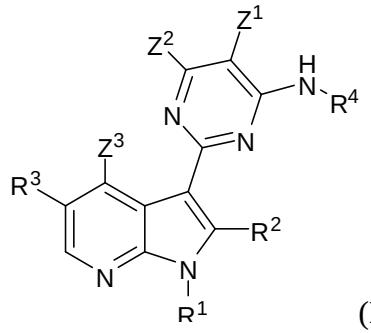
CLAIMS

1. A compound represented by structural formula (**IA**):



(**IA**),

or a pharmaceutically acceptable salt thereof, wherein:

Z^1 is –R*, –F, -Cl, –CN, –OR*, $–CO_2R$*, $-NO_2$, or $-CON(R^*)_2$;

Z^2 is –R*, –OR*, $–CO_2R$*, $-NR^*_2$, or $-CON(R^*)_2$;

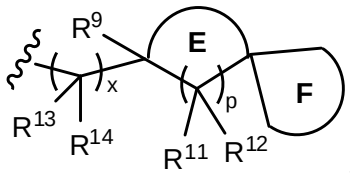
Z^3 is -H, -OH, halogen, $-NH_2$, $-NH(C_1\text{-}C_4$ alkyl), $-N(C_1\text{-}C_4$ alkyl$)_2$, $-O(C_1\text{-}C_4$ alkyl), or $C_1\text{-}C_6$ alkyl that is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, and $-O(C_1\text{-}C_4$ alkyl);

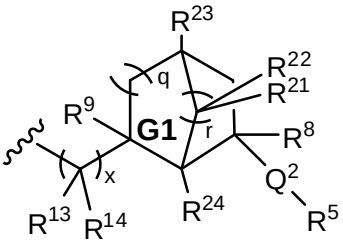
R^1 is –H, $C_1\text{-}C_6$ alkyl, $–S(O)_2$-R", or –C(O)OR";

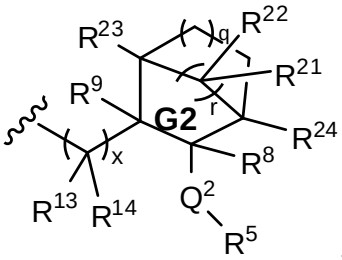
R^2 is –H, -F, $-NH_2$, $-NH(C_1\text{-}C_4$ alkyl), $-N(C_1\text{-}C_4$ alkyl$)_2$, -C=N-OH; cyclopropyl that is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, $-OCH_3$, and $-CH_3$; or $C_1\text{-}C_4$ alkyl that is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, and $-O(C_1\text{-}C_4$ alkyl);

R^3 is –H, –Cl, –F, -Br, –OH, $–O(C_1\text{-}C_4$ alkyl), $–NH_2$, $–NH(C_1\text{-}C_4$ alkyl), $–N(C_1\text{-}C_4$ alkyl$)_2$, –CN, or $C_1\text{-}C_4$ aliphatic that is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, $-NH_2$, $-NH(C_1\text{-}C_4$ alkyl), $-N(C_1\text{-}C_4$ alkyl$)_2$, $-OCO(C_1\text{-}C_4$ alkyl), $-CO(C_1\text{-}C_4$ alkyl), $-CO_2H$, $-CO_2(C_1\text{-}C_4$ alkyl), and $C_1\text{-}C_4$ alkoxy;

R^4 is:



,


, or


; wherein:

ring **E** is a C_4-C_8 non-aromatic carbocycle optionally further substituted with one or more instances of J^A;

ring **F** is a 4-8 membered non-aromatic heterocycle optionally substituted with one or more instances of J^{E1};

each of rings **G1** and **G2** is independently a 5-10 membered non-aromatic bridged carbocycle optionally substituted with one or more instances of J^A;

each J^A is independently selected from the group consisting of halogen, cyano, oxo, -NCO, and Q^1-R^5; or optionally two J^A, together with the atom(s) to which they are attached, independently form a 4-8 membered ring that is optionally substituted with one or more instances of J^{E1};

Q^1 is independently a bond, –O–, –S–, –NR–, –C(O)–, -C(=NR)-, $–CO_2–$, –OC(O)–, –C(O)NR–, -C(O)NRC(O)O–, -NRC(O)NRC(O)O–, –NRC(O)–, –NRC(O)NR–, $–NRCO_2–$, –OC(O)NR–, -S(O)-, $–SO_2–$, $–N(R)SO_2–$, $–SO_2NR'$-, $-NRSO_2NR'$-, or $-(CR^6R^7)_p–Y^1–$;

Q^2 is independently –O–, $–CO_2–$, –OC(O)–, –C(O)NR–, –NRC(O)–, –NRC(O)NR–, $–NRCO_2–$, –OC(O)NR–, $-CO_2SO_2$-, $-P(O)_2O$-, or $-(CR^6R^7)_p–Y^1–$;

Y^1 is independently –O–, $–CO_2–$, –OC(O)–, –C(O)NR–, –NRC(O)–, –NRC(O)NR–, $–NRCO_2–$, or –OC(O)NR–;

R^5 is:

i) –H;

ii) an optionally substituted C_1-C_6 alkyl group;

iii) an optionally substituted C_3-C_7 non-aromatic carbocycle;

iv) an optionally substituted 4-7 membered non-aromatic heterocycle; or

optionally, together with R and the nitrogen atom to which R is attached, form a 5-7 membered, optionally substituted non-aromatic heterocycle, wherein the alkyl group represented by R^5 is optionally substituted with one or more substituents independently selected

from the group consisting of halogen, cyano, hydroxy, oxo, $-NH_2$, $-NH(C_1-C_4$ alkyl), $-N(C_1-C_4$ alkyl)$_2$, $-OCO(C_1-C_4$ alkyl), $-CO(C_1-C_4$ alkyl), $-CO_2H$, $-CO_2(C_1-C_4$ alkyl), C_1-C_4 alkoxy, an optionally substituted C_3-C_7 non-aromatic carbocycle, and an optionally substituted 4-7 membered non-aromatic heterocycle; wherein each of said carbocycles and heterocycles represented by R^5 is independently and optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, C_1-C_4 alkyl, $-O(C_1-C_4$ alkyl), $-NH_2$, $-NH(C_1-C_4$ alkyl), $-N(C_1-C_4$ alkyl)$_2$, $-C(O)(C_1-C_4$ alkyl), $-OC(O)(C_1-C_4$ alkyl), $-C(O)O(C_1-C_4$ alkyl) and $-CO_2H$, wherein each of said alkyl groups is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, $-NH_2$, $-NH(C_1-C_4$ alkyl), $-N(C_1-C_4$ alkyl)$_2$, $-OCO(C_1-C_4$ alkyl), $-CO(C_1-C_4$ alkyl), $-CO_2H$, $-CO_2(C_1-C_4$ alkyl), and C_1-C_4 alkoxy;

each of R^8 and R^9 is independently -H, halogen, cyano, hydroxy, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 hydroxyalkyl, C_2-C_4 alkoxyalkyl, $-O(C_1-C_4$ alkyl), $-NH_2$, $-NH(C_1-C_4$ alkyl), or $-N(C_1-C_4$ alkyl)$_2$;

R^{11}, R^{12}, R^{13} and R^{14} are each independently -H, halogen, or C_1-C_6 alkyl optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, oxo, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy; or optionally, R^{13} and R^{14}, together with the carbon atom to which they are attached, form a cyclopropane ring, optionally substituted with one or more instances of methyl;

R^{21}, R^{22}, R^{23} and R^{24} are each independently -H, halogen, -OH, or C_1-C_6 alkyl optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, oxo, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy;

R^6 and R^7 are each independently -H or C_1-C_6 alkyl optionally substituted with one or more substitutents selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy, or optionally R^6 and R^7, together with the carbon atom to which they are attached, form a cyclopropane ring optionally substituted with one or more instances of methyl;

R and R' are each independently -H or C_1-C_6 alkyl optionally and independently substituted with one or more substituents independently selected from the group consisting of

halogen, cyano, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy; or optionally R', together with R^5 and the nitrogen atom to which R' is attached, form a 5-7 membered non-aromatic heterocycle optionally substituted with one or more instances of J^{D1};

each J^{D1} is independently selected from the group consisting of halogen, cyano, oxo, $-R^a$, $-OR^b$, $-SR^b$, $-SOR^a$, $-SO_2R^a$, $-NHR^c$, $-C(O)R^b$, $-C(O)OR^b$, $-OC(O)R^b$, $-NHC(O)R^b$, $-C(O)NHR^c$, $-NHC(O)NHR^c$, $-NHC(O)OR^b$, $-OCONHR^c$, $-NHC(O)NHC(O)OR^b$, $-N(CH_3)R^c$, $-N(CH_3)C(O)R^b$, $-C(O)N(CH_3)R^c$, $-N(CH_3)C(O)NHR^c$, $-N(CH_3)C(O)OR^b$, $-OCON(CH_3)R^c$, $-C(O)NHCO_2R^b$, $-C(O)N(CH_3)CO_2R^b$, $-N(CH_3)C(O)NHC(O)OR^b$, $-NHSO_2R^b$, $-SO_2NHR^b$, $-SO_2N(CH_3)R^b$, and $-N(CH_3)SO_2R^b$;

R" is independently:

i) a C_1-C_6-alkyl optionally substituted with one or more substituents selected independently from the group consisting of halogen, cyano, hydroxyl, $-NH_2$, $-NH(C_1$-C_6 alkyl), $-N(C_1$-C_6 alkyl)$_2$, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy; or

ii) a C_3-C_6 carbocyclic group, a 5-6 membered heteroaryl group, or a phenyl group, each optionally and independently being substituted with one ore more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, nitro, $-NH_2$, $-NH(C_1$-C_6 alkyl), $-N(C_1$-C_6 alkyl)$_2$, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 cyanoalkyl, C_1-C_6-hydroxyalkyl, C_2-C_6-alkoxyalkyl, C_1-C_6-aminoalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6-hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy;

R^* is independently: i)-H; ii) a C_1-C_6 alkyl group optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, C_3-C_8 non-aromatic carbocycle, 5-6 membered non-aromatic heterocycle, phenyl, 5-6 membered heteroaryl, $-O(C_1$-C_6 alkyl), and $-C(O)(C_1$-C_6-alkyl); wherein each of said alkyl groups in $-O(C_1$-C_6 alkyl), and $-C(O)(C_1$-C_6-alkyl) is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, $-NH_2$, $-NH(C_1$-C_4 alkyl), $-N(C_1$-C_4 alkyl)$_2$, $-OCO(C_1$-C_4 alkyl), $-CO(C_1$-C_4 alkyl), $-CO_2H$, $-CO_2(C_1$-C_4 alkyl), and C_1-C_4 alkoxy; and wherein each of said carbocycle, heterocycle, phenyl, and heteroaryl is independently and optionally substituted with one or more instances of J^{E1}; or iii) a C_3-C_8 non-aromatic carbocycle, or a 4-8 membered non-

aromatic heterocycle, each of which is independently and optionally substituted with one or more instances of J^{E1};

each J^{E1} is independently selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, amido, C_1-C_6 alkyl, -O(C_1-C_6 alkyl), and -C(O)(C_1-C_6-alkyl), wherein each of said alkyl groups is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, $-NH_2$, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), $-CO_2H$, $-CO_2$(C_1-C_4 alkyl), and C_1-C_4 alkoxy;

each R^a is independently:

i) a C_1-C_6 aliphatic group optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, amido, -O(C_1-C_6 alkyl), –C(O)(C_1-C_6-alkyl), C_3-C_8 non-aromatic carbocycle, 4-8 membered non-aromatic heterocycle, 5-10 membered heteroaryl group, and 6-10 membered carbocyclic aryl group; wherein each of said alkyl groups for the substituents of the C_1-C_6 aliphatic group represented by R^a is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, $-NH_2$, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), $-CO_2H$, $-CO_2$(C_1-C_4 alkyl), and C_1-C_4 alkoxy; and wherein each of said carbocycle, heterocycle, heteroaryl, and carbocyclic aryl groups for the substituents of the C_1-C_6 aliphatic group represented by R^a is optionally and independently substituted with one or more instances of J^{E1};

ii) a C_3-C_8 non-aromatic carbocycle, or a 4-8 membered non-aromatic heterocycle, each of which is optionally and independently substituted with one or more instances of J^{E1}; or

iii) a 5-10 membered heteroaryl, or 6-10 membered carbocyclic aryl group, each of which is optionally and independently substituted with one or more instances of J^{E1};

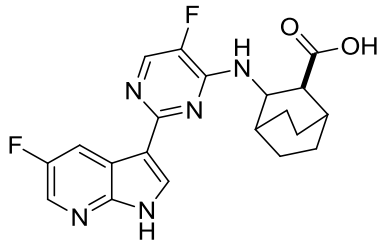
R^b and R^c are each independently R^a or –H; or optionally, R^b and R^c, together with the nitrogen atom(s) to which they are attached, each independently form a 5-7 membered non-aromatic heterocycle optionally substituted with one or more instances of J^{E1};

p and q are each independently 0, 1 or 2;

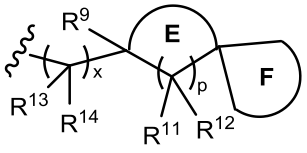
x is 0, 1 or 2; and

r is 1 or 2,

provided that the compound of Formula (IA) is not



or a pharmaceutically acceptable salt thereof.

2. The compound of claim 1, wherein R^4 is:  , wherein:

ring **E** is a C_4-C_8 non-aromatic carbocycle optionally further substituted with one or more instances of J^A;

ring **F** is a 4-8 membered non-aromatic heterocycle optionally substituted with one or more instances of J^{E1};

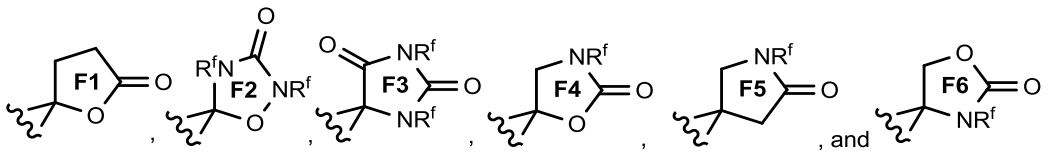
R^9 is independently -H, halogen, cyano, hydroxy, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 hydroxyalkyl, C_2-C_4 alkoxyalkyl, -O(C_1-C_4 alkyl), -NH_2, -NH(C_1-C_4 alkyl), or -N(C_1-C_4 alkyl)$_2$;

R^{11}, R^{12}, R^{13} and R^{14} are each independently -H, halogen, or C_1-C_6 alkyl optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, oxo, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy; or optionally, R^{13} and R^{14}, together with the carbon atom to which they are attached, form a cyclopropane ring, optionally substituted with one or more instances of methyl;

p is 0, 1 or 2; and

x is 0, 1 or 2.

3. The compound of claim 2, wherein ring **F** is selected from any one of rings **F1**-**F6**:

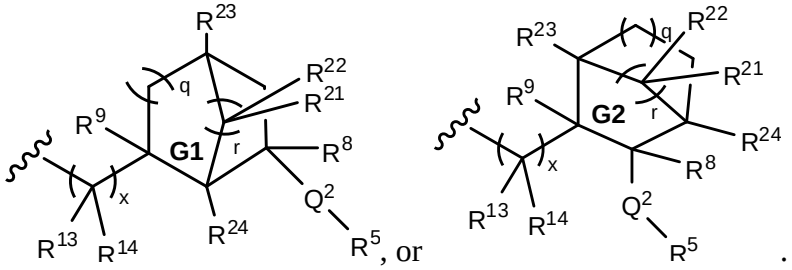


wherein

each of rings **F1**-**F6** is optionally and independently substituted with one or more instances of J^{E1}; and

each R^f is independently -H or C_1-C_6 alkyl optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 cyanoalkoxy, and C_1-C_6 hydroxyalkoxy.

4. The compound of claim 1, wherein R^4 is:



5. The compound of claim 4, wherein Q^2 is independently -O-, -CO_2-, -OC(O)-, -C(O)NR-, -NRC(O)-, -NRC(O)NR-, -$NRCO_2$-, -OC(O)NR-, or -$(CR^6R^7)_p$-Y^1-.

6. The compound of claim 5, wherein Q^2 is independently -O- or -CO_2-.

7. The compound of claim 4, wherein:

R^5 is independently

i) –H;

ii) an optionally substituted C_1-C_6 alkyl group;

iii) an optionally substituted C_3-C_7 non-aromatic carbocycle; or

iv) a 4-7 membered non-aromatic heterocycle optionally substituted with one or more instances of J^{D1}.

8. The compound of claim 4, wherein:

R^1 is –H;

R^2 is –H, –CH_3, -CH_2OH, or -NH_2;

R^3 is –H, -F, -Cl, C_1-C_4 alkyl, or C_1-C_4 haloalkyl;

Z^1 is –H, –F, or -Cl;

Z^2 is –H or C_1-C_6 alkyl optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, and -O(C_1-C_4 alkyl);

Z^3 is –H or C_1-C_6 alkyl optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, and -O(C_1-C_4 alkyl);

R^5 is:

i) –H;

ii) an optionally substituted C_1-C_6 alkyl group;

iii) an optionally substituted C_3-C_7 non-aromatic carbocycle; or

iv) an optionally substituted 4-7 membered non-aromatic heterocycle; or

optionally, together with R and the nitrogen atom to which it is attached, form a 5-7 membered, optionally substituted non-aromatic heterocycle; and

said alkyl group represented by R^5 is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, -NH_2, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), -CO_2H, -CO_2(C_1-C_4 alkyl), C_1-C_4 alkoxy, an optionally substituted C_3-C_7 non-aromatic carbocycle , an optionally substituted 4-7 membered non-aromatic heterocycle ; and

wherein each of said carbocycles and heterocycles represented by R^5, and referred to for the substituents of the C_1-C_6 alkyl group represented by R^5 is independently and optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, C_1-C_4 alkyl, -O(C_1-C_4 alkyl), -NH_2, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -C(O)(C_1-C_4 alkyl), –OC(O)(C_1-C_4 alkyl), -C(O)O(C_1-C_4 alkyl) and -CO_2H, wherein each of said alkyl groups is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy,

oxo, -NH_2, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), -CO_2H, -CO_2(C_1-C_4 alkyl), and C_1-C_4 alkoxy.

9. The compound of claim 8, wherein:

R^1 is –H;

R^2 is –H or -CH_2OH;

R^3 is –H, -F, or -Cl;

Z^1 is –H, –F, or -Cl;

Z^2 is –H;

Z^3 is –H;

R^5 is independently:

i) –H or

ii) a C_1-C_6-alkyl group optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, C_1-C_4 alkyl, -O(C_1-C_4 alkyl), -NH_2, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -C(O)(C_1-C_4 alkyl), –OC(O)(C_1-C_4 alkyl), -C(O)O(C_1-C_4 alkyl), -CO_2H, C_3-C_7 non-aromatic carbocycle, 4-8 membered non-aromatic heterocycle, phenyl, and 5-6 membered heteroaryl;

wherein each of said alkyl groups referred to in the substituents of the C_1-C_6 alkyl group represented by R^5 is independently and optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, -NH_2, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), -CO_2H, -CO_2(C_1-C_4 alkyl), and C_1-C_4 alkoxy; and

wherein each of said carbocycle, phenyl, heterocycle, and heteroaryl referred to in the substituents of the C_1-C_6 alkyl group represented by R^5 is independently and optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, C_1-C_4 alkyl, -NH_2, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), -CO_2H, -CO_2(C_1-C_4 alkyl), and C_1-C_4 alkoxy.

10. The compound of claim 4, wherein each of J^A is selected from the group consisting of halogen, cyano, hydroxy, C_1-C_6 alkyl, -NH_2, –NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -O(C_1-C_4 alkyl), -C(O)NH_2, -C(O)NH(C_1-C_4 alkyl), –C(O)N(C_1-C_4 alkyl)$_2$, -C(O)(C_1-C_4-alkyl),

–OC(O)(C_1-C_4 alkyl), –NHC(O)(C_1-C_4 alkyl), and -N(C_1-C_4 alkyl)C(O)(C_1-C_4 alkyl); wherein each of said alkyl groups is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, -NH_2, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), -CO_2H, -CO_2(C_1-C_4 alkyl), and C_1-C_4 alkoxy.

11. The compound of claim 10, wherein each of J^A is selected from the group consisting of halogen, cyano, hydroxy, -NH_2, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), -CO_2H, -CO_2(C_1-C_4 alkyl), C_1-C_4 alkoxy, and C_1-C_4 alkyl optionally substituted with one or more substituents selected from the group consisting of halogen, cyano, hydroxy, and -O(C_1-C_4 alkyl).

12. The compound of claim 4, wherein:

R^1 is –H;

R^2 is –H;

R^3 is –H, –F, or –Cl;

Z^1 is –H, –F, or -Cl;

Z^2 is –H;

Z^3 is –H;

R^5 is –H, or an optionally substituted C_1-C_6 alkyl;

each R^8 is independently -H, halogen, hydroxy, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 hydroxyalkyl, C_2-C_4 alkoxyalkyl, or -O(C_1–C_4 alkyl);

each of R^9, R^{13}, and R^{14} is independently -H or C_1-C_4 alkyl;

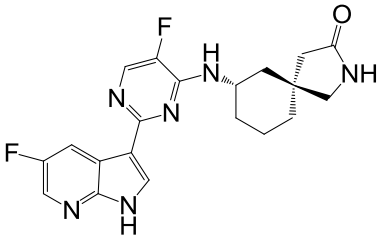
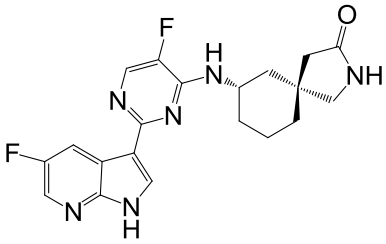
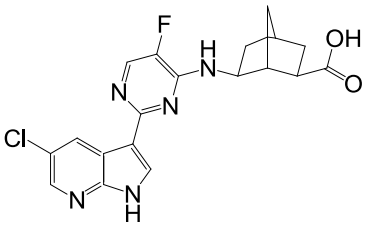
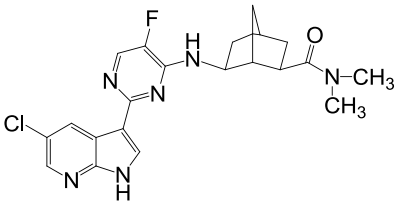
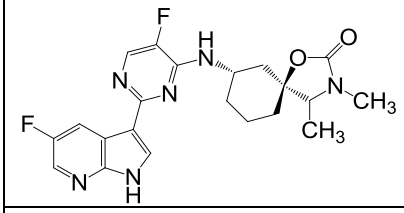
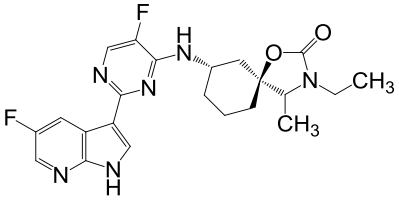
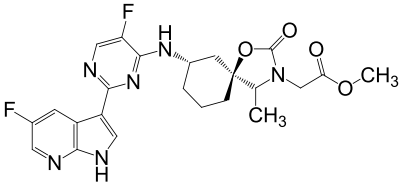
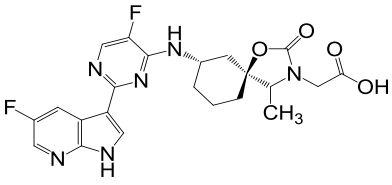
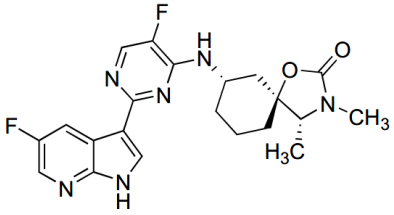
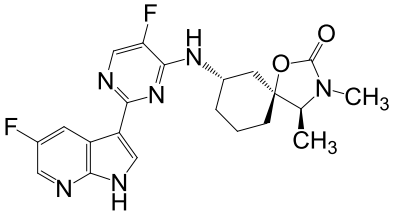
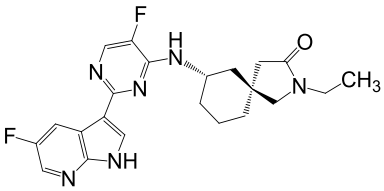
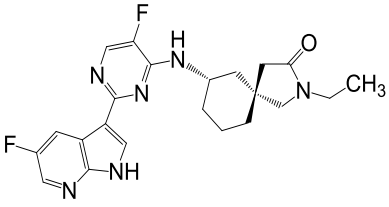
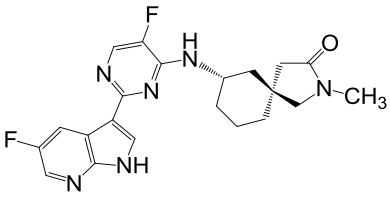
R^{21}, R^{22}, R^{23}, an R^{24} are each independently –H, halogen, -OH, or C_1-C_6 alkyl optionally substituted with one or more substituents independently selected from the group consisting of halogen, hydroxy, and -O(C_1-C_6 alkyl); and

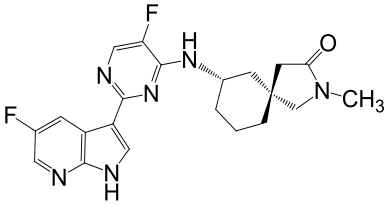
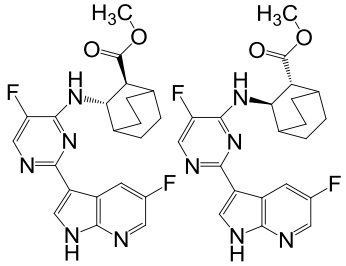
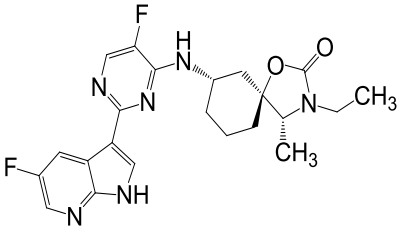
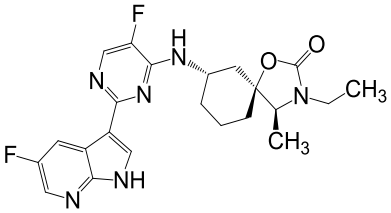
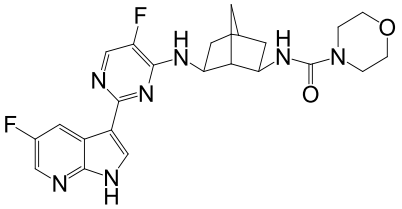
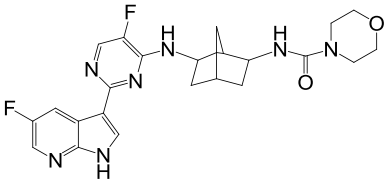
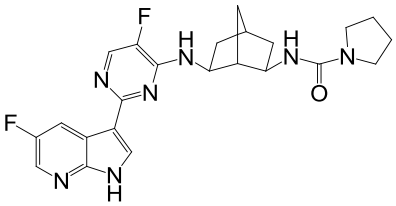
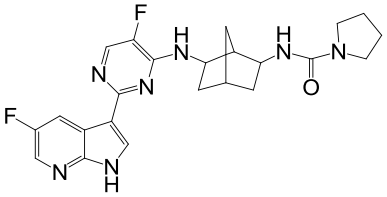
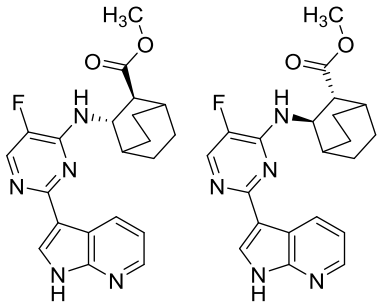
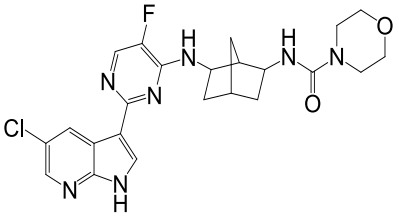
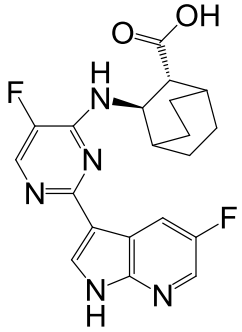
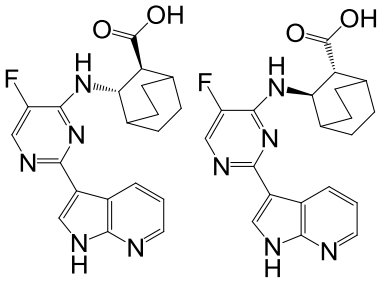
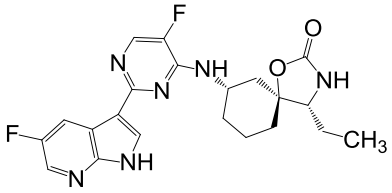
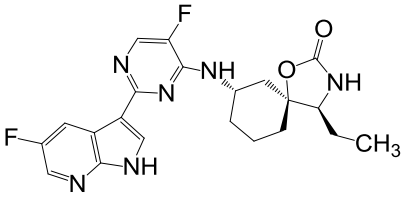
each of rings **G1**-**G2** is independently a 5-10 membered non-aromatic bridged carbocycle optionally substituted with one or more substituents selected from the group consisting of halogen, cyano, hydroxy, -NH_2, –NH(C_1-C_6 alkyl), -N(C_1-C_6 alkyl)$_2$, -O(C_1-C_6 alkyl), C_1-C_4 alkyl that is optionally substituted with one or more substituents selected from the group consisting of halogen, hydroxy, and C_1-C_4 alkoxy.

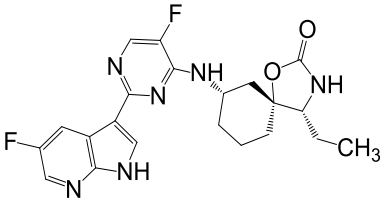
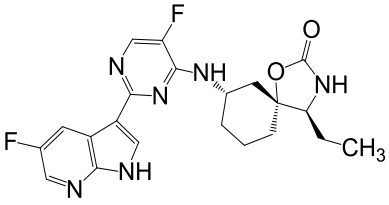
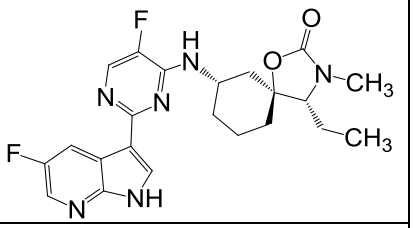
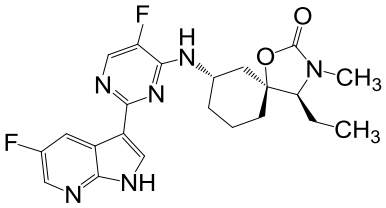
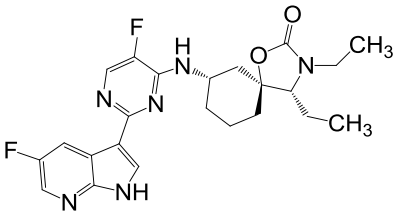
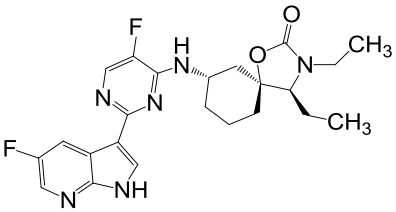
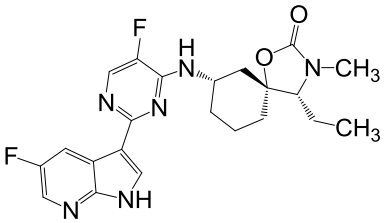
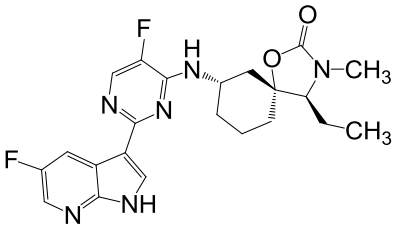
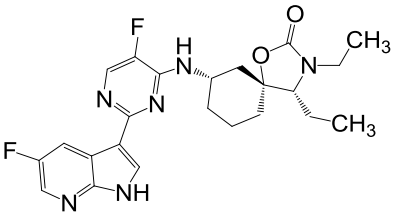
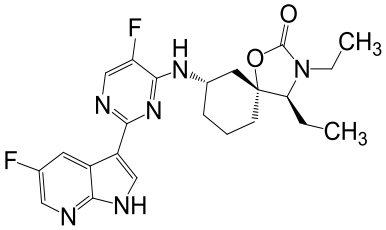
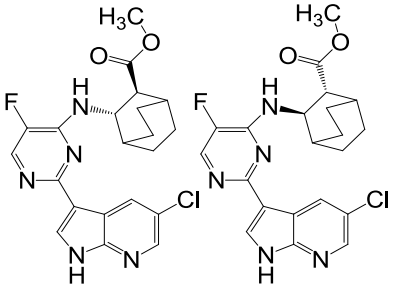
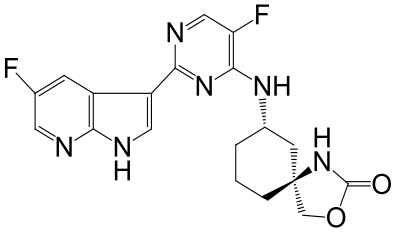
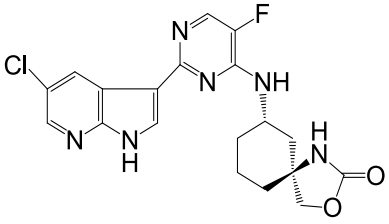
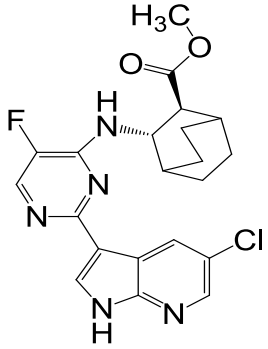
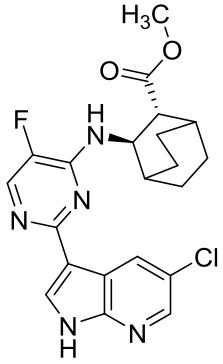
13. The compound of claim 4, wherein x is 0 or 1.

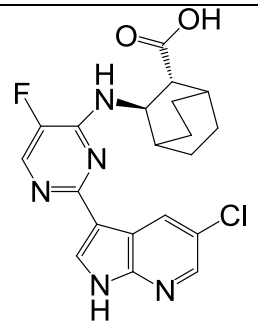
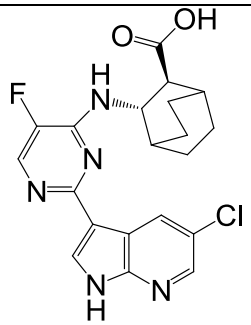
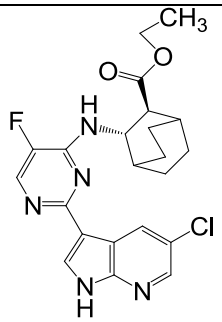
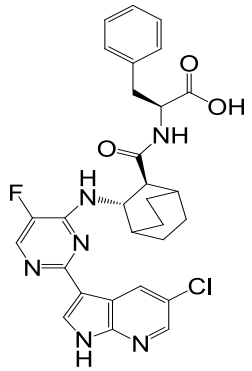
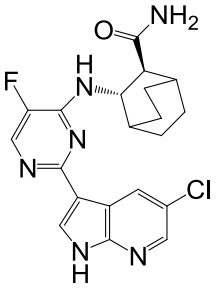
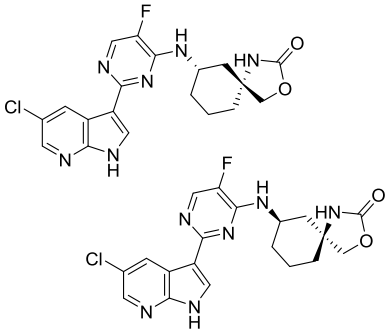
14. The compound of claim 4, wherein R^3 is methyl or ethyl.

15. A compound selected from

981 	982 	987 
	990 	
1008 	1009 	1010 
1011 	1017 	1018 
1024 	1025 	1026 

1027 	1028 	1029 
1030 		1037 
1038 	1044 	1045 
1048 	1056 	1071 
1090 	1145 	1146 

1147 	1148 	1153 
1154 	1155 	1156 
1157 	1158 	1159 
1160 	1162 	1176 
1177 	1178 	1179 
1183	1184	1187

		
1195 	1197 	1205 

or a pharmaceutically acceptable salt thereof.

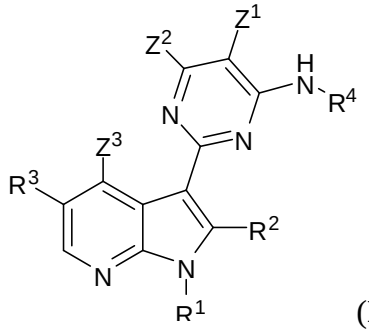
16. A pharmaceutical composition comprising a compound according to claim 1 or a pharmaceutically acceptable salt of the same and a pharmaceutically acceptable carrier, adjuvant or vehicle.

17. A method of reducing the amount of influenza A viruses in an in vitro biological sample, comprising administering to said biological sample an effective amount of a compound according to claim 1 or a pharmaceutically acceptable salt of the same or a pharmaceutical composition according to claim 16.

18. Use of the compound according to claim 1 or a pharmaceutically acceptable salt of the same for the preparation of a medicament for reducing influenza A viruses in a patient.

19. Use of the compound according to claim 1 or a pharmaceutically acceptable salt of the same for the preparation of a medicament for reducing influenza A virus infection in a patient.

20. A method of preparing a compound represented by structural formula (**IA**):



(**IA**),

or a pharmaceutically acceptable salt thereof, wherein:

Z^1 is –R*, –F, -Cl, –CN, –OR*, $–CO_2R^*$, $-NO_2$, or $-CON(R^*)_2$;

Z^2 is –R*, –OR*, $–CO_2R^*$, $-NR^*_2$, or $-CON(R^*)_2$;

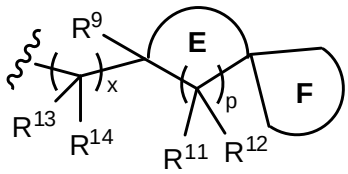
Z^3 is -H, -OH, halogen, $-NH_2$, $-NH(C_1\text{-}C_4$ alkyl), $-N(C_1\text{-}C_4$ alkyl)$_2$, $-O(C_1\text{-}C_4$ alkyl), or $C_1\text{-}C_6$ alkyl that is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, and $-O(C_1\text{-}C_4$ alkyl);

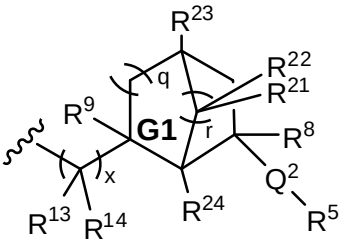
R^1 is –H, $C_1\text{-}C_6$ alkyl, $–S(O)_2$-R", or –C(O)OR";

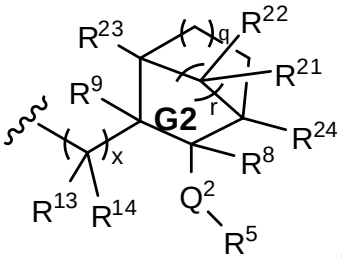
R^2 is –H, -F, $-NH_2$, $-NH(C_1\text{-}C_4$ alkyl), $-N(C_1\text{-}C_4$ alkyl)$_2$, -C=N-OH; cyclopropyl that is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, $-OCH_3$, and $-CH_3$; or $C_1\text{-}C_4$ alkyl that is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, and $-O(C_1\text{-}C_4$ alkyl);

R^3 is –H, –Cl, –F, -Br, –OH, $–O(C_1\text{-}C_4$ alkyl), $–NH_2$, $–NH(C_1\text{-}C_4$ alkyl), $–N(C_1\text{-}C_4$ alkyl)$_2$, –CN, or $C_1\text{-}C_4$ aliphatic that is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, $-NH_2$, $-NH(C_1\text{-}C_4$ alkyl), $-N(C_1\text{-}C_4$ alkyl)$_2$, $-OCO(C_1\text{-}C_4$ alkyl), $-CO(C_1\text{-}C_4$ alkyl), $-CO_2H$, $-CO_2(C_1\text{-}C_4$ alkyl), and $C_1\text{-}C_4$ alkoxy;

R^4 is:



,


, or


; wherein:

ring **E** is a C_4-C_8 non-aromatic carbocycle optionally further substituted with one or more instances of J^A;

ring **F** is a 4-8 membered non-aromatic heterocycle optionally substituted with one or more instances of J^{E1};

each of rings **G1** and **G2** is independently a 5-10 membered non-aromatic bridged carbocycle optionally substituted with one or more instances of J^A;

each J^A is independently selected from the group consisting of halogen, cyano, oxo, -NCO, and Q^1-R^5; or optionally two J^A, together with the atom(s) to which they are attached, independently form a 4-8 membered ring that is optionally substituted with one or more instances of J^{E1};

Q^1 is independently a bond, –O–, –S–, –NR–, –C(O)–, -C(=NR)-, $–CO_2–$, –OC(O)–, –C(O)NR–, -C(O)NRC(O)O–, -NRC(O)NRC(O)O–, –NRC(O)–, –NRC(O)NR–, $–NRCO_2–$, –OC(O)NR–, -S(O)-, $–SO_2–$, $–N(R)SO_2–$, $–SO_2NR'$-, $-NRSO_2NR'$-, or $-(CR^6R^7)_p–Y^1–$;

Q^2 is independently –O–, $–CO_2–$, –OC(O)–, –C(O)NR–, –NRC(O)–, –NRC(O)NR–, $–NRCO_2–$, –OC(O)NR–, $-CO_2SO_2$-, $-P(O)_2O$-, or $-(CR^6R^7)_p–Y^1–$;

Y^1 is independently –O–, $–CO_2–$, –OC(O)–, –C(O)NR–, –NRC(O)–, –NRC(O)NR–, $–NRCO_2–$, or –OC(O)NR–;

R^5 is:

i) –H;

ii) an optionally substituted C_1-C_6 alkyl group;

iii) an optionally substituted C_3-C_7 non-aromatic carbocycle;

iv) an optionally substituted 4-7 membered non-aromatic heterocycle; or

optionally, together with R and the nitrogen atom to which R is attached, form a 5-7 membered, optionally substituted non-aromatic heterocycle, wherein the alkyl group represented by R^5 is optionally substituted with one or more substituents independently selected

from the group consisting of halogen, cyano, hydroxy, oxo, $-NH_2$, $-NH(C_1-C_4$ alkyl), $-N(C_1-C_4$ alkyl)$_2$, $-OCO(C_1-C_4$ alkyl), $-CO(C_1-C_4$ alkyl), $-CO_2H$, $-CO_2(C_1-C_4$ alkyl), C_1-C_4 alkoxy, an optionally substituted C_3-C_7 non-aromatic carbocycle, and an optionally substituted 4-7 membered non-aromatic heterocycle; wherein each of said carbocycles and heterocycles represented by R^5 is independently and optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, C_1-C_4 alkyl, $-O(C_1-C_4$ alkyl), $-NH_2$, $-NH(C_1-C_4$ alkyl), $-N(C_1-C_4$ alkyl)$_2$, $-C(O)(C_1-C_4$ alkyl), $-OC(O)(C_1-C_4$ alkyl), $-C(O)O(C_1-C_4$ alkyl) and $-CO_2H$, wherein each of said alkyl groups is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, $-NH_2$, $-NH(C_1-C_4$ alkyl), $-N(C_1-C_4$ alkyl)$_2$, $-OCO(C_1-C_4$ alkyl), $-CO(C_1-C_4$ alkyl), $-CO_2H$, $-CO_2(C_1-C_4$ alkyl), and C_1-C_4 alkoxy;

each of R^8 and R^9 is independently -H, halogen, cyano, hydroxy, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 hydroxyalkyl, C_2-C_4 alkoxyalkyl, $-O(C_1-C_4$ alkyl), $-NH_2$, $-NH(C_1-C_4$ alkyl), or $-N(C_1-C_4$ alkyl)$_2$;

R^{11}, R^{12}, R^{13} and R^{14} are each independently -H, halogen, or C_1-C_6 alkyl optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, oxo, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy; or optionally, R^{13} and R^{14}, together with the carbon atom to which they are attached, form a cyclopropane ring, optionally substituted with one or more instances of methyl;

R^{21}, R^{22}, R^{23} and R^{24} are each independently -H, halogen, -OH, or C_1-C_6 alkyl optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, oxo, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy;

R^6 and R^7 are each independently -H or C_1-C_6 alkyl optionally substituted with one or more substitutents selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy, or optionally R^6 and R^7, together with the carbon atom to which they are attached, form a cyclopropane ring optionally substituted with one or more instances of methyl;

R and R' are each independently -H or C_1-C_6 alkyl optionally and independently substituted with one or more substituents independently selected from the group consisting of

halogen, cyano, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy; or optionally R', together with R^5 and the nitrogen atom to which R' is attached, form a 5-7 membered non-aromatic heterocycle optionally substituted with one or more instances of J^{D1};

each J^{D1} is independently selected from the group consisting of halogen, cyano, oxo, $-R^a$, $-OR^b$, $-SR^b$, $-SOR^a$, $-SO_2R^a$, $-NHR^c$, $-C(O)R^b$, $-C(O)OR^b$, $-OC(O)R^b$, $-NHC(O)R^b$, $-C(O)NHR^c$, $-NHC(O)NHR^c$, $-NHC(O)OR^b$, $-OCONHR^c$, $-NHC(O)NHC(O)OR^b$, $-N(CH_3)R^c$, $-N(CH_3)C(O)R^b$, $-C(O)N(CH_3)R^c$, $-N(CH_3)C(O)NHR^c$, $-N(CH_3)C(O)OR^b$, $-OCON(CH_3)R^c$, $-C(O)NHCO_2R^b$, $-C(O)N(CH_3)CO_2R^b$, $-N(CH_3)C(O)NHC(O)OR^b$, $-NHSO_2R^b$, $-SO_2NHR^b$, $-SO_2N(CH_3)R^b$, and $-N(CH_3)SO_2R^b$;

R" is independently:

i) a C_1-C_6-alkyl optionally substituted with one or more substituents selected independently from the group consisting of halogen, cyano, hydroxyl, $-NH_2$, $-NH(C_1$-C_6 alkyl), $-N(C_1$-C_6 alkyl)$_2$, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy; or

ii) a C_3-C_6 carbocyclic group, a 5-6 membered heteroaryl group, or a phenyl group, each optionally and independently being substituted with one ore more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, nitro, $-NH_2$, $-NH(C_1$-C_6 alkyl), $-N(C_1$-C_6 alkyl)$_2$, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 cyanoalkyl, C_1-C_6-hydroxyalkyl, C_2-C_6-alkoxyalkyl, C_1-C_6-aminoalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6-hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy;

R^* is independently: i)-H; ii) a C_1-C_6 alkyl group optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, C_3-C_8 non-aromatic carbocycle, 5-6 membered non-aromatic heterocycle, phenyl, 5-6 membered heteroaryl, $-O(C_1$-C_6 alkyl), and $-C(O)(C_1$-C_6-alkyl); wherein each of said alkyl groups in $-O(C_1$-C_6 alkyl), and $-C(O)(C_1$-C_6-alkyl) is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, $-NH_2$, $-NH(C_1$-C_4 alkyl), $-N(C_1$-C_4 alkyl)$_2$, $-OCO(C_1$-C_4 alkyl), $-CO(C_1$-C_4 alkyl), $-CO_2H$, $-CO_2(C_1$-C_4 alkyl), and C_1-C_4 alkoxy; and wherein each of said carbocycle, heterocycle, phenyl, and heteroaryl is independently and optionally substituted with one or more instances of J^{E1}; or iii) a C_3-C_8 non-aromatic carbocycle, or a 4-8 membered non-

aromatic heterocycle, each of which is independently and optionally substituted with one or more instances of J^{E1};

each J^{E1} is independently selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, amido, C_1-C_6 alkyl, -O(C_1-C_6 alkyl), and -C(O)(C_1-C_6-alkyl), wherein each of said alkyl groups is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, $-NH_2$, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), $-CO_2H$, $-CO_2$(C_1-C_4 alkyl), and C_1-C_4 alkoxy;

each R^a is independently:

i) a C_1-C_6 aliphatic group optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, amido, -O(C_1-C_6 alkyl), –C(O)(C_1-C_6-alkyl), C_3-C_8 non-aromatic carbocycle, 4-8 membered non-aromatic heterocycle, 5-10 membered heteroaryl group, and 6-10 membered carbocyclic aryl group; wherein each of said alkyl groups for the substituents of the C_1-C_6 aliphatic group represented by R^a is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, $-NH_2$, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), $-CO_2H$, $-CO_2$(C_1-C_4 alkyl), and C_1-C_4 alkoxy; and wherein each of said carbocycle, heterocycle, heteroaryl, and carbocyclic aryl groups for the substituents of the C_1-C_6 aliphatic group represented by R^a is optionally and independently substituted with one or more instances of J^{E1};

ii) a C_3-C_8 non-aromatic carbocycle, or a 4-8 membered non-aromatic heterocycle, each of which is optionally and independently substituted with one or more instances of J^{E1}; or

iii) a 5-10 membered heteroaryl, or 6-10 membered carbocyclic aryl group, each of which is optionally and independently substituted with one or more instances of J^{E1};

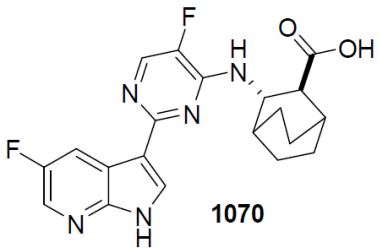
R^b and R^c are each independently R^a or –H; or optionally, R^b and R^c, together with the nitrogen atom(s) to which they are attached, each independently form a 5-7 membered non-aromatic heterocycle optionally substituted with one or more instances of J^{E1};

p and q are each independently 0, 1 or 2;

x is 0, 1 or 2; and

r is 1 or 2,

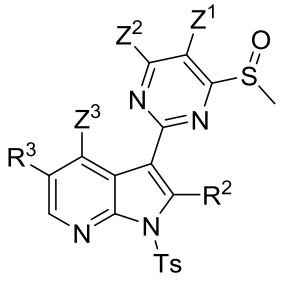
provided that the compound of Formula (**IA**) is not compound **1070**



1070

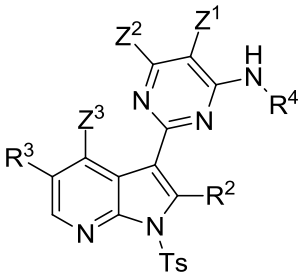
or a pharmaceutically acceptable salt thereof comprising the steps of:

i) reacting compound of Formula (**C1**)



(**C1**)

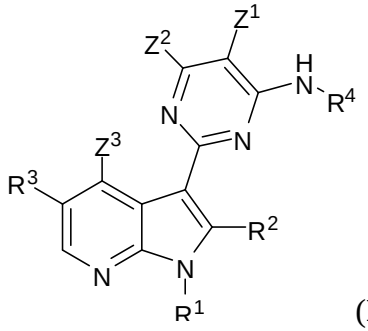
with NH_2R^4 to form a compound of Formula (**XX**):



(**XX**) ; and

ii) deprotecting the tosyl group to form the compound of Formula (**IA**).

21. A method of preparing a compound represented by structural formula (**IA**):



(**IA**),

or a pharmaceutically acceptable salt thereof, wherein:

Z^1 is –R*, –F, -Cl, –CN, –OR*, $–CO_2R^*$, $-NO_2$, or $-CON(R^*)_2$;

Z^2 is –R*, –OR*, $–CO_2R^*$, $-NR^*_2$, or $-CON(R^*)_2$;

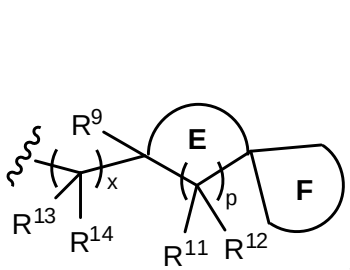
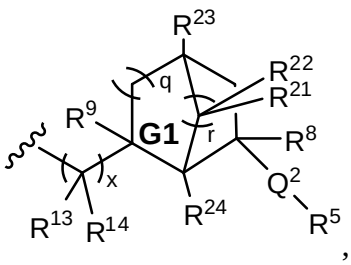
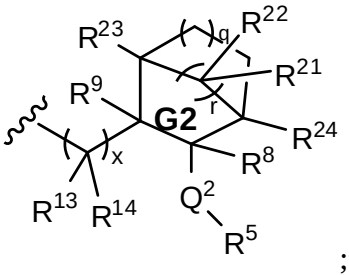
Z^3 is -H, -OH, halogen, $-NH_2$, $-NH(C_1\text{-}C_4$ alkyl), $-N(C_1\text{-}C_4$ alkyl)$_2$, $-O(C_1\text{-}C_4$ alkyl), or $C_1\text{-}C_6$ alkyl that is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, and $-O(C_1\text{-}C_4$ alkyl);

R^1 is –H, $C_1\text{-}C_6$ alkyl, $–S(O)_2$-R", or –C(O)OR";

R^2 is –H, -F, $-NH_2$, $-NH(C_1\text{-}C_4$ alkyl), $-N(C_1\text{-}C_4$ alkyl)$_2$, -C=N-OH; cyclopropyl that is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, $-OCH_3$, and $-CH_3$; or $C_1\text{-}C_4$ alkyl that is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, and $-O(C_1\text{-}C_4$ alkyl);

R^3 is –H, –Cl, –F, -Br, –OH, $–O(C_1\text{-}C_4$ alkyl), $–NH_2$, $–NH(C_1\text{-}C_4$ alkyl), $–N(C_1\text{-}C_4$ alkyl)$_2$, –CN, or $C_1\text{-}C_4$ aliphatic that is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, $-NH_2$, $-NH(C_1\text{-}C_4$ alkyl), $-N(C_1\text{-}C_4$ alkyl)$_2$, $-OCO(C_1\text{-}C_4$ alkyl), $-CO(C_1\text{-}C_4$ alkyl), $-CO_2H$, $-CO_2(C_1\text{-}C_4$ alkyl), and $C_1\text{-}C_4$ alkoxy;

R^4 is:


,

, or

; wherein:

ring **E** is a C_4-C_8 non-aromatic carbocycle optionally further substituted with one or more instances of J^A;

ring **F** is a 4-8 membered non-aromatic heterocycle optionally substituted with one or more instances of J^{E1};

each of rings **G1** and **G2** is independently a 5-10 membered non-aromatic bridged carbocycle optionally substituted with one or more instances of J^A;

each J^A is independently selected from the group consisting of halogen, cyano, oxo, -NCO, and Q^1-R^5; or optionally two J^A, together with the atom(s) to which they are attached, independently form a 4-8 membered ring that is optionally substituted with one or more instances of J^{E1};

Q^1 is independently a bond, –O–, –S–, –NR–, –C(O)–, -C(=NR)-, $–CO_2–$, –OC(O)–, –C(O)NR–, -C(O)NRC(O)O–, -NRC(O)NRC(O)O–, –NRC(O)–, –NRC(O)NR–, $–NRCO_2–$, –OC(O)NR–, -S(O)-, $–SO_2–$, $–N(R)SO_2–$, $–SO_2NR'$-, $-NRSO_2NR'$-, or $-(CR^6R^7)_p–Y^1–$;

Q^2 is independently –O–, $–CO_2–$, –OC(O)–, –C(O)NR–, –NRC(O)–, –NRC(O)NR–, $–NRCO_2–$, –OC(O)NR–, $-CO_2SO_2$-, $-P(O)_2O$-, or $-(CR^6R^7)_p–Y^1–$;

Y^1 is independently –O–, $–CO_2–$, –OC(O)–, –C(O)NR–, –NRC(O)–, –NRC(O)NR–, $–NRCO_2–$, or –OC(O)NR–;

R^5 is:

i) –H;

ii) an optionally substituted C_1-C_6 alkyl group;

iii) an optionally substituted C_3-C_7 non-aromatic carbocycle;

iv) an optionally substituted 4-7 membered non-aromatic heterocycle; or

optionally, together with R and the nitrogen atom to which R is attached, form a 5-7 membered, optionally substituted non-aromatic heterocycle, wherein the alkyl group represented by R^5 is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, $-NH_2$, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), $-CO_2H$, $-CO_2$(C_1-C_4 alkyl), C_1-C_4 alkoxy, an optionally substituted C_3-C_7 non-aromatic carbocycle, and an optionally substituted 4-7 membered non-aromatic heterocycle; wherein each of said carbocycles and heterocycles represented by R^5 is independently and optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, C_1-C_4

alkyl, -O(C_1-C_4 alkyl), -NH_2, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -C(O)(C_1-C_4 alkyl), –OC(O)(C_1-C_4 alkyl), -C(O)O(C_1-C_4 alkyl) and -CO_2H, wherein each of said alkyl groups is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, -NH_2, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), -CO_2H, -CO_2(C_1-C_4 alkyl), and C_1-C_4 alkoxy;

each of R^8 and R^9 is independently -H, halogen, cyano, hydroxy, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 hydroxyalkyl, C_2-C_4 alkoxyalkyl, -O(C_1-C_4 alkyl), -NH_2, -NH(C_1-C_4 alkyl), or -N(C_1-C_4 alkyl)$_2$;

R^{11}, R^{12}, R^{13} and R^{14} are each independently -H, halogen, or C_1-C_6 alkyl optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, oxo, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy; or optionally, R^{13} and R^{14}, together with the carbon atom to which they are attached, form a cyclopropane ring, optionally substituted with one or more instances of methyl;

R^{21}, R^{22}, R^{23} and R^{24} are each independently -H, halogen, -OH, or C_1-C_6 alkyl optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, oxo, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy;

R^6 and R^7 are each independently -H or C_1-C_6 alkyl optionally substituted with one or more substitutents selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy, or optionally R^6 and R^7, together with the carbon atom to which they are attached, form a cyclopropane ring optionally substituted with one or more instances of methyl;

R and R' are each independently -H or C_1-C_6 alkyl optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy; or optionally R’, together with R^5 and the nitrogen atom to which R' is attached, form a 5-7 membered non-aromatic heterocycle optionally substituted with one or more instances of J^{D1};

each J^{D1} is independently selected from the group consisting of halogen, cyano, oxo, -R^a, -OR^b, -SR^b, -SOR^a, -SO_2R^a, -NHR^c, -C(O)R^b, -C(O)OR^b, -OC(O)R^b, -NHC(O)R^b,

-C(O)NHR^c, -NHC(O)NHR^c, -NHC(O)OR^b, -OCONHR^c, -NHC(O)NHC(O)OR^b, -N(CH_3)R^c, -N(CH_3)C(O)R^b, -C(O)N(CH_3)R^c, -N(CH_3)C(O)NHR^c, -N(CH_3)C(O)OR^b, -OCON(CH_3)R^c, -C(O)NHCO_2R^b, -C(O)N(CH_3)CO_2R^b, -N(CH_3)C(O)NHC(O)OR^b, -NHSO_2R^b, -SO_2NHR^b, -SO_2N(CH_3)R^b, and -N(CH_3)SO_2R^b;

R" is independently:

i) a C_1-C_6-alkyl optionally substituted with one or more substituents selected independently from the group consisting of halogen, cyano, hydroxyl, -NH_2, -NH(C_1-C_6 alkyl), -N(C_1-C_6 alkyl)$_2$, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy; or

ii) a C_3-C_6 carbocyclic group, a 5-6 membered heteroaryl group, or a phenyl group, each optionally and independently being substituted with one ore more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, nitro, -NH_2, -NH(C_1-C_6 alkyl), -N(C_1-C_6 alkyl)$_2$, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 cyanoalkyl, C_1-C_6-hydroxyalkyl, C_2-C_6-alkoxyalkyl, C_1-C_6-aminoalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6-hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy;

R* is independently: i)-H; ii) a C_1-C_6 alkyl group optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, C_3-C_8 non-aromatic carbocycle, 5-6 membered non-aromatic heterocycle, phenyl, 5-6 membered heteroaryl, -O(C_1-C_6 alkyl), and -C(O)(C_1-C_6-alkyl); wherein each of said alkyl groups in -O(C_1-C_6 alkyl), and -C(O)(C_1-C_6-alkyl) is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, -NH_2, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), -CO_2H, -CO_2(C_1-C_4 alkyl), and C_1-C_4 alkoxy; and wherein each of said carbocycle, heterocycle, phenyl, and heteroaryl is independently and optionally substituted with one or more instances of J^{E1}; or iii) a C_3-C_8 non-aromatic carbocycle, or a 4-8 membered non-aromatic heterocycle, each of which is independently and optionally substituted with one or more instances of J^{E1};

each J^{E1} is independently selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, amido, C_1-C_6 alkyl, -O(C_1-C_6 alkyl), and -C(O)(C_1-C_6-alkyl), wherein each of said alkyl groups is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, -NH_2,

-NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), -CO_2H, -CO_2(C_1-C_4 alkyl), and C_1-C_4 alkoxy;

each R^a is independently:

i) a C_1-C_6 aliphatic group optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, amido, -O(C_1-C_6 alkyl), –C(O)(C_1-C_6-alkyl), C_3-C_8 non-aromatic carbocycle, 4-8 membered non-aromatic heterocycle, 5-10 membered heteroaryl group, and 6-10 membered carbocyclic aryl group; wherein each of said alkyl groups for the substituents of the C_1-C_6 aliphatic group represented by R^a is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, -NH_2, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), -CO_2H, -CO_2(C_1-C_4 alkyl), and C_1-C_4 alkoxy; and wherein each of said carbocycle, heterocycle, heteroaryl, and carbocyclic aryl groups for the substituents of the C_1-C_6 aliphatic group represented by R^a is optionally and independently substituted with one or more instances of J^{E1};

ii) a C_3-C_8 non-aromatic carbocycle, or a 4-8 membered non-aromatic heterocycle, each of which is optionally and independently substituted with one or more instances of J^{E1}; or

iii) a 5-10 membered heteroaryl, or 6-10 membered carbocyclic aryl group, each of which is optionally and independently substituted with one or more instances of J^{E1};

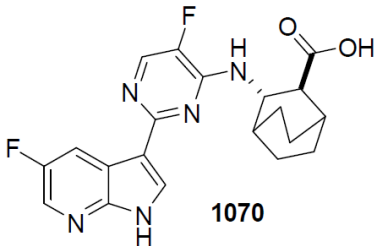
R^b and R^c are each independently R^a or –H; or optionally, R^b and R^c, together with the nitrogen atom(s) to which they are attached, each independently form a 5-7 membered non-aromatic heterocycle optionally substituted with one or more instances of J^{E1};

p and q are each independently 0, 1 or 2;

x is 0, 1 or 2; and

r is 1 or 2,

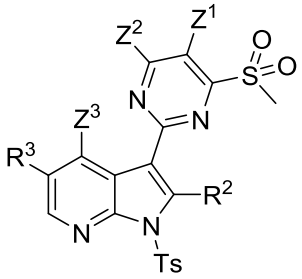
provided that the compound of Formula (**IA**) is not compound **1070**



1070

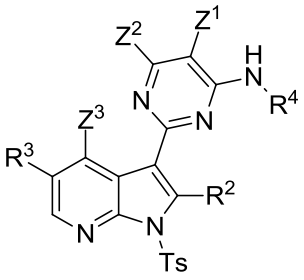
or a pharmaceutically acceptable salt thereof comprising the steps of:

i) reacting compound of Formula (**C2**)



(**C2**)

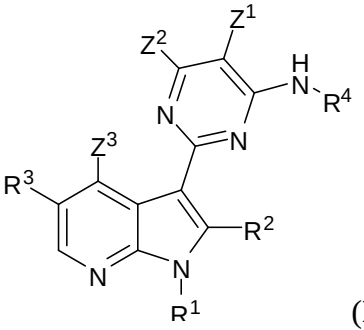
with NH_2R^4 to form a compound of Formula (**XX**):



(**XX**) ; and

ii) deprotecting the tosyl group to form the compound of formula (**IA**).

22. A method of preparing a compound represented by structural formula (**IA**):



(**IA**),

or a pharmaceutically acceptable salt thereof, wherein:

Z^1 is –R*, –F, -Cl, –CN, –OR*, $–CO_2R^*$, $-NO_2$, or $-CON(R^*)_2$;

Z^2 is –R*, –OR*, $–CO_2R^*$, $-NR^*_2$, or $-CON(R^*)_2$;

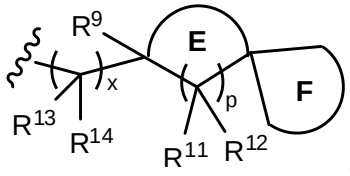
Z^3 is -H, -OH, halogen, $-NH_2$, $-NH(C_1\text{-}C_4$ alkyl), $-N(C_1\text{-}C_4$ alkyl)$_2$, $-O(C_1\text{-}C_4$ alkyl), or $C_1\text{-}C_6$ alkyl that is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, and $-O(C_1\text{-}C_4$ alkyl);

R^1 is –H, $C_1\text{-}C_6$ alkyl, $–S(O)_2$-R", or –C(O)OR";

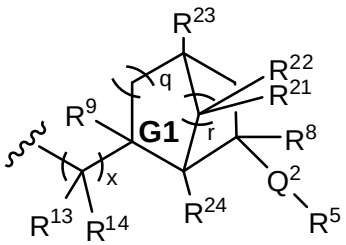
R^2 is –H, -F, $-NH_2$, $-NH(C_1\text{-}C_4$ alkyl), $-N(C_1\text{-}C_4$ alkyl)$_2$, -C=N-OH; cyclopropyl that is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, $-OCH_3$, and $-CH_3$; or $C_1\text{-}C_4$ alkyl that is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, and $-O(C_1\text{-}C_4$ alkyl);

R^3 is –H, –Cl, –F, -Br, –OH, $–O(C_1\text{-}C_4$ alkyl), $–NH_2$, $–NH(C_1\text{-}C_4$ alkyl), $–N(C_1\text{-}C_4$ alkyl)$_2$, –CN, or $C_1\text{-}C_4$ aliphatic that is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, $-NH_2$, $-NH(C_1\text{-}C_4$ alkyl), $-N(C_1\text{-}C_4$ alkyl)$_2$, $-OCO(C_1\text{-}C_4$ alkyl), $-CO(C_1\text{-}C_4$ alkyl), $-CO_2H$, $-CO_2(C_1\text{-}C_4$ alkyl), and $C_1\text{-}C_4$ alkoxy;

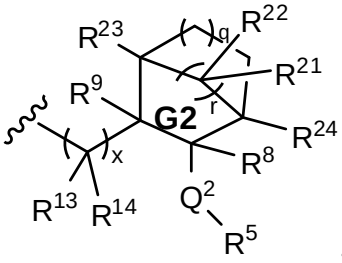
R^4 is:



,



, or



; wherein:

ring **E** is a $C_4\text{-}C_8$ non-aromatic carbocycle optionally further substituted with one or more instances of J^A;

ring **F** is a 4-8 membered non-aromatic heterocycle optionally substituted with one or more instances of J^{E1};

each of rings **G1** and **G2** is independently a 5-10 membered non-aromatic bridged carbocycle optionally substituted with one or more instances of J^A;

each J^A is independently selected from the group consisting of halogen, cyano, oxo, -NCO, and $Q^1\text{-}R^5$; or optionally two J^A, together with the atom(s) to which they are

attached, independently form a 4-8 membered ring that is optionally substituted with one or more instances of J^{E1};

Q^1 is independently a bond, –O–, –S–, –NR–, –C(O)–, -C(=NR)-, $–CO_2–$, –OC(O)–, –C(O)NR–, -C(O)NRC(O)O–, -NRC(O)NRC(O)O–, –NRC(O)–, –NRC(O)NR–, $–NRCO_2–$, –OC(O)NR–, -S(O)-, $–SO_2–$, $–N(R)SO_2–$, $–SO_2NR'$-, $-NRSO_2NR'$-, or $-(CR^6R^7)_p–Y^1–$;

Q^2 is independently –O–, $–CO_2–$, –OC(O)–, –C(O)NR–, –NRC(O)–, –NRC(O)NR–, $–NRCO_2–$, –OC(O)NR–, $-CO_2SO_2$-, $-P(O)_2O$-, or $-(CR^6R^7)_p–Y^1–$;

Y^1 is independently –O–, $–CO_2–$, –OC(O)–, –C(O)NR–, –NRC(O)–, –NRC(O)NR–, $–NRCO_2–$, or –OC(O)NR–;

R^5 is:

i) –H;

ii) an optionally substituted C_1-C_6 alkyl group;

iii) an optionally substituted C_3-C_7 non-aromatic carbocycle;

iv) an optionally substituted 4-7 membered non-aromatic heterocycle; or

optionally, together with R and the nitrogen atom to which R is attached, form a 5-7 membered, optionally substituted non-aromatic heterocycle, wherein the alkyl group represented by R^5 is optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, $-NH_2$, $-NH(C_1$-C_4 alkyl), $-N(C_1$-C_4 alkyl)$_2$, $-OCO(C_1$-C_4 alkyl), $-CO(C_1$-C_4 alkyl), $-CO_2H$, $-CO_2(C_1$-C_4 alkyl), C_1-C_4 alkoxy, an optionally substituted C_3-C_7 non-aromatic carbocycle, and an optionally substituted 4-7 membered non-aromatic heterocycle; wherein each of said carbocycles and heterocycles represented by R^5 is independently and optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, C_1-C_4 alkyl, $-O(C_1$-C_4 alkyl), $-NH_2$, $-NH(C_1$-C_4 alkyl), $-N(C_1$-C_4 alkyl)$_2$, $-C(O)(C_1$-C_4 alkyl), $–OC(O)(C_1$-C_4 alkyl), $-C(O)O(C_1$-C_4 alkyl) and $-CO_2H$, wherein each of said alkyl groups is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, $-NH_2$, $-NH(C_1$-C_4 alkyl), $-N(C_1$-C_4 alkyl)$_2$, $-OCO(C_1$-C_4 alkyl), $-CO(C_1$-C_4 alkyl), $-CO_2H$, $-CO_2(C_1$-C_4 alkyl), and C_1-C_4 alkoxy;

each of R^8 and R^9 is independently -H, halogen, cyano, hydroxy, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 hydroxyalkyl, C_2-C_4 alkoxyalkyl, $-O(C_1$-C_4 alkyl), $-NH_2$, $-NH(C_1$-C_4 alkyl), or $-N(C_1$-C_4 alkyl)$_2$;

R^{11}, R^{12}, R^{13} and R^{14} are each independently -H, halogen, or C_1-C_6 alkyl optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, oxo, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy; or optionally, R^{13} and R^{14}, together with the carbon atom to which they are attached, form a cyclopropane ring, optionally substituted with one or more instances of methyl;

R^{21}, R^{22}, R^{23} and R^{24} are each independently -H, halogen, -OH, or C_1-C_6 alkyl optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, oxo, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy;

R^6 and R^7 are each independently -H or C_1-C_6 alkyl optionally substituted with one or more substitutents selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy, or optionally R^6 and R^7, together with the carbon atom to which they are attached, form a cyclopropane ring optionally substituted with one or more instances of methyl;

R and R' are each independently -H or C_1-C_6 alkyl optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy; or optionally R', together with R^5 and the nitrogen atom to which R' is attached, form a 5-7 membered non-aromatic heterocycle optionally substituted with one or more instances of J^{D1};

each J^{D1} is independently selected from the group consisting of halogen, cyano, oxo, $-R^a$, $-OR^b$, $-SR^b$, $-SOR^a$, $-SO_2R^a$, $-NHR^c$, $-C(O)R^b$, $-C(O)OR^b$, $-OC(O)R^b$, $-NHC(O)R^b$, $-C(O)NHR^c$, $-NHC(O)NHR^c$, $-NHC(O)OR^b$, $-OCONHR^c$, $-NHC(O)NHC(O)OR^b$, $-N(CH_3)R^c$, $-N(CH_3)C(O)R^b$, $-C(O)N(CH_3)R^c$, $-N(CH_3)C(O)NHR^c$, $-N(CH_3)C(O)OR^b$, $-OCON(CH_3)R^c$, $-C(O)NHCO_2R^b$, $-C(O)N(CH_3)CO_2R^b$, $-N(CH_3)C(O)NHC(O)OR^b$, $-NHSO_2R^b$, $-SO_2NHR^b$, $-SO_2N(CH_3)R^b$, and $-N(CH_3)SO_2R^b$;

R'' is independently:

i) a C_1-C_6-alkyl optionally substituted with one or more substituents selected independently from the group consisting of halogen, cyano, hydroxyl, $-NH_2$, $-NH(C_1$-C_6

alkyl), -N(C_1-C_6 alkyl)$_2$, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6 hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy; or

ii) a C_3-C_6 carbocyclic group, a 5-6 membered heteroaryl group, or a phenyl group, each optionally and independently being substituted with one ore more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, nitro, -NH_2, -NH(C_1-C_6 alkyl), -N(C_1-C_6 alkyl)$_2$, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 cyanoalkyl, C_1-C_6-hydroxyalkyl, C_2-C_6-alkoxyalkyl, C_1-C_6-aminoalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 aminoalkoxy, C_1-C_6 cyanoalkoxy, C_1-C_6-hydroxyalkoxy, and C_2-C_6 alkoxyalkoxy;

R^* is independently: i)-H; ii) a C_1-C_6 alkyl group optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, C_3-C_8 non-aromatic carbocycle, 5-6 membered non-aromatic heterocycle, phenyl, 5-6 membered heteroaryl, -O(C_1-C_6 alkyl), and -C(O)(C_1-C_6-alkyl); wherein each of said alkyl groups in -O(C_1-C_6 alkyl), and -C(O)(C_1-C_6-alkyl) is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, -NH_2, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), -CO_2H, -CO_2(C_1-C_4 alkyl), and C_1-C_4 alkoxy; and wherein each of said carbocycle, heterocycle, phenyl, and heteroaryl is independently and optionally substituted with one or more instances of J^{E1}; or iii) a C_3-C_8 non-aromatic carbocycle, or a 4-8 membered non-aromatic heterocycle, each of which is independently and optionally substituted with one or more instances of J^{E1};

each J^{E1} is independently selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, amido, C_1-C_6 alkyl, -O(C_1-C_6 alkyl), and -C(O)(C_1-C_6-alkyl), wherein each of said alkyl groups is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, -NH_2, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), -CO_2H, -CO_2(C_1-C_4 alkyl), and C_1-C_4 alkoxy;

each R^a is independently:

i) a C_1-C_6 aliphatic group optionally substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, amino, carboxy, amido, -O(C_1-C_6 alkyl), –C(O)(C_1-C_6-alkyl), C_3-C_8 non-aromatic carbocycle, 4-8 membered non-aromatic heterocycle, 5-10 membered heteroaryl group, and 6-10 membered

carbocyclic aryl group; wherein each of said alkyl groups for the substituents of the C_1-C_6 aliphatic group represented by R^a is optionally and independently substituted with one or more substituents independently selected from the group consisting of halogen, cyano, hydroxy, oxo, -NH_2, -NH(C_1-C_4 alkyl), -N(C_1-C_4 alkyl)$_2$, -OCO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), -CO_2H, -CO_2(C_1-C_4 alkyl), and C_1-C_4 alkoxy; and wherein each of said carbocycle, heterocycle, heteroaryl, and carbocyclic aryl groups for the substituents of the C_1-C_6 aliphatic group represented by R^a is optionally and independently substituted with one or more instances of J^{E1};

ii) a C_3-C_8 non-aromatic carbocycle, or a 4-8 membered non-aromatic heterocycle, each of which is optionally and independently substituted with one or more instances of J^{E1}; or

iii) a 5-10 membered heteroaryl, or 6-10 membered carbocyclic aryl group, each of which is optionally and independently substituted with one or more instances of J^{E1};

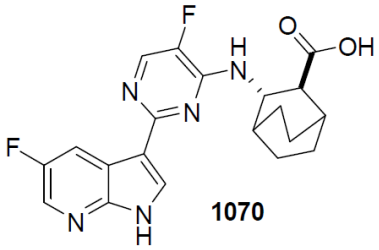
R^b and R^c are each independently R^a or –H; or optionally, R^b and R^c, together with the nitrogen atom(s) to which they are attached, each independently form a 5-7 membered non-aromatic heterocycle optionally substituted with one or more instances of J^{E1};

p and q are each independently 0, 1 or 2;

x is 0, 1 or 2; and

r is 1 or 2,

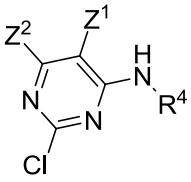
provided that the compound of Formula (**IA**) is not compound **1070**



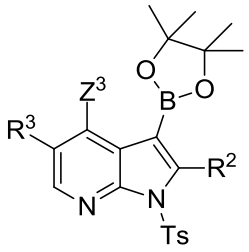
1070

or a pharmaceutically acceptable salt thereof comprising the steps of:

i) reacting a compound of Formula (**A**) with a compound of Formula (**B**)

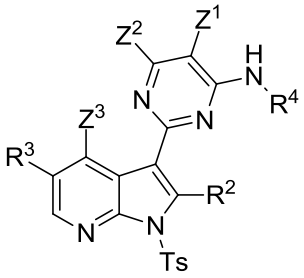


(A)



(B)

in the presence of a palladium catalyst to form a compound of Formula (**XX**)



(**XX**) , and

ii) deprotecting the tosyl group to form the compound of Formula (**IA**).