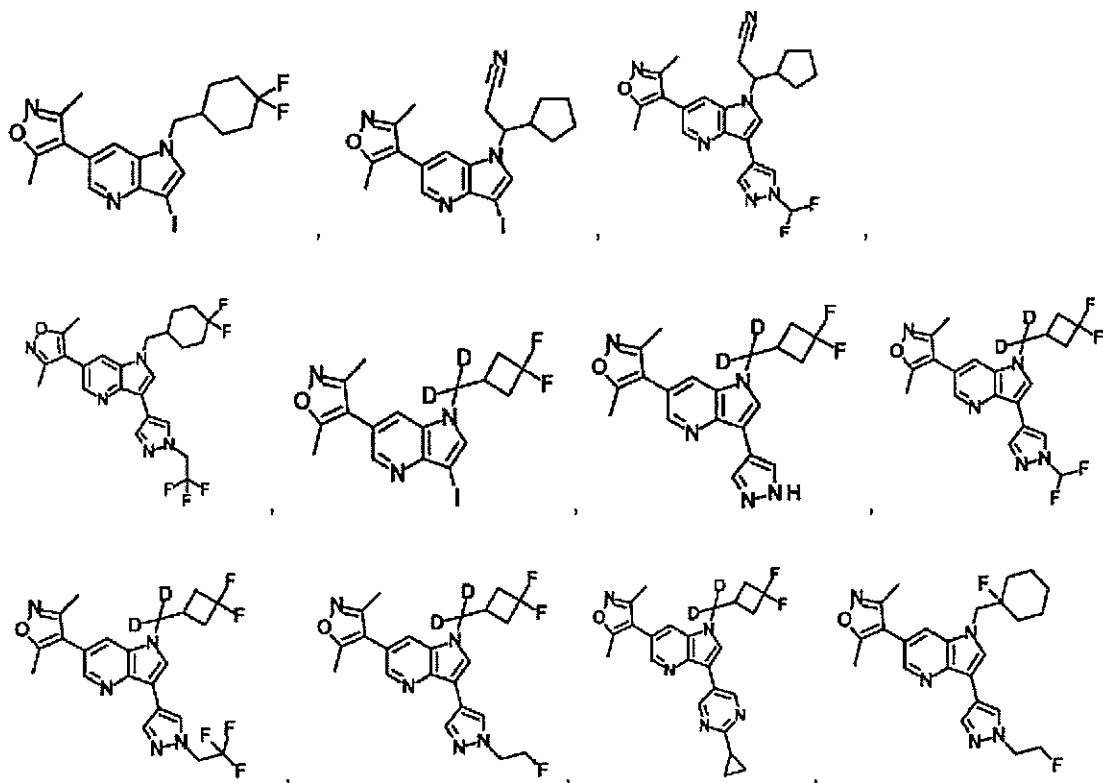
9. The compound of claim 1, wherein R¹ is deuterated C₁₋₆alkyl, C₁₋₆alkyl, aryl, aryl-C₁₋₄alkyl, C₃₋₆-cycloalkyl, C₃₋₆-cycloalkylalkyl, heteroaryl, heteroarylalkyl, heterocycloalkyl, heterocycloalkylalkyl, C₂₋₆alkenyl, or C₂₋₆alkynyl.

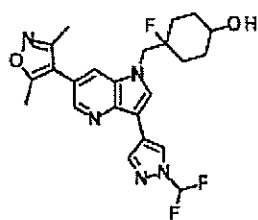
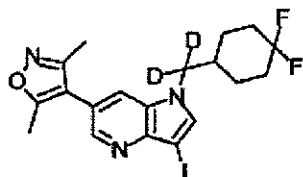
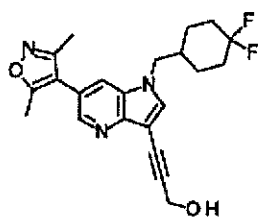
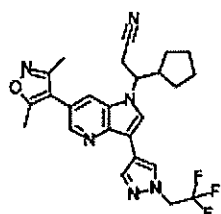
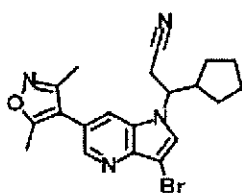
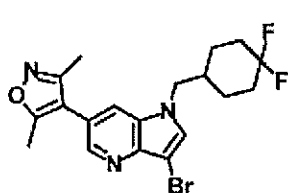
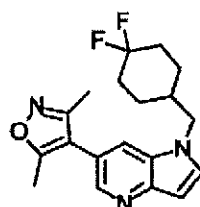
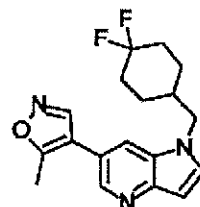
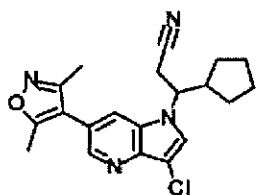
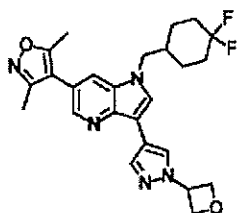
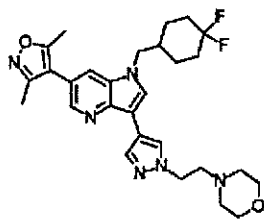
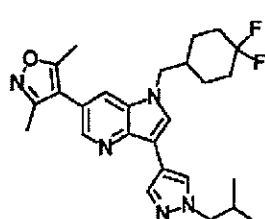
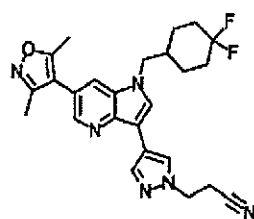
10. The compound of claim 1, wherein R³ is deuterated C₁₋₆alkyl, C₁₋₆alkyl, aryl, aryl-C₁₋₄alkyl, heteroaryl, heteroaryl-C₁₋₄alkyl, C₃₋₈ cycloalkyl, C₃₋₈ cycloalkenyl, C₃₋₈ cycloalkyl-C₁₋₄alkyl, C₂₋₆ alkynyl, heterocycloalkyl, or heterocycloalkyl-C₁₋₄alkyl wherein each R³ is optionally substituted with 1-3 substituents independently selected from CN, -OH, -NH₂, -NO₂, -C(O)OH, -C(S)OH, -C(O)NH₂, -C(S)NH₂, -S(O)₂NH₂, -NHC(O)NH₂, -NHC(S)NH₂, -NHS(O)₂NH₂, -C(NH)NH₂, -CH=C(Rⁿ)(Rⁿ), -ORⁿ, -SRⁿ, -OC(O)Rⁿ, -OC(S)Rⁿ, -P(=O)HRⁿ, -P(=O)RⁿRⁿ, -PH(=O)ORⁿ, -P(=O)(ORⁿ)₂, -OP(=O)(ORⁿ)₂, -C(O)H, -O(CO)ORⁿ, -C(O)Rⁿ, -C(S)Rⁿ, -C(O)ORⁿ, -C(S)ORⁿ, -S(O)Rⁿ, -S(O)₂Rⁿ, -C(O)NHRⁿ, -C(S)NHRⁿ, -C(O)NRⁿRⁿ, -C(S)NRⁿRⁿ, -S(O)₂NHRⁿ, -S(O)₂NRⁿRⁿ, -C(NH)NHRⁿ, -C(NH)NRⁿRⁿ, -NHC(O)Rⁿ, -NHC(S)Rⁿ, -NRⁿC(O)Rⁿ, -NRⁿC(S)Rⁿ, -NHS(O)₂Rⁿ, -NRⁿS(O)₂Rⁿ, -NHC(O)NHRⁿ, -NHC(S)NHRⁿ, -NRⁿC(O)NH₂, -NRⁿC(S)NH₂, -NRⁿC(O)NHRⁿ, -NRⁿC(S)NH₂, -NHC(O)NRⁿRⁿ, -NHC(S)NRⁿRⁿ, -NRⁿC(O)NRⁿRⁿ, -NRⁿC(S)NRⁿRⁿ, -NHS(O)₂NHRⁿ, -NRⁿS(O)₂NH₂, -NRⁿS(O)₂NHRⁿ, -NHS(O)₂NRⁿRⁿ, -NRⁿS(O)₂NRⁿRⁿ, -NHRⁿ, Rⁿ, or -NRⁿRⁿ, wherein each Rⁿ is independently H, C₁₋₆alkyl, aryl, arylalkyl, heteroaryl, heteroarylalkyl, heterocycloalkyl, heterocycloalkylalkyl, cycloalkyl, or cycloalkylalkyl; or two Rⁿ groups when attached to the same carbon or nitrogen atom are taken together to form a 3- to 6-membered carbocyclic ring or 3- to 8-membered heterocyclic ring having from 1-2 heteroatoms as ring members selected from O, N, and S, wherein the nitrogen or sulfur ring atoms are optionally oxidized, wherein the aliphatic or aromatic portion of Rⁿ is further optionally substituted with from 1-3 R^h.

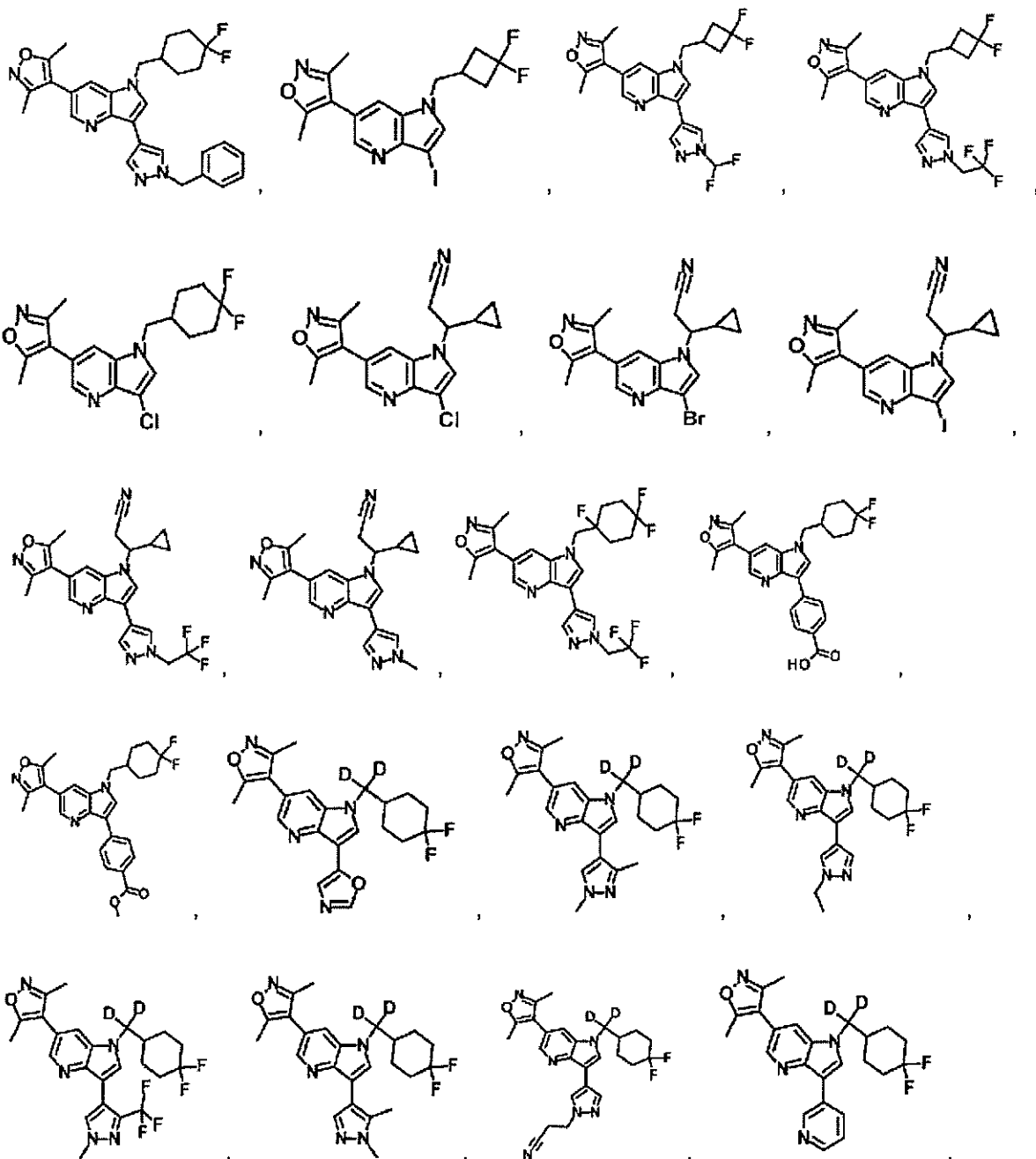
11. The compound of claim 10, wherein R³ is C₁₋₆alkyl, aryl, aryl-C₁₋₄alkyl, heteroaryl, heteroaryl-C₁₋₄alkyl, C₃₋₈ cycloalkyl, C₃₋₈ cycloalkyl-C₁₋₄alkyl, heterocycloalkyl, or heterocycloalkyl-C₁₋₄alkyl, wherein each R³ is optionally substituted with 1-3 substituents independently selected from CN, -OH, -NH₂, -NO₂, -C(O)OH, -C(S)OH, -C(O)NH₂, -C(S)NH₂, -S(O)₂NH₂, -NHC(O)NH₂, -NHC(S)NH₂, -NHS(O)₂NH₂, -C(NH)NH₂, -CH=C(Rⁿ)(Rⁿ), -ORⁿ, -SRⁿ, -OC(O)Rⁿ, -OC(S)Rⁿ, -P(=O)HRⁿ, -P(=O)RⁿRⁿ,

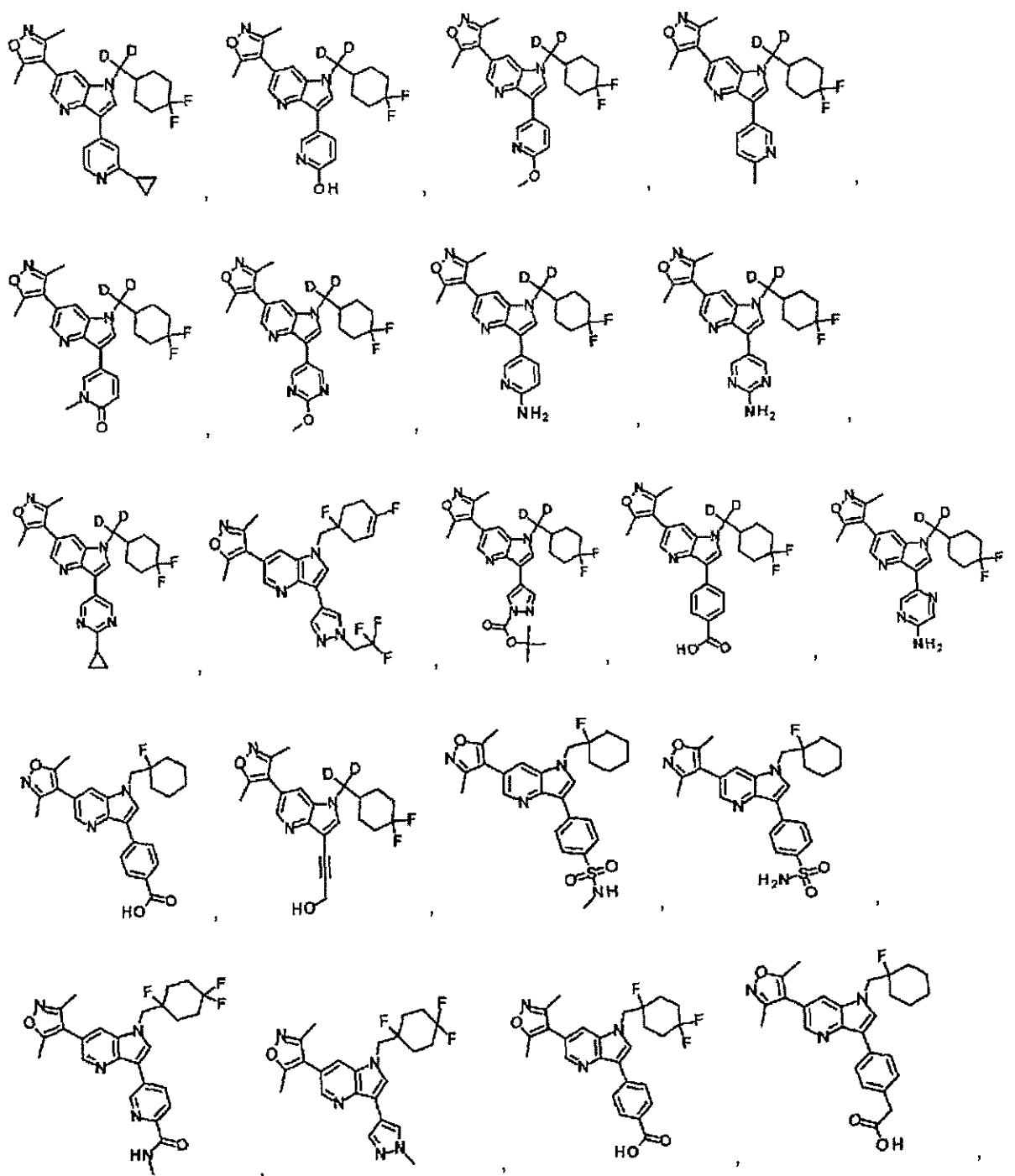
$-\text{PH}(=\text{O})\text{OR}^n$, $-\text{P}(=\text{O})(\text{OR}^n)_2$, $-\text{OP}(=\text{O})(\text{OR}^n)_2$, $-\text{C}(\text{O})\text{H}$, $-\text{O}(\text{CO})\text{OR}^n$, $-\text{C}(\text{O})\text{R}^n$, $-\text{C}(\text{S})\text{R}^n$, $-\text{C}(\text{O})\text{OR}^n$, $-\text{C}(\text{S})\text{OR}^n$,
 $-\text{S}(\text{O})\text{R}^n$, $-\text{S}(\text{O})_2\text{R}^n$, $-\text{C}(\text{O})\text{NHR}^n$, $-\text{C}(\text{S})\text{NHR}^n$, $-\text{C}(\text{O})\text{NR}^n\text{R}^n$, $-\text{C}(\text{S})\text{NR}^n\text{R}^n$, $-\text{S}(\text{O})_2\text{NHR}^n$, $-\text{S}(\text{O})_2\text{NR}^n\text{R}^n$, $-\text{C}(\text{NH})\text{NHR}^n$,
 $-\text{C}(\text{NH})\text{NR}^n\text{R}^n$, $-\text{NHC}(\text{O})\text{R}^n$, $-\text{NHC}(\text{S})\text{R}^n$, $-\text{NR}^n\text{C}(\text{O})\text{R}^n$, $-\text{NR}^n\text{C}(\text{S})\text{R}^n$, $-\text{NHS}(\text{O})_2\text{R}^n$, $-\text{NR}^n\text{S}(\text{O})_2\text{R}^n$, $-\text{NHC}(\text{O})\text{NHR}^n$,
 $-\text{NHC}(\text{S})\text{NHR}^n$, $-\text{NR}^n\text{C}(\text{O})\text{NH}_2$, $-\text{NR}^n\text{C}(\text{S})\text{NH}_2$, $-\text{NR}^n\text{C}(\text{O})\text{NHR}^n$, $-\text{NR}^n\text{C}(\text{S})\text{NHR}^n$, $-\text{NHC}(\text{O})\text{NR}^n\text{R}^n$, $-\text{NHC}(\text{S})\text{NR}^n\text{R}^n$,
 $-\text{NR}^n\text{C}(\text{O})\text{NR}^n\text{R}^n$, $-\text{NR}^n\text{C}(\text{S})\text{NR}^n\text{R}^n$, $-\text{NHS}(\text{O})_2\text{NHR}^n$, $-\text{NR}^n\text{S}(\text{O})_2\text{NH}_2$, $-\text{NR}^n\text{S}(\text{O})_2\text{NHR}^n$, $-\text{NHS}(\text{O})_2\text{NR}^n\text{R}^n$,
 $-\text{NR}^n\text{S}(\text{O})_2\text{NR}^n\text{R}^n$, $-\text{NHR}^n$, R^n , and $-\text{NR}^n\text{R}^n$.

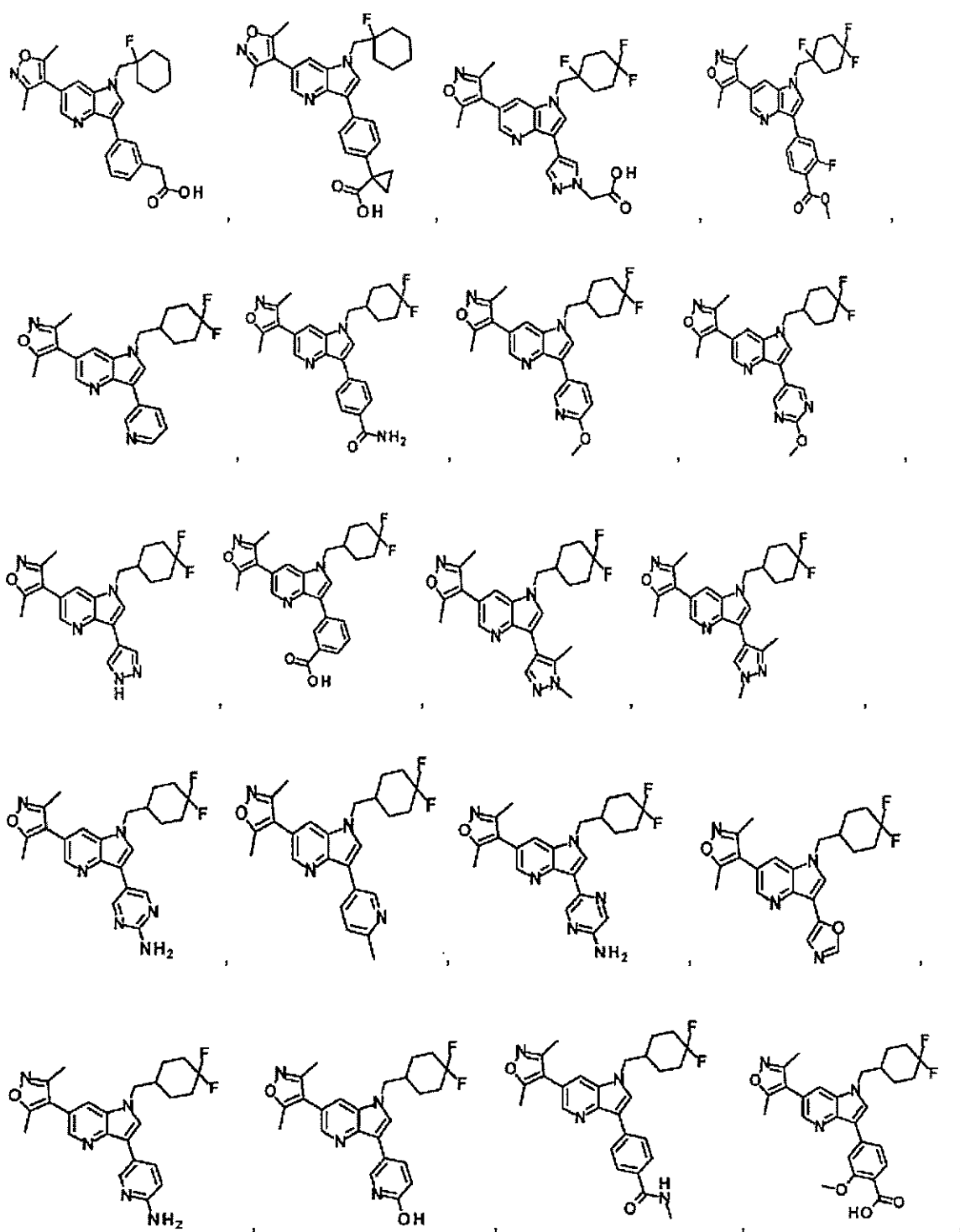
12. A compound of formula:

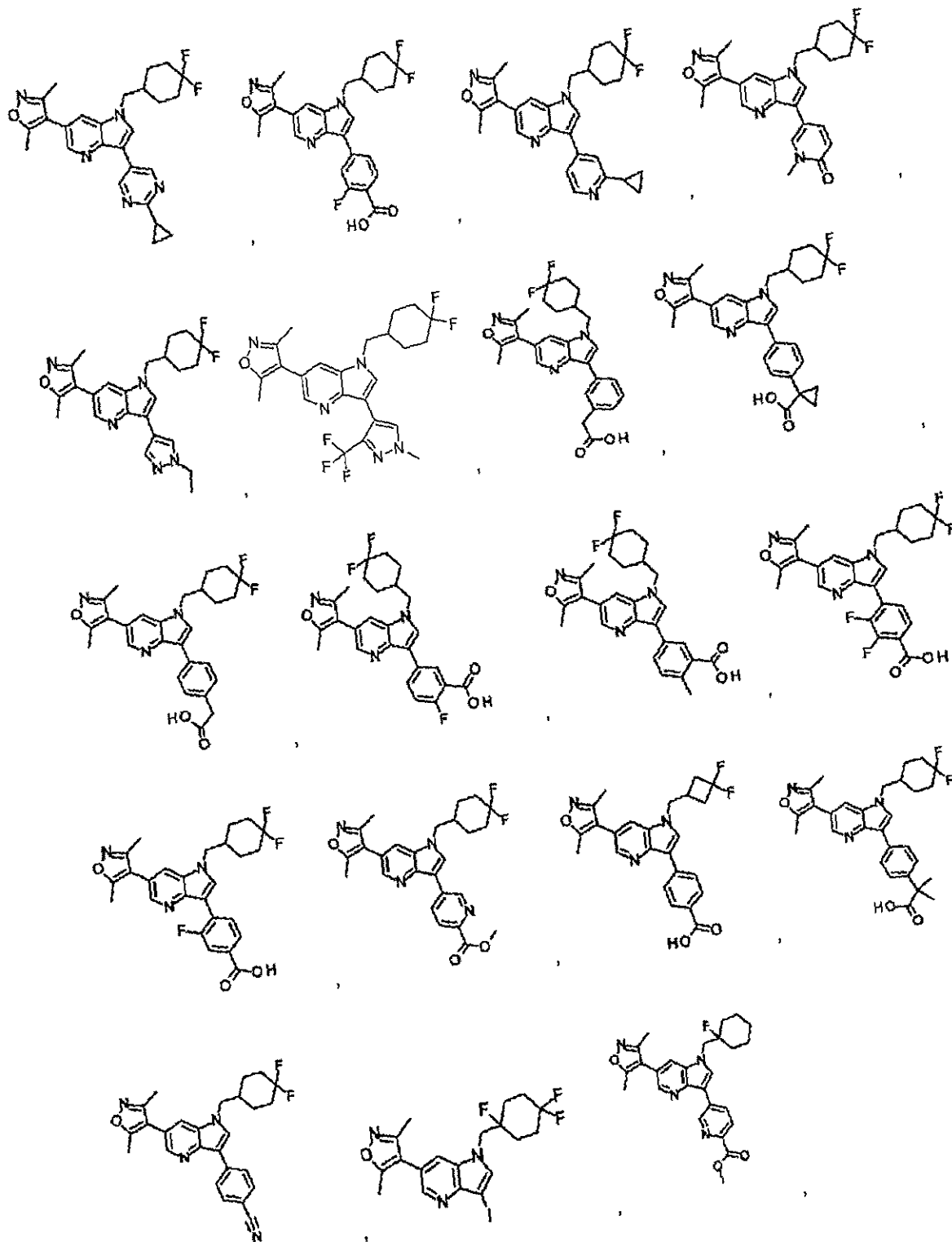


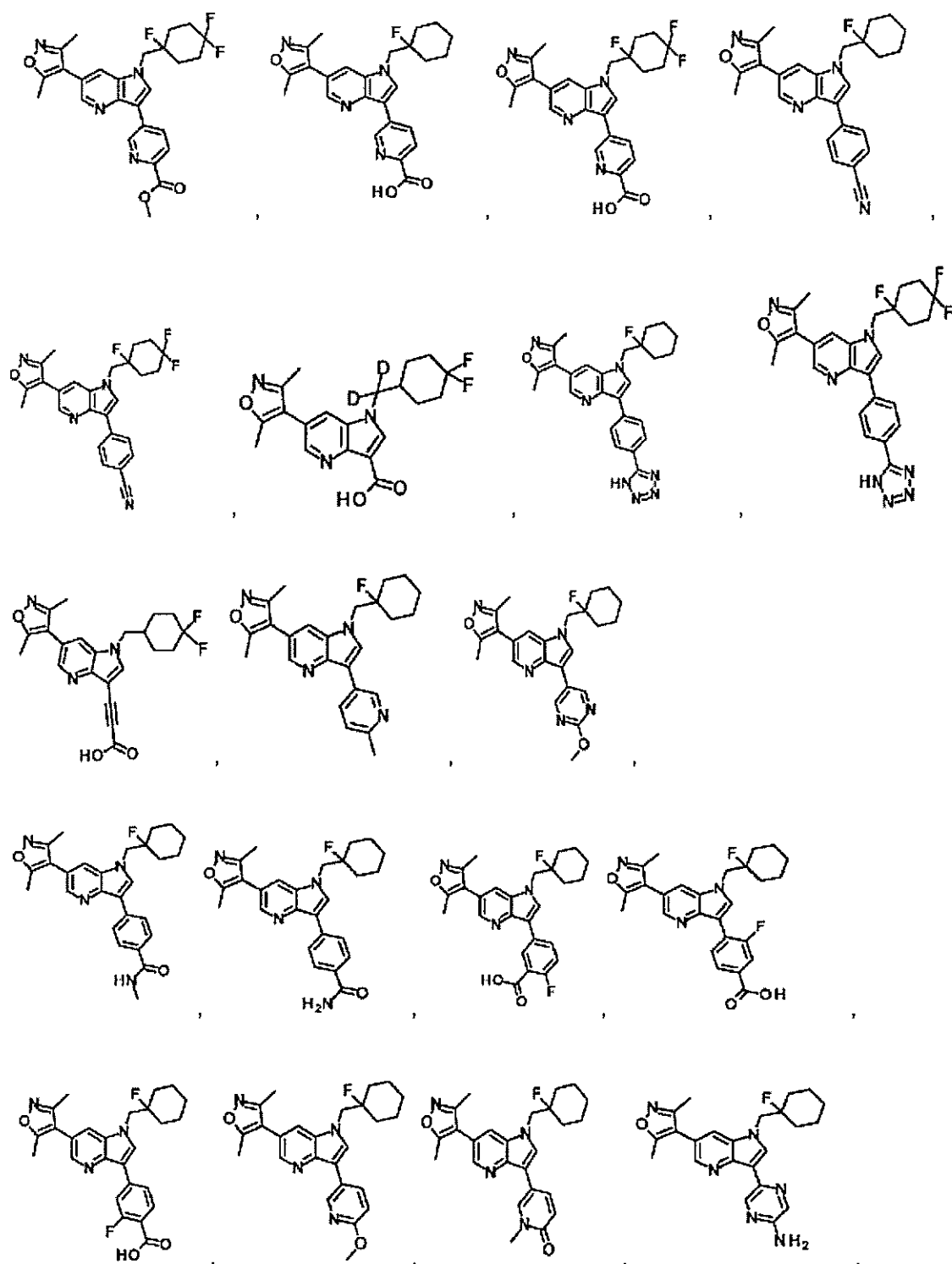


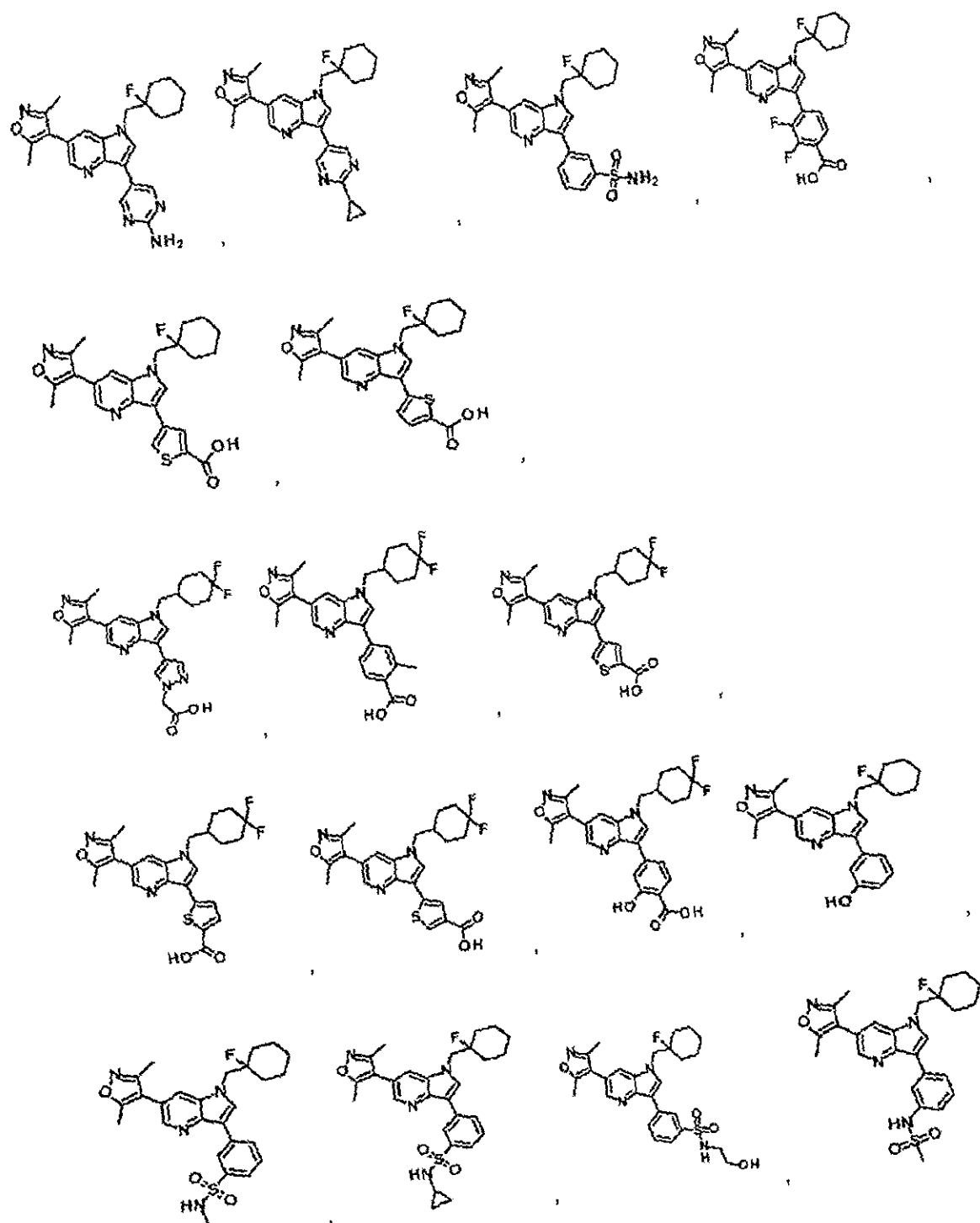


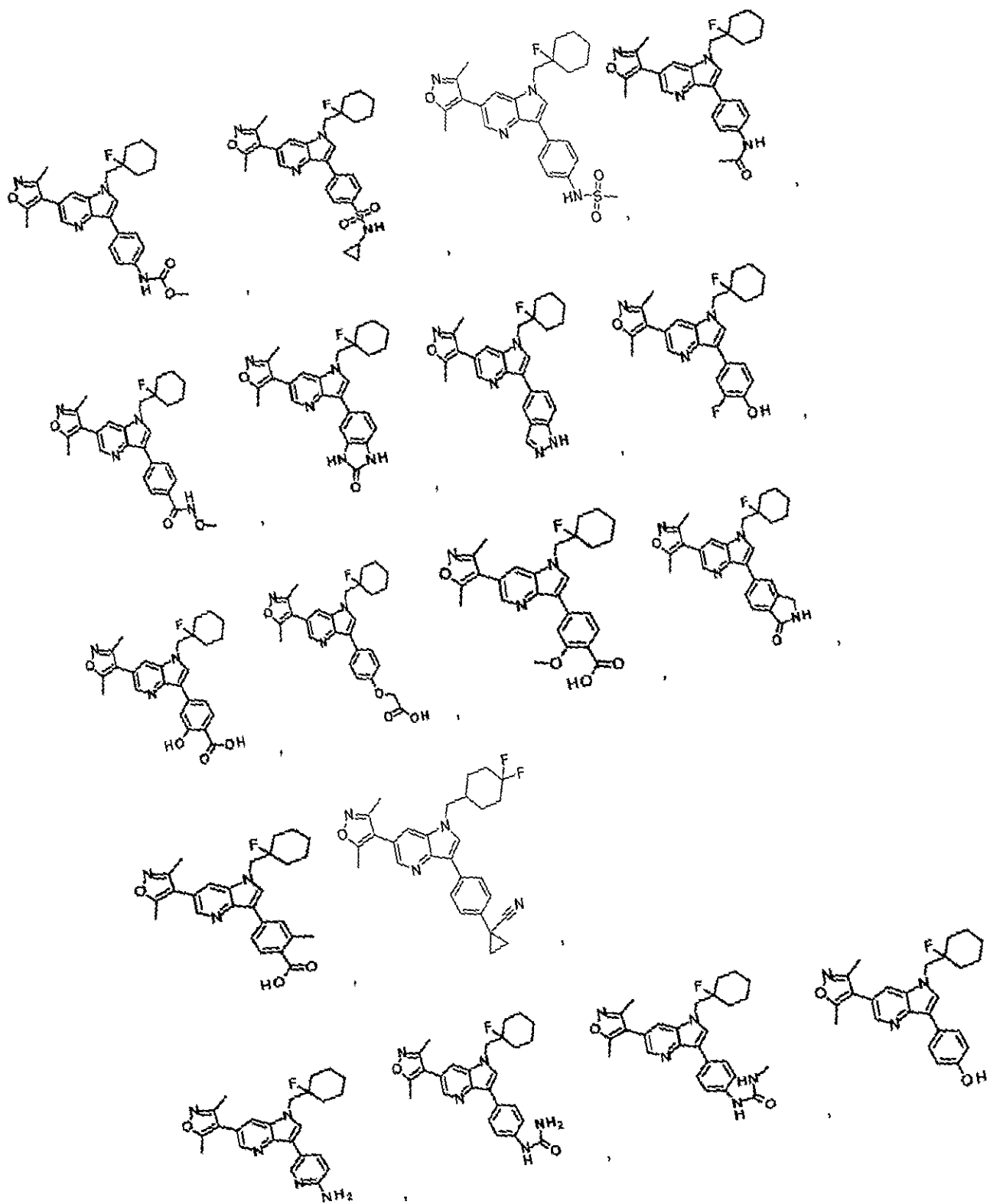


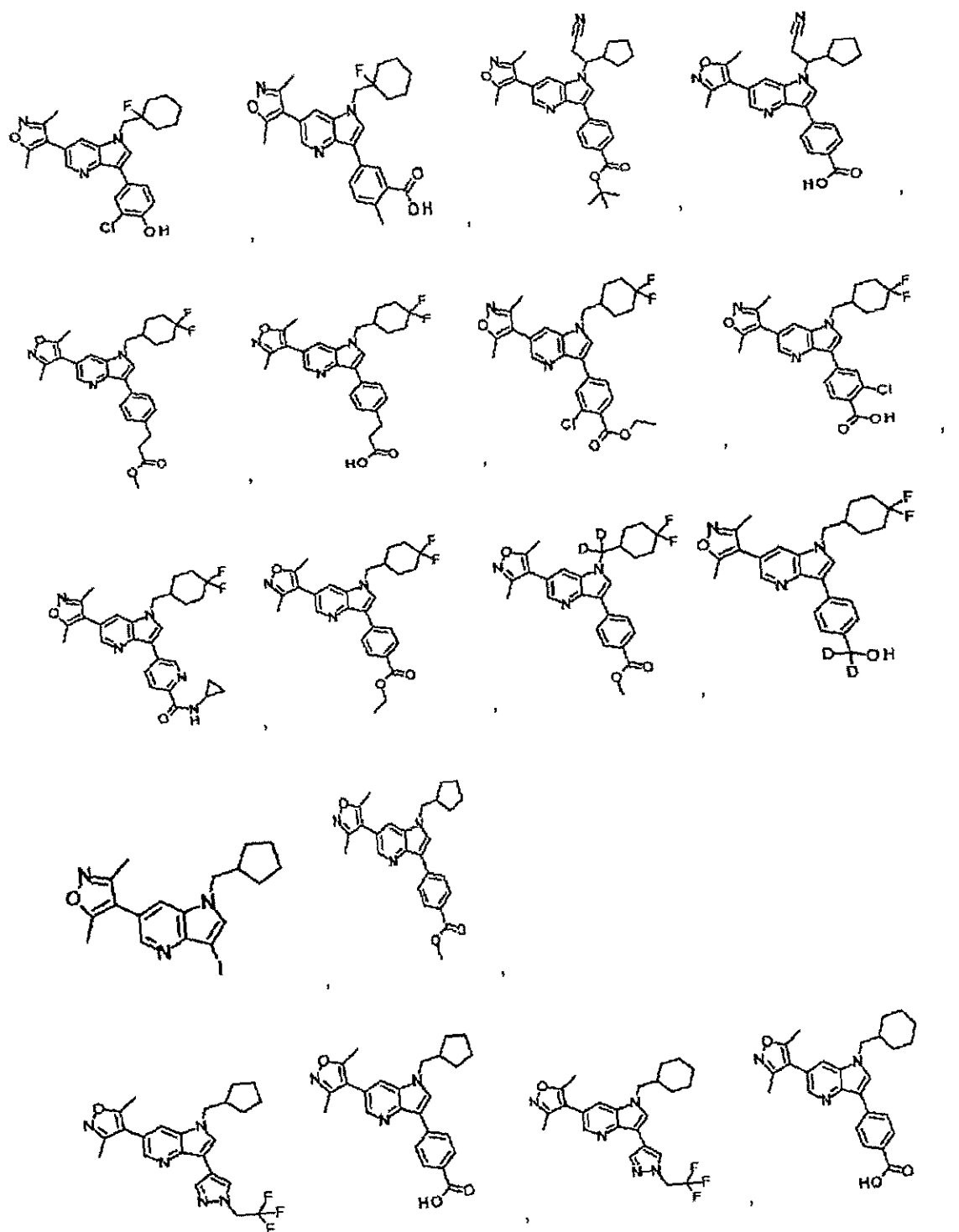


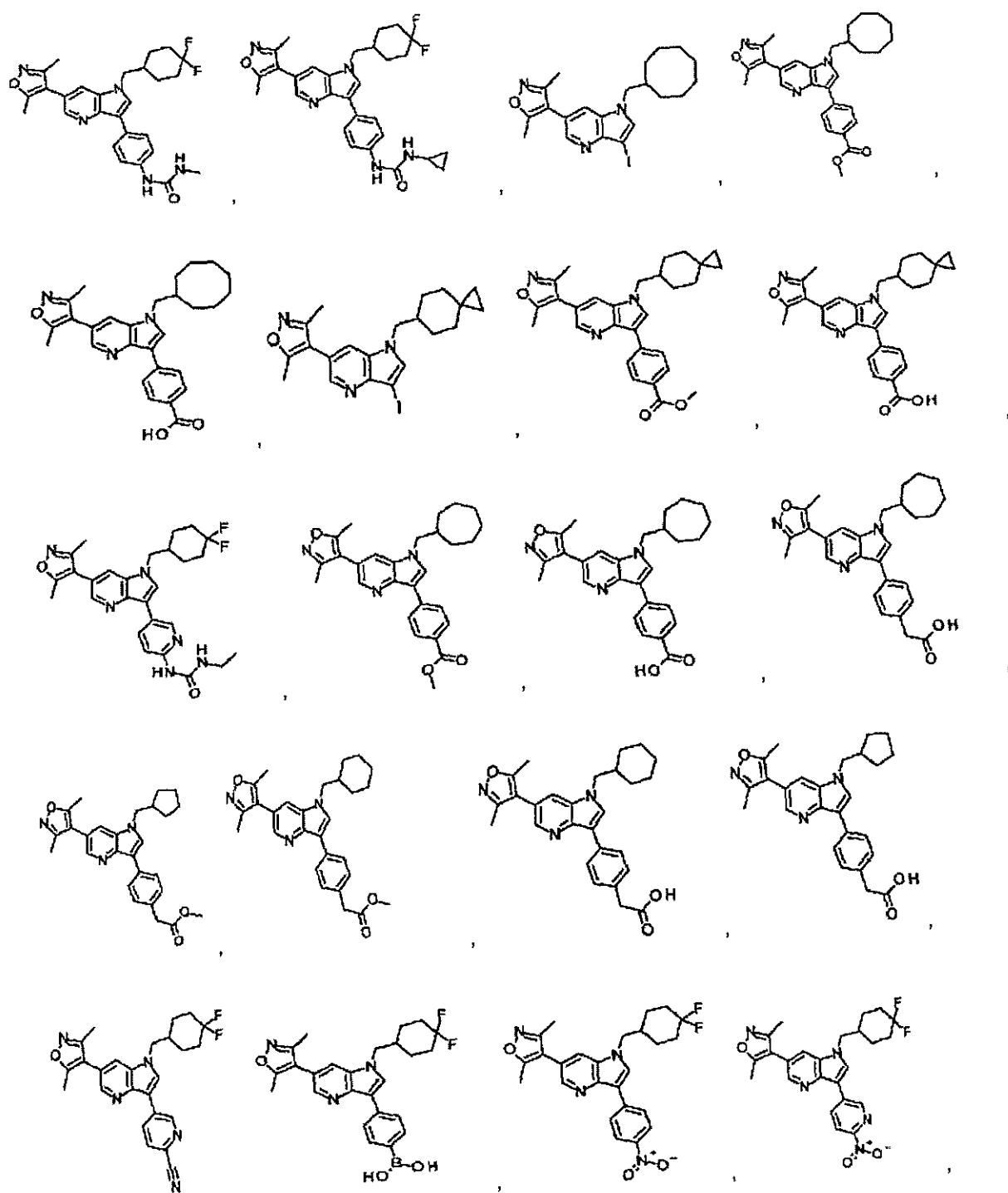


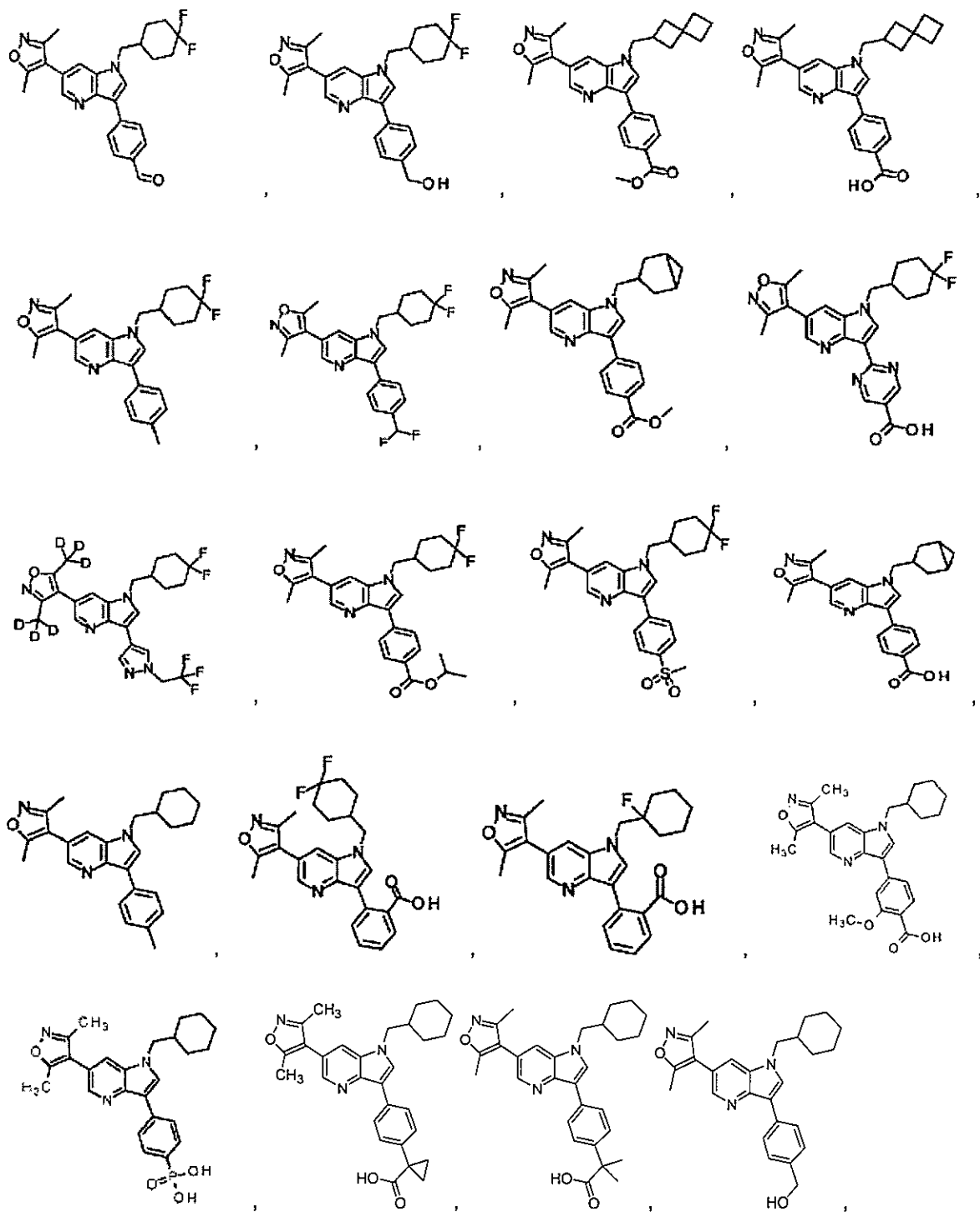


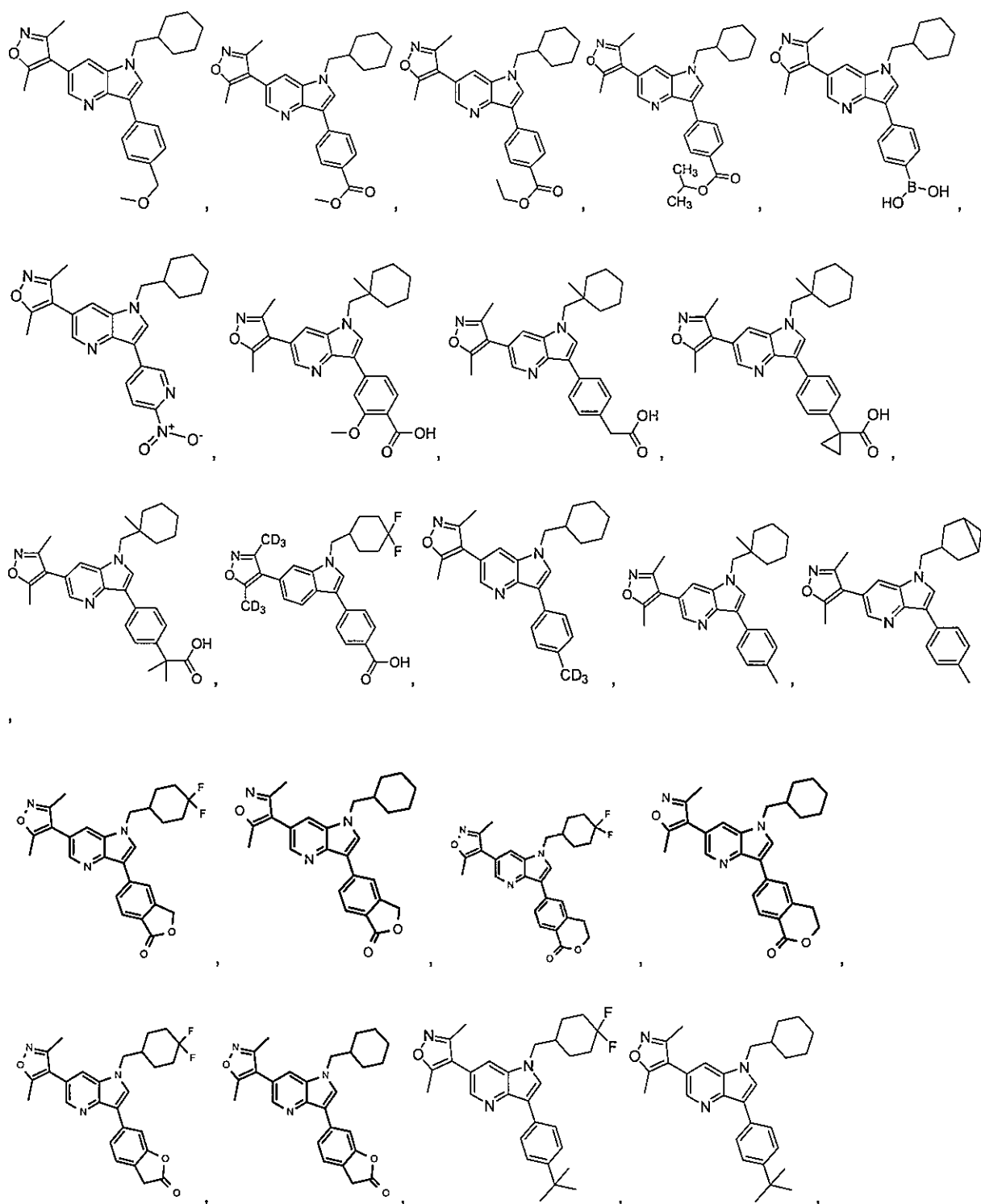


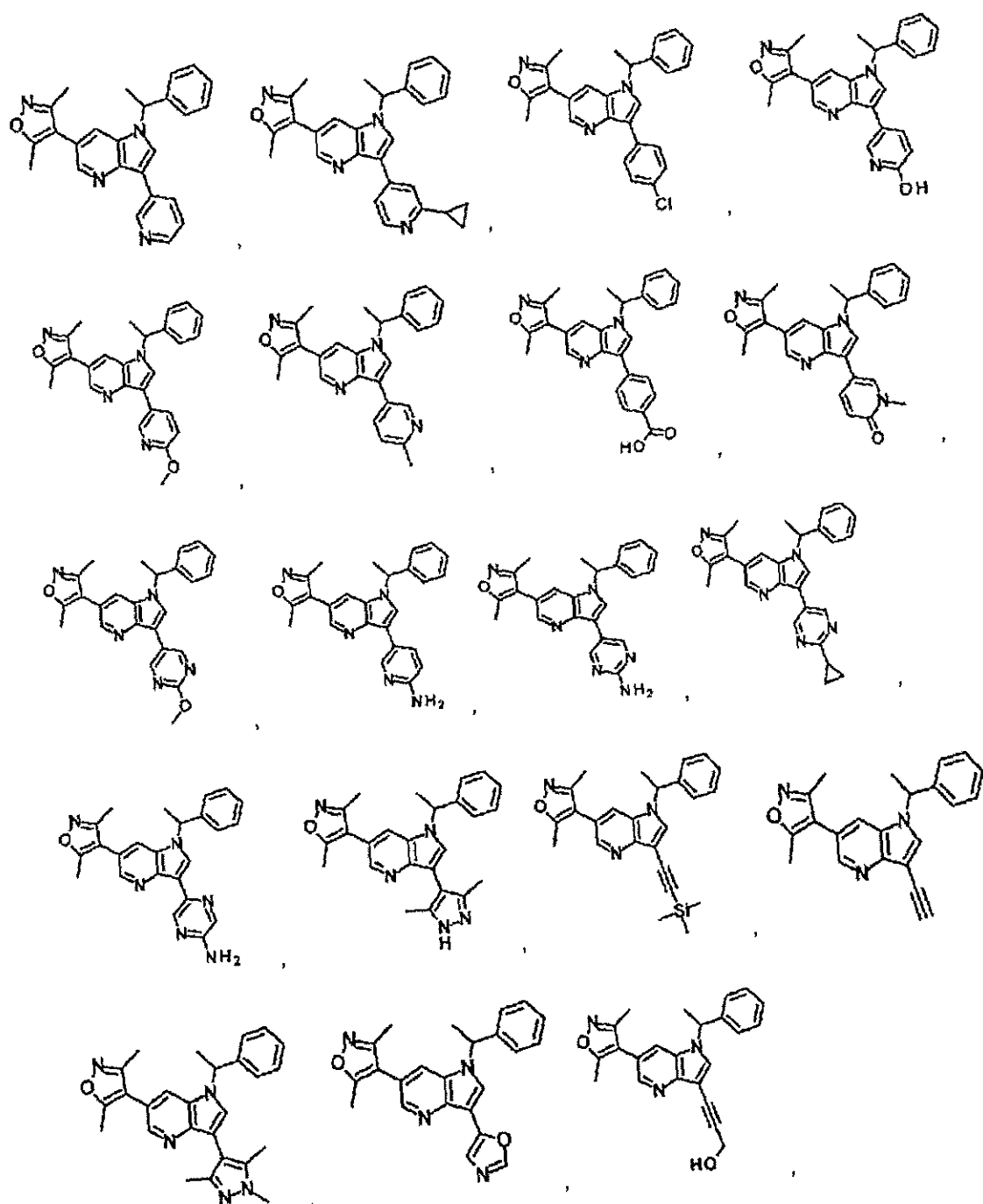


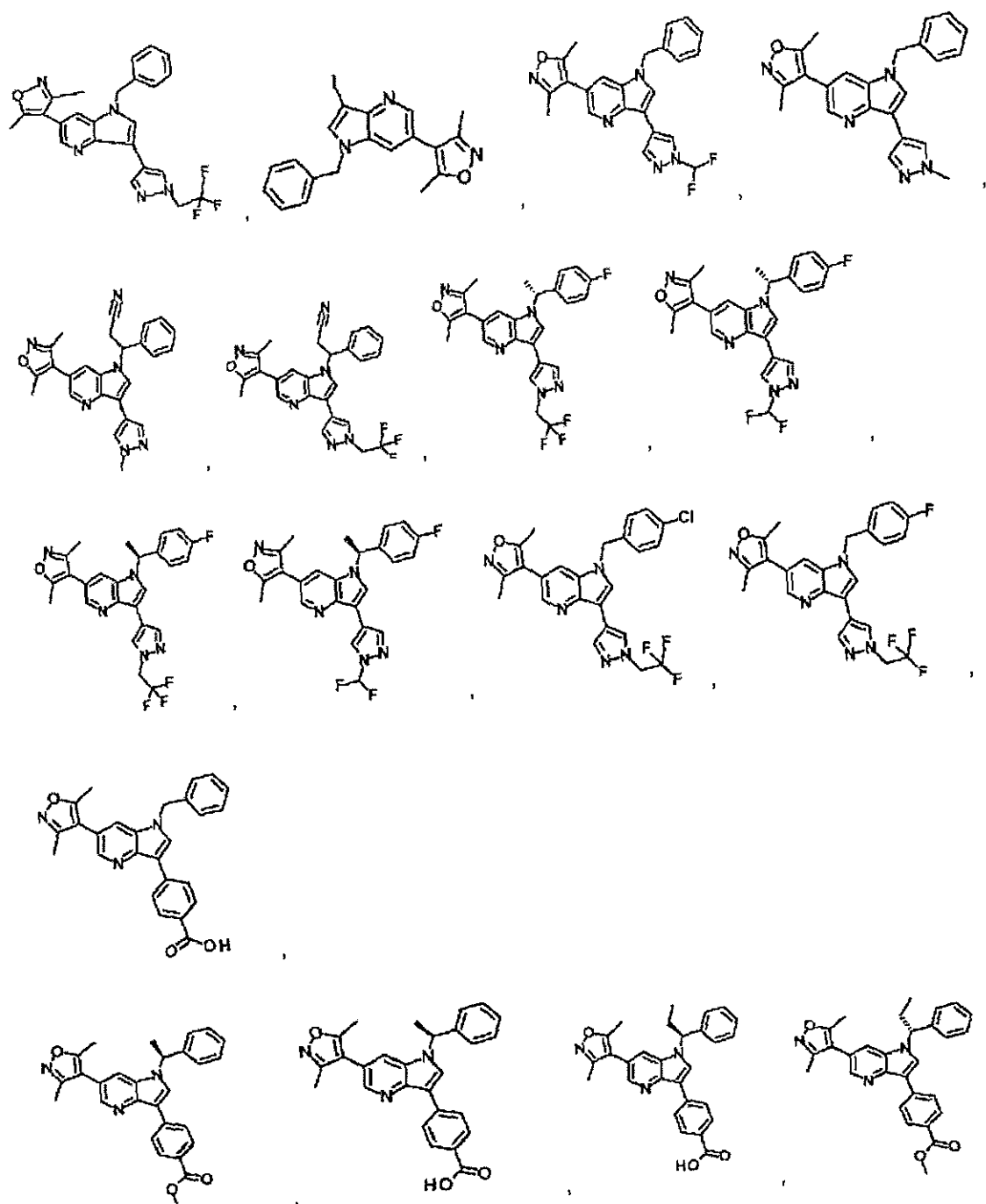


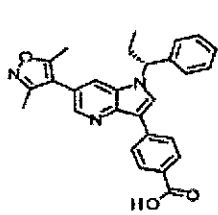
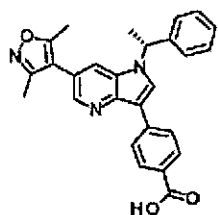
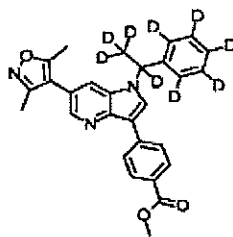
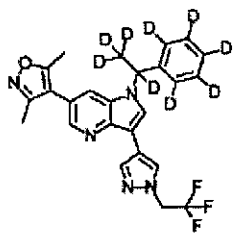
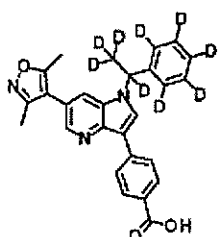
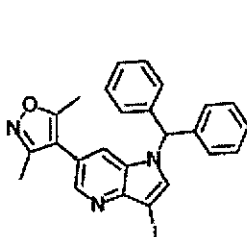
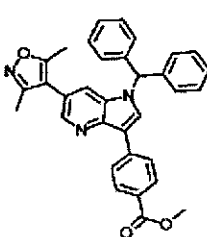
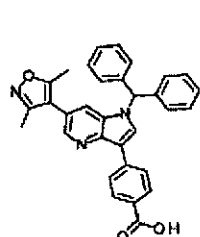
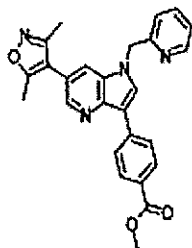
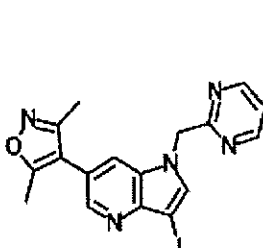
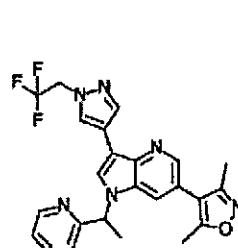
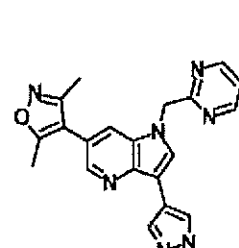
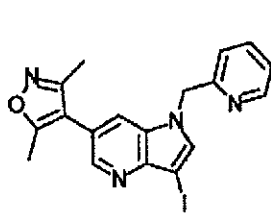
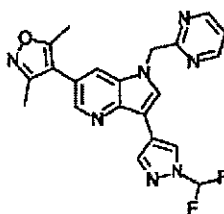
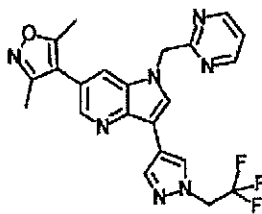
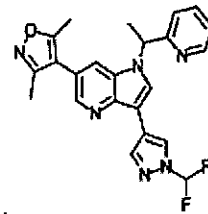
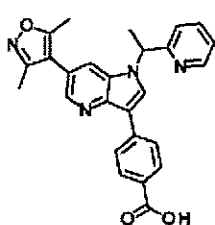
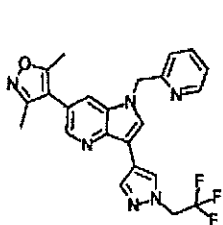
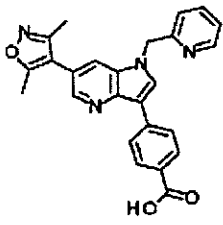
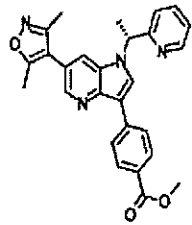


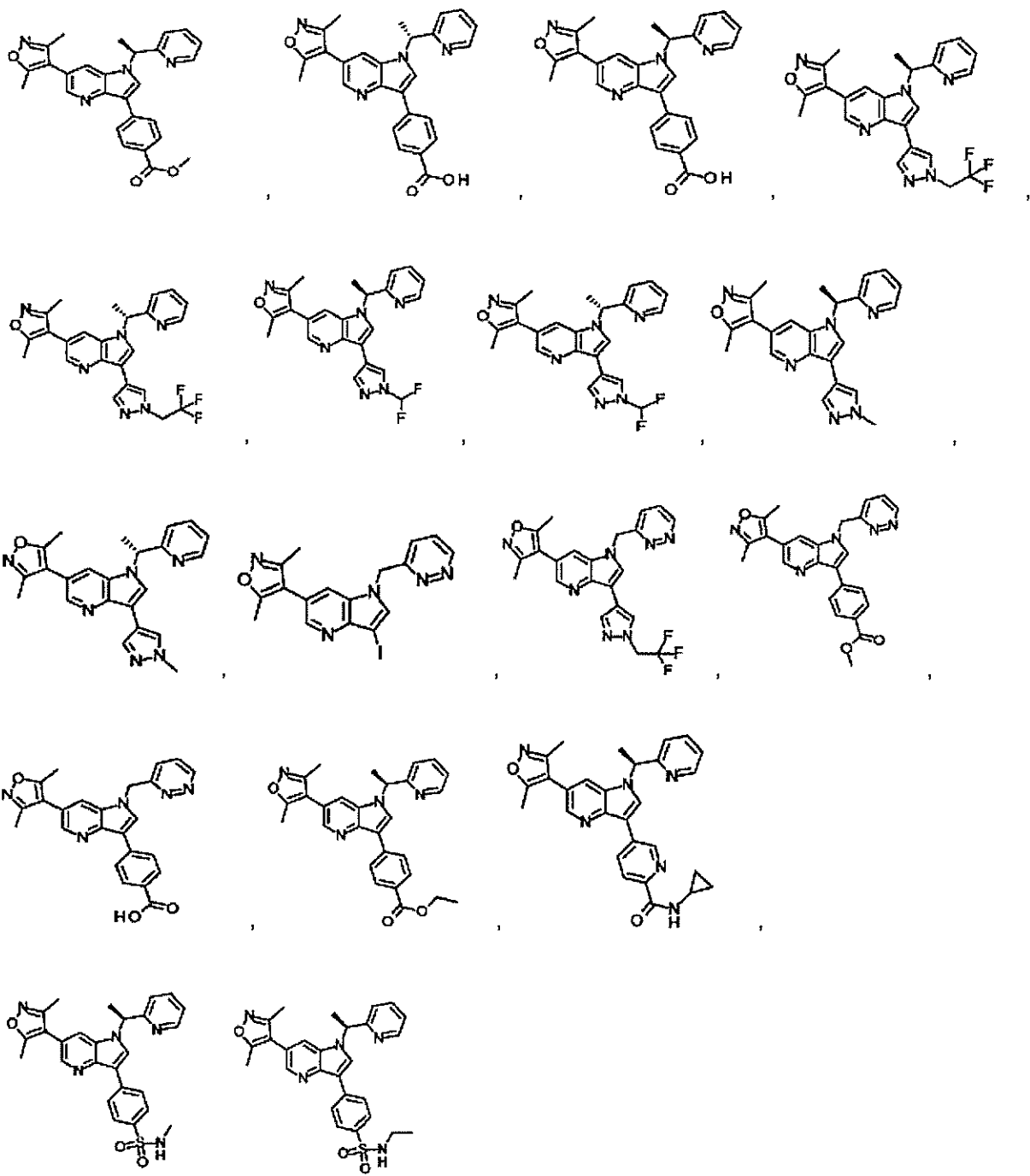


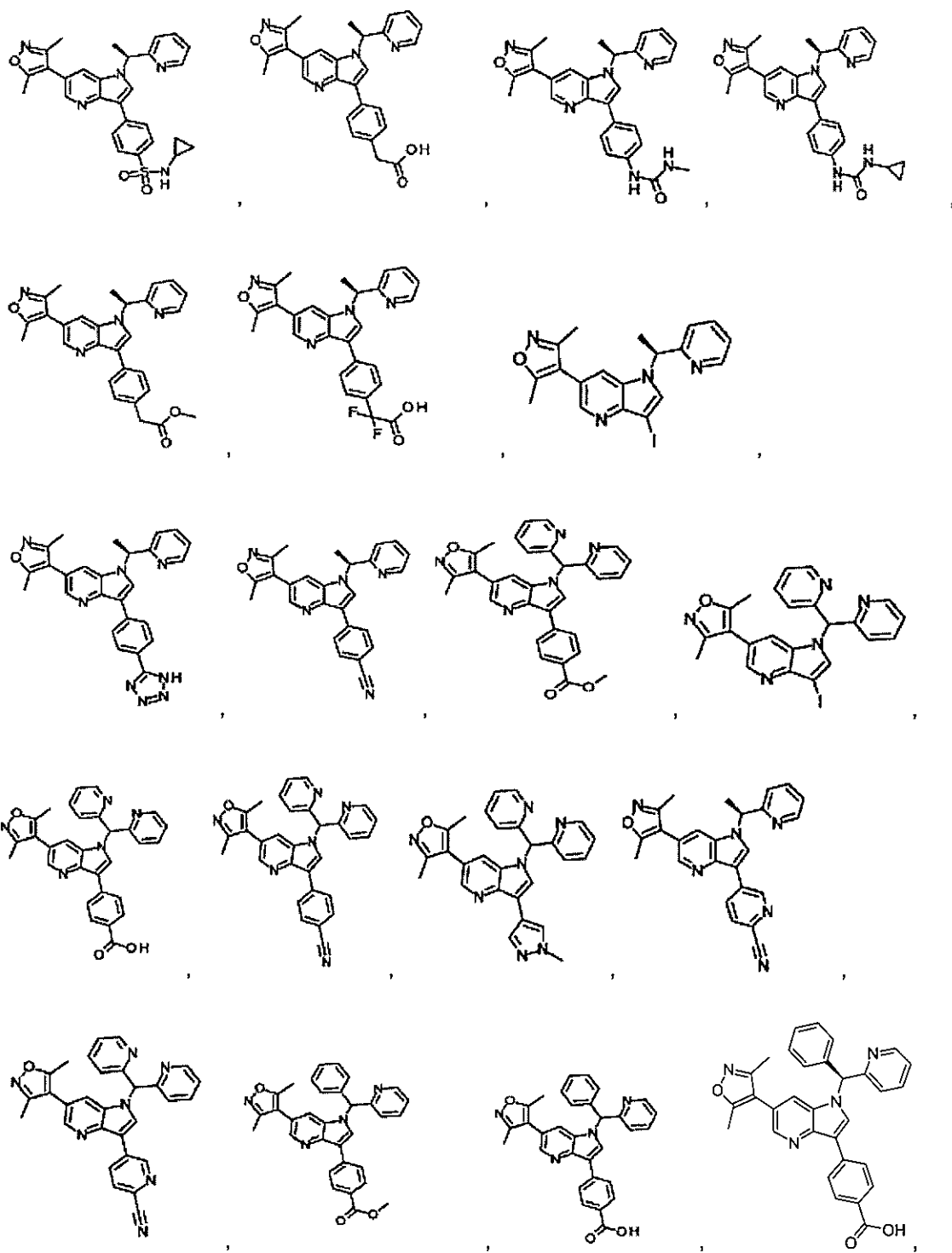


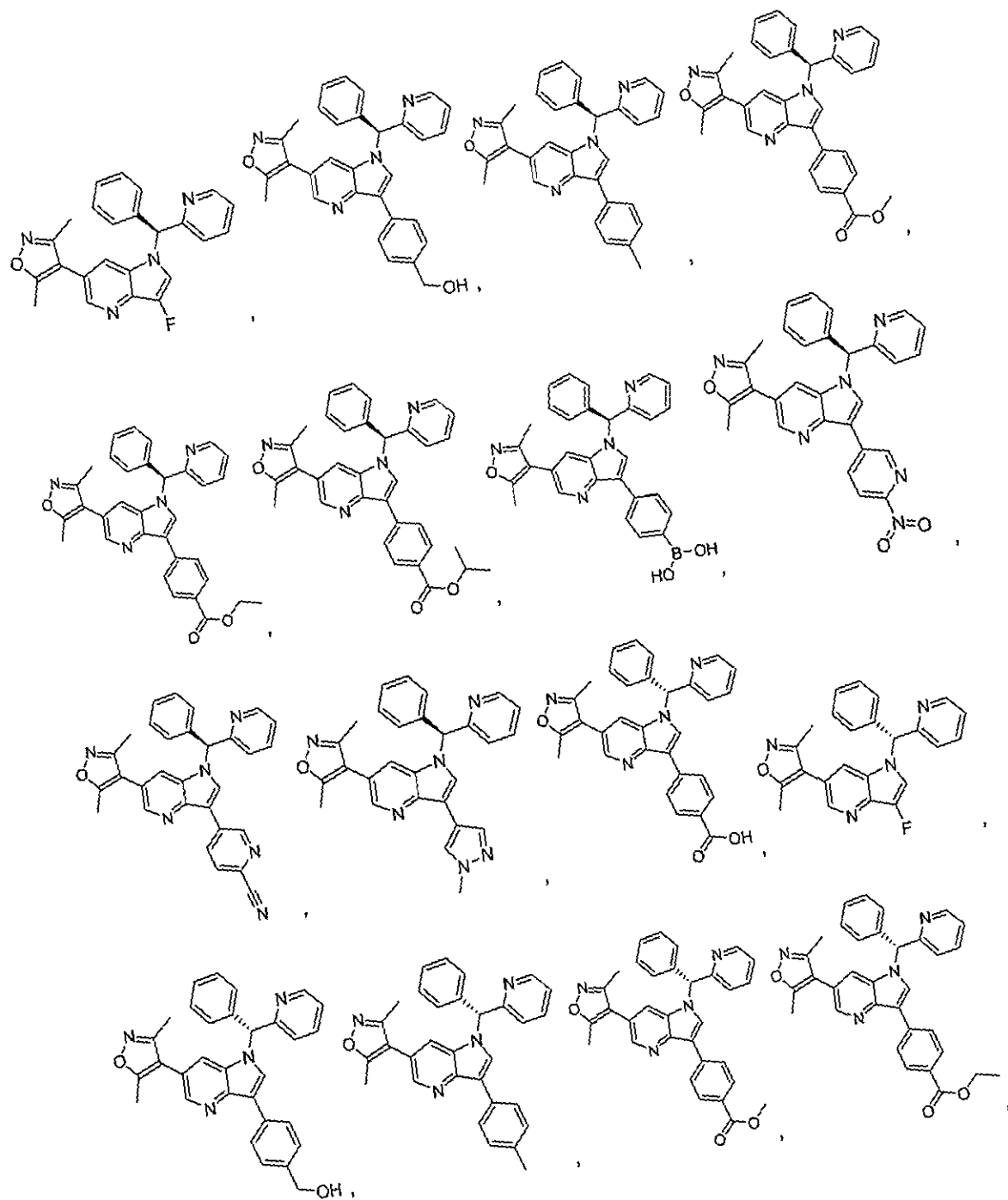


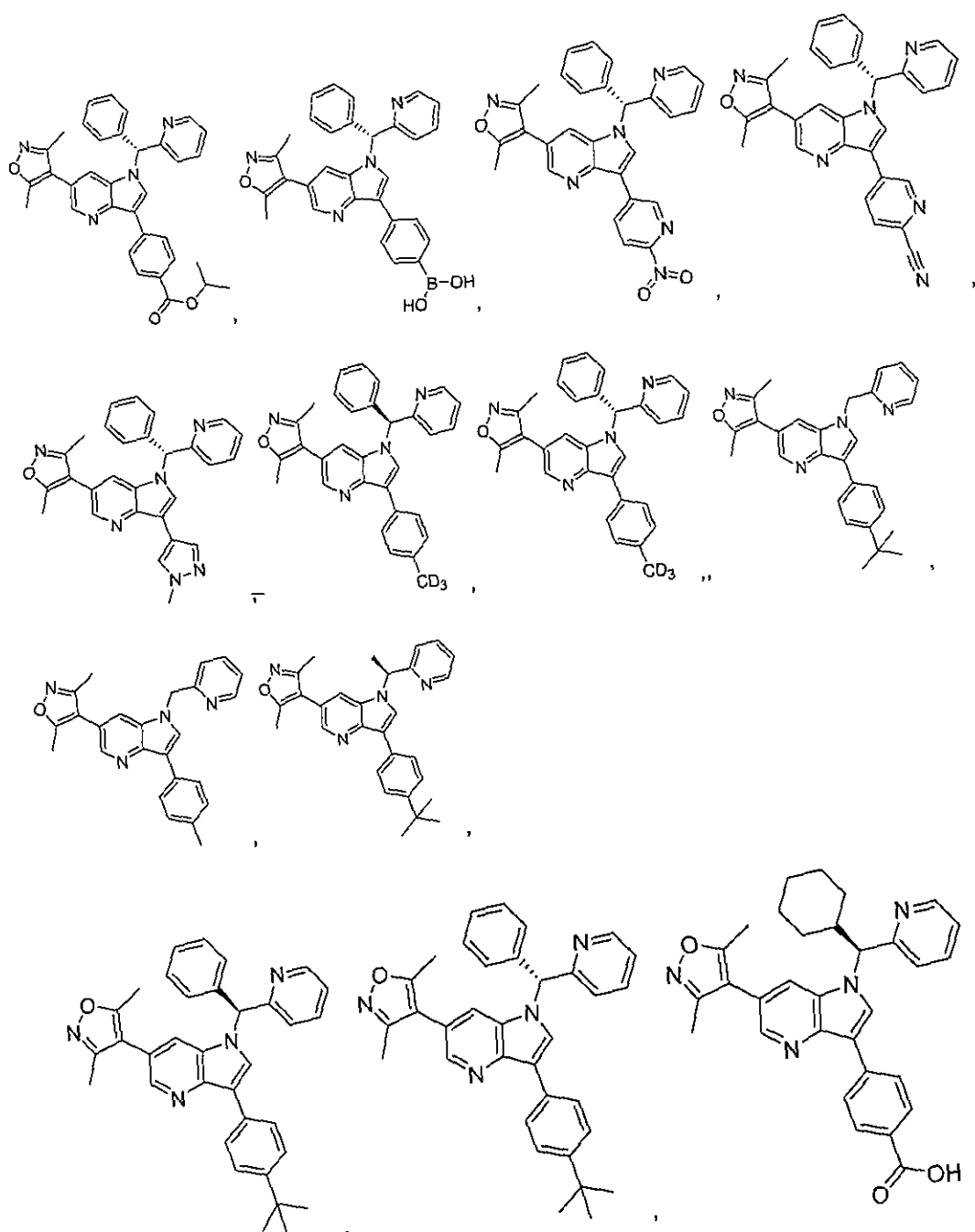


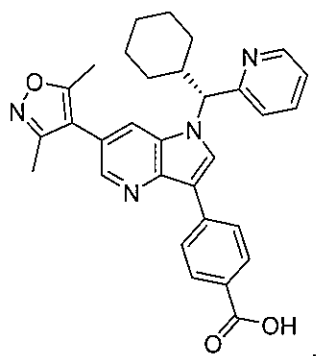




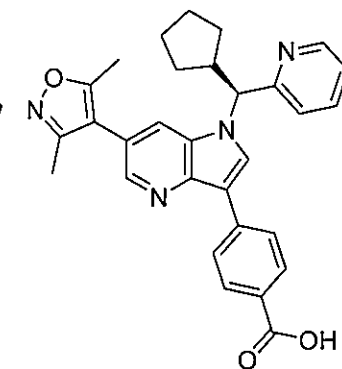
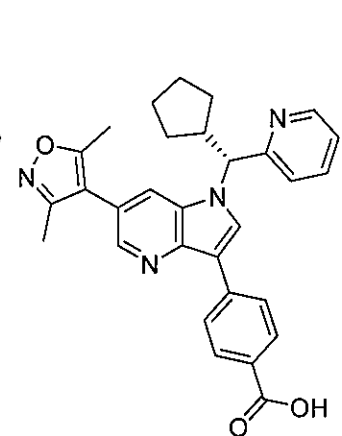




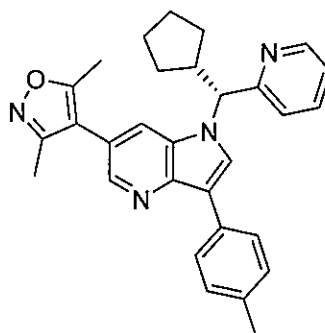




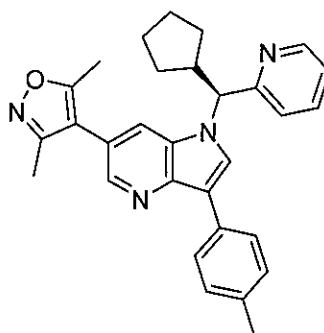
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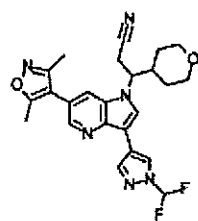
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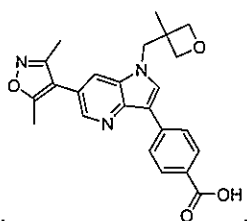
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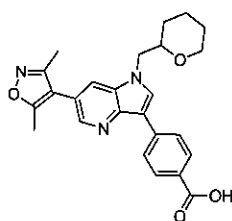
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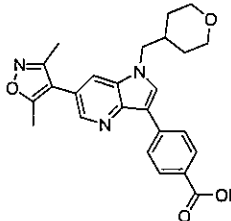
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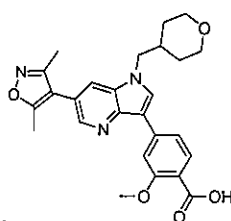
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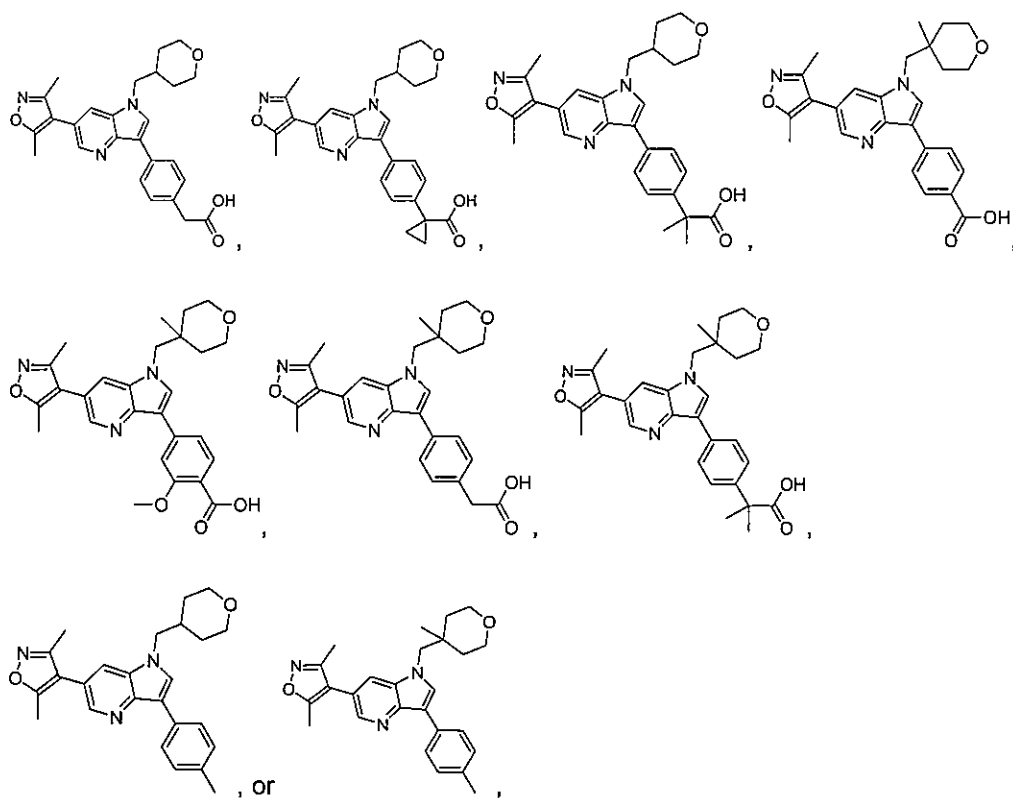
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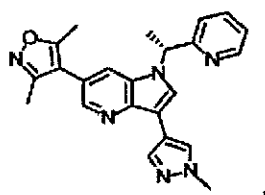


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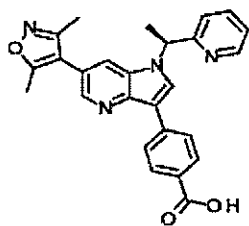
or a pharmaceutically acceptable salt thereof.

13. A compound of formula:



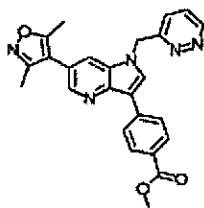
or a pharmaceutically acceptable salt thereof.

14. A compound of formula:



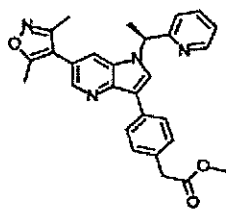
or a pharmaceutically acceptable salt thereof.

15. A compound of formula:



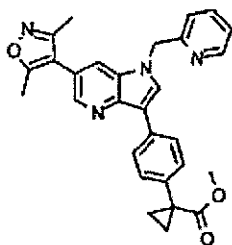
or a pharmaceutically acceptable salt thereof.

16. A compound of formula:



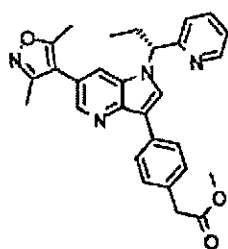
or a pharmaceutically acceptable salt thereof.

17. A compound of formula:



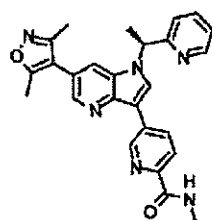
or a pharmaceutically acceptable salt thereof.

18. A compound of formula:



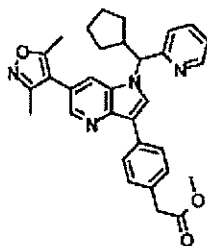
or a pharmaceutically acceptable salt thereof.

19. A compound of formula:



or a pharmaceutically acceptable salt thereof.

20. A compound of formula:



or a pharmaceutically acceptable salt thereof.

21. A pharmaceutical composition comprising a compound of any of the preceding claims and a pharmaceutical acceptable excipient or carrier.

22. A pharmaceutical composition comprising a compound of any of the preceding claims and another therapeutic agent.

23. A method for modulating bromodomain, said method comprising: contacting a cell in vitro with a compound of any of claims **1-20**, or a composition of claim **21** or **22**.

24. A compound of any of claims **1-20**, or a composition of claim **21** or **22** for use in treating a subject suffering from or at risk of acute myeloid leukemia.

25. A compound of any of claims **1-20**, or a composition of claim **21** or **22** for use in treating a subject suffering from or at risk of a disease or condition selected from hematological cancer, midline carcinomas, Burkitt's lymphoma, lung cancer, acute myelogenous leukemia, chronic lymphocytic leukemia, multiple myeloma, neuroblastoma, and uveal melanoma.

26. Use of a compound of a compound any of claims **1-20**, or a composition of claim **21** or **22** in the manufacture of a medicament for the treatment of acute myeloid leukemia.