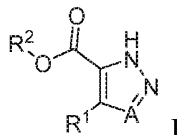


CLAIMS:

1. A compound of Formula I:



or a pharmaceutically acceptable salt, tautomer, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein

A is N or CH;

R¹ is alkynyl, cycloalkyl, aryl, heteroaryl or heterocyclyl, wherein each is optionally substituted with one to three R³;

R² is hydrogen, $-(CH_2CH_2O)_{1-9}CH_2CH_2OCH_3$, C₁₋₆ alkyl optionally substituted with one to three R⁴, cycloalkyl, or heteroaryl optionally substituted with one to three R⁵;

each R³ is independently cyano, halo, -L-C₁₋₉ alkyl, -L-C₁₋₄ haloalkyl, -L-OC₁₋₄ haloalkyl, -NR⁷R⁸, -C(O)NR⁷R⁸, -S(O)₂NR⁷R⁸, -NR⁷C(O)R⁸, -OR⁷, -L-aryl, -L-heteroaryl or -L-heterocyclyl, wherein each is optionally substituted with one to three R⁶, and each L is independently -C≡C- or absent;

each R⁴ is independently halo, hydroxy, -OC₁₋₆alkyl, -NH₂, -NHC₁₋₆ alkyl, -N(C₁₋₆alkyl)₂, -OC(O)R^a, -OC(O)OR^a, -OP(O)(OR^b)₂, or monocyclic heterocyclyl; wherein each is optionally substituted with one to three R⁵; provided only one R⁴ is heterocyclyl;

each R⁵ is independently cyano, halo, C₁₋₄ alkyl, hydroxy, -OC₁₋₄alkyl, C₁₋₄ haloalkyl, or -OC₁₋₄ haloalkyl;

each R⁶ is independently cyano, halo, -C(O)R⁷, -C(O)OR⁷, -C(O)NR⁷R⁸, -S(O)₂NR⁷R⁸, -NR⁷C(O)R⁸, -OR⁷, C₁₋₄ alkyl, -OC₁₋₄alkyl, C₁₋₄ haloalkyl, -OC₁₋₄ haloalkyl, phenyl, heterocyclyl, or heteroaryl; wherein each is optionally substituted with one to three C₁₋₄ alkyl, -C(O)OH or C₁₋₄ haloalkyl;

R⁷ and R⁸ are each independently hydrogen, C₁₋₄ alkyl or phenyl, pyridyl, or R⁷ and R⁸ together with the nitrogen atom to which they are attached form a heterocyclyl;

each R^a is independently C₁₋₆ alkyl optionally substituted with -NH₂, -NHC₁₋₆ alkyl, -N(C₁₋₆alkyl)₂, or -OP(O)(OR^b)₂;

each R^b is independently hydrogen or C₁₋₄ alkyl;

provided that when A is N, at least one of the following is true:

- 1) R^1 is a fused tricyclic ring optionally substituted with one to three R^3 ;
- 2) R^1 is an optionally substituted fused bicyclic ring substituted with at least one R^3 selected from cyano, $-C\equiv C-C_{1-9}$ alkyl, $-C_{1-9}$ alkyl substituted with one to three R^6 , $-C\equiv C-C_{1-4}$ haloalkyl, $-C\equiv C-OC_{1-4}$ haloalkyl, $-NR^7R^8$, $-C(O)NR^7R^8$, $-S(O)_2NR^7R^8$, $-NR^7C(O)R^8$, $-O-C_{1-4}$ alkyl, $-O$ -phenyl, $-L$ -aryl, $-L$ -heteroaryl or $-L$ -heterocyclyl, wherein each is further optionally substituted with one to three R^6 , and each L is independently $-C\equiv C-$ or absent;
- 3) R^1 is a substituted monocyclic ring, substituted with at least one R^3 selected from:
 - i) cyano, $-C\equiv C-C_{1-9}$ alkyl, $-C\equiv C-C_{1-4}$ haloalkyl, $-C\equiv C-OC_{1-4}$ haloalkyl, $-NR^7R^8$, $-C(O)NR^7R^8$, $-S(O)_2NR^7R^8$, $-NR^7C(O)R^8$, $-C\equiv C$ -aryl, $-C\equiv C$ -heteroaryl, or $-C\equiv C$ -heterocyclyl, wherein each is further optionally substituted with one to three R^6 ;
 - ii) monocyclic aryl, monocyclic heteroaryl, or monocyclic heterocyclyl, wherein each is further substituted with one to three cyano, $-C(O)R^7$, $-C(O)OR^7$, $-C(O)NR^7R^8$, $-S(O)_2NR^7R^8$, $-NR^7C(O)R^8$, C_{1-4} alkyl, $-OC_{1-4}$ alkyl, C_{1-4} haloalkyl, phenyl, heterocyclyl, or heteroaryl; wherein each is optionally substituted with one to three C_{1-4} alkyl, $-C(O)OH$ or C_{1-4} haloalkyl;
 - iii) optionally substituted fused aryl, optionally substituted fused heteroaryl or optionally substituted fused heterocyclyl, wherein each is further optionally substituted with one to three R^6 ; or
 - iv) a substituent of formula $-L^1-L^2$, wherein L^1 is aryl, heteroaryl or heterocyclyl, wherein each is optionally substituted with one to three R^6 ; and L^2 is phenyl, heterocyclyl, or heteroaryl, wherein each is optionally substituted with one to three C_{1-4} alkyl, $-C(O)OH$ or C_{1-4} haloalkyl; or
- 4) R^2 is $-(CH_2CH_2O)_{1-9}CH_2CH_2OCH_3$, C_{1-6} alkyl substituted with one to three R^4 , cycloalkyl, or heteroaryl optionally substituted with one to three R^5 ; and

provided that when A is CH, R^1 is not 10-membered heteroaryl substituted with methoxy and methyl; or R^1 is not C_6 aryl optionally substituted 1-3 substituents independently selected from cyano, halo, C_{1-4} alkyl, $-OR^7$, C_{1-4} haloalkyl, and NR^7R^8 , wherein R^7 and R^8 are each independently hydrogen or C_{1-4} alkyl; or R^1 is not unsubstituted C_{10} aryl; or R^1 is not unsubstituted heterocyclyl.

2. The compound of claim 1, wherein:

A is N or CH;

R¹ is alkynyl, cycloalkyl, aryl, heteroaryl or heterocyclyl, wherein each is optionally substituted with one to three R³;

R² is hydrogen, -(CH₂CH₂O)₁₋₉CH₂CH₂OCH₃, C₁₋₆ alkyl optionally substituted with one to three R⁴, or heteroaryl optionally substituted with one to three R⁵;

each R³ is independently halo, -L-C₁₋₉ alkyl, -C(O)NR⁷R⁸, -S(O)₂NR⁷R⁸, -NR⁷C(O)R⁸, -OR⁷, -L-5-6 membered heteroaryl or -L-5-6 membered heterocyclyl, wherein each is optionally substituted with one to three R⁶, and each L is independently a bond or -C≡C-;

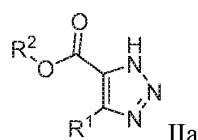
each R⁴ is independently halo, hydroxy, -OC₁₋₆alkyl, -NH₂, -NHC₁₋₆ alkyl, -N(C₁₋₆alkyl)₂, or monocyclic heterocyclyl; wherein each is optionally substituted with one to three R⁵; provided only one R⁴ is heterocyclyl;

each R⁵ is independently cyano, halo, C₁₋₄ alkyl, hydroxy, -OC₁₋₄alkyl, C₁₋₄ haloalkyl, or -OC₁₋₄ haloalkyl;

each R⁶ is independently cyano, halo, C₁₋₄ alkyl, hydroxy, -OC₁₋₄alkyl, C₁₋₄ haloalkyl, or -OC₁₋₄ haloalkyl; and

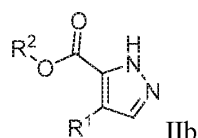
R⁷ and R⁸ are each independently hydrogen or C₁₋₄ alkyl, or R⁷ and R⁸ together with the nitrogen atom to which they are attached form a -(CH₂)₂-O-(CH₂)₂-.

3. A compound of Formula IIa:



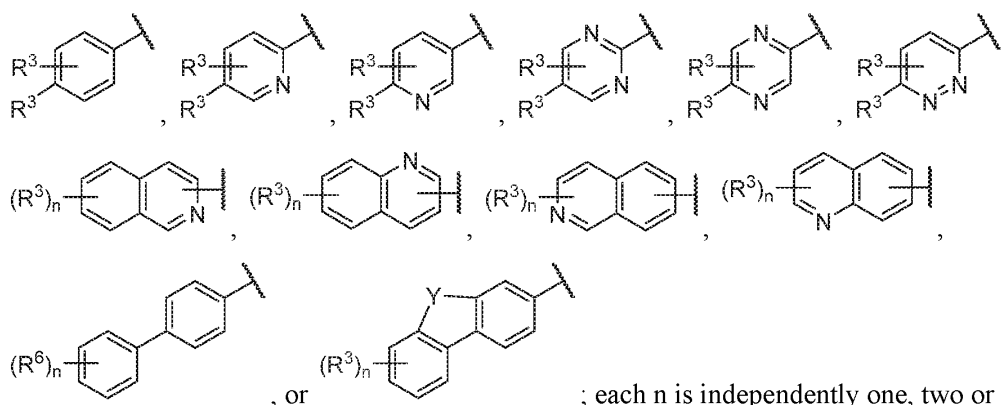
or a pharmaceutically acceptable salt, tautomer, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R¹ and R² are as defined in claim 1.

4. A compound of Formula IIb:



or a pharmaceutically acceptable salt, tautomer, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^1 and R^2 are as defined in claim 1.

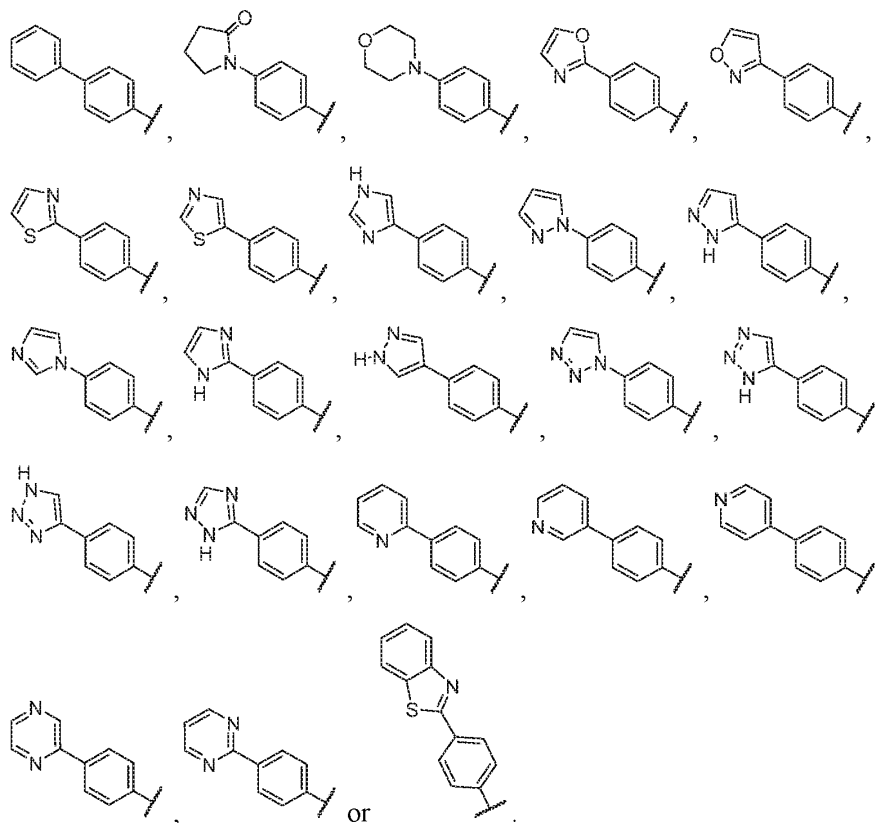
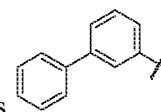
5. The compound of any preceding claim, wherein R^1 is aryl optionally substituted with one to three R^3 .
6. The compound of any one of claims 1-4, wherein R^1 is heteroaryl optionally substituted with one to three R^3 .
7. The compound of any one of claims 1-4, wherein R^1 is heterocyclyl optionally substituted with one to three R^3 .
8. The compound of any one of claims 1-4, wherein R^1 is cycloalkyl optionally substituted with one to three R^3 .
9. The compound of any one of claims 1-4, wherein R^1 is



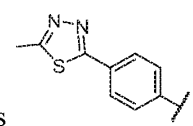
; each n is independently one, two or three, and Y is CR^8R^9 , $C(O)$, O , or NR^{10} ; each of R^8 and R^9 are independently hydrogen, halo or C_{1-4} alkyl; and R^{10} is hydrogen or C_{1-4} alkyl.

10. The compound of any preceding claim, wherein at least one R^3 is halo, C_{1-9} alkyl or $-OR^7$.
11. The compound of any one of claims 1-9, wherein at least one R^3 is fluoro, chloro, bromo, methyl, *tert*-butyl, methoxy or phenoxy.
12. The compound of any one of claims 1-9, wherein at least one R^3 is aryl substituted with phenyl, heterocyclyl or heteroaryl.

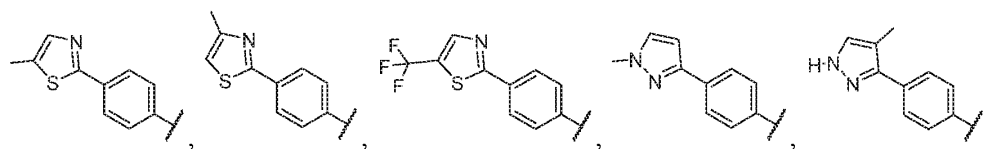
13. The compound of any one of claims 1-9, wherein at least one R^3 is

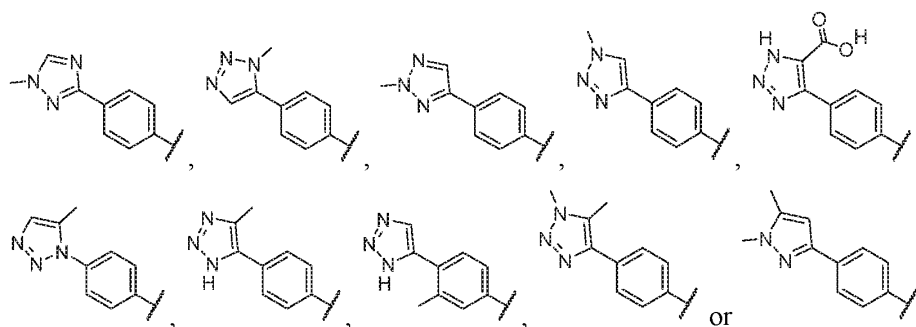


14. The compound of any one of claims 1-9, wherein at least one R^3 is aryl substituted with heteroaryl, which heteroaryl is substituted with C_{1-4} alkyl, $-C(O)OH$ or C_{1-4} haloalkyl.

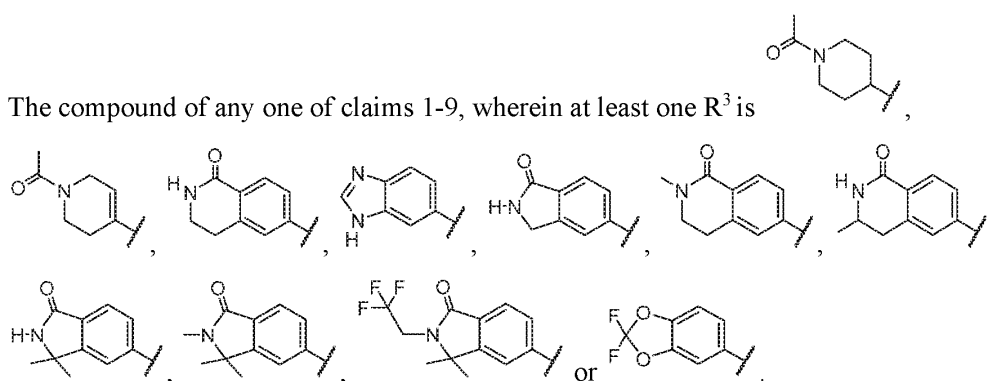


15. The compound of any one of claims 1-9, wherein at least one R^3 is

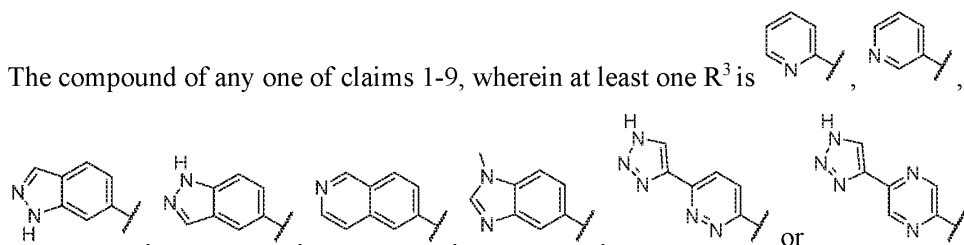




16. The compound of any one of claims 1-9, wherein at least one R^3 is heterocyclyl optionally substituted with one to three R^6 .



18. The compound of any one of claims 1-9, wherein at least one R^3 is heteroaryl optionally substituted with one to three R^6 .



20. The compound of any one of claims 1-19, wherein:

R^2 is hydrogen, C_{1-6} alkyl optionally substituted with one to three R^4 , or cycloalkyl;

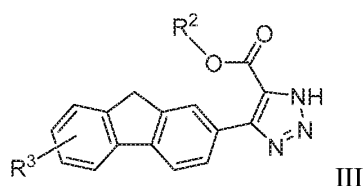
each R^4 is independently $-OC(O)R^a$, $-OC(O)OR^a$, $-OP(O)(OR^b)_2$, or monocyclic heterocyclyl; provided only one R^4 is heterocyclyl;

each R^a is independently C_{1-6} alkyl optionally substituted with $-NH_2$ or $-OP(O)(OR^b)_2$;

and

R^b is hydrogen.

21. A compound of formula III:



or a pharmaceutically acceptable salt, tautomer, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is hydrogen, $-(CH_2CH_2O)_{1-9}CH_2CH_2OCH_3$, C_{1-6} alkyl optionally substituted with one to three R^4 , cycloalkyl, or heteroaryl optionally substituted with one to three R^5 ;

each R^3 is independently aryl, heteroaryl, or heterocyclyl, wherein each is optionally substituted with one to three R^6 ;

each R^4 is independently halo, hydroxy, $-OC_{1-6}alkyl$, $-NH_2$, $-NHC_{1-6}alkyl$, $-N(C_{1-6}alkyl)_2$, $-OC(O)R^a$, $-OC(O)OR^a$, $-OP(O)(OR^b)_2$, or monocyclic heterocyclyl; wherein each is optionally substituted with one to three R^5 ; provided only one R^4 is heterocyclyl;

each R^5 is independently cyano, halo, C_{1-4} alkyl, hydroxy, $-OC_{1-4}alkyl$, C_{1-4} haloalkyl, or $-OC_{1-4}haloalkyl$;

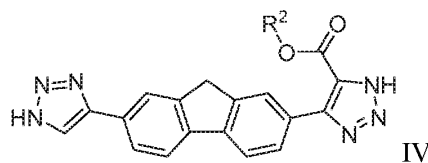
each R^6 is independently cyano, halo, $-C(O)R^7$, $-C(O)OR^7$, $-C(O)NR^7R^8$, $-S(O)_2NR^7R^8$, $-NR^7C(O)R^8$, $-OR^7$, C_{1-4} alkyl, $-OC_{1-4}alkyl$, C_{1-4} haloalkyl, $-OC_{1-4}haloalkyl$, phenyl, heterocyclyl, or heteroaryl; wherein each is optionally substituted with one to three C_{1-4} alkyl, $-C(O)OH$ or $C_{1-4}haloalkyl$;

R^7 and R^8 are each independently hydrogen, C_{1-4} alkyl, phenyl, or pyridyl, or R^7 and R^8 together with the nitrogen atom to which they are attached form a heterocyclyl;

each R^a is independently C_{1-6} alkyl optionally substituted with $-NH_2$, $-NHC_{1-6}alkyl$, $-N(C_{1-6}alkyl)_2$, or $-OP(O)(OR^b)_2$; and

each R^b is independently hydrogen or C_{1-4} alkyl.

22. A compound of formula IV:



or a pharmaceutically acceptable salt, tautomer, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is hydrogen, $-(CH_2CH_2O)_{1-9}CH_2CH_2OCH_3$, C_{1-6} alkyl optionally substituted with one to three R^4 , cycloalkyl, or heteroaryl optionally substituted with one to three R^5 ;

each R^4 is independently halo, hydroxy, $-OC_{1-6}alkyl$, $-NH_2$, $-NHC_{1-6}alkyl$, $-N(C_{1-6}alkyl)_2$, $-OC(O)R^a$, $-OC(O)OR^a$, $-OP(O)(OR^b)_2$, or monocyclic heterocyclyl; wherein each is optionally substituted with one to three R^5 ; provided only one R^4 is heterocyclyl;

each R^5 is independently cyano, halo, C_{1-4} alkyl, hydroxy, $-OC_{1-4}alkyl$, C_{1-4} haloalkyl, or $-OC_{1-4}haloalkyl$;

each R^a is independently C_{1-6} alkyl optionally substituted with $-NH_2$, $-NHC_{1-6}alkyl$, $-N(C_{1-6}alkyl)_2$, or $-OP(O)(OR^b)_2$; and

each R^b is independently hydrogen or C_{1-4} alkyl.

23. The compound of claim 22, wherein:

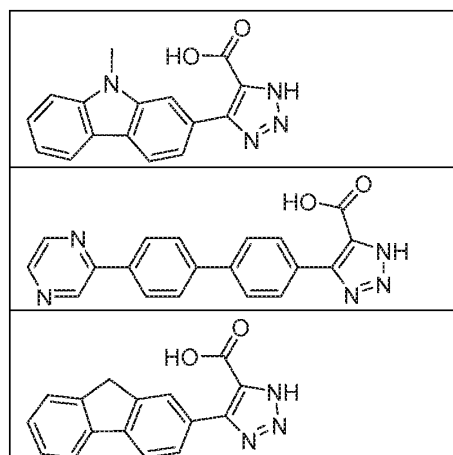
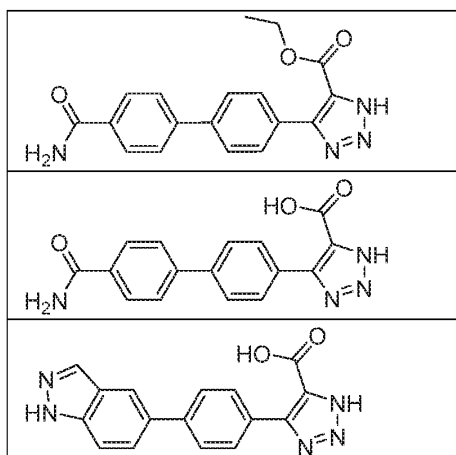
R^2 is hydrogen, C_{1-6} alkyl optionally substituted with one to three R^4 , or cycloalkyl;

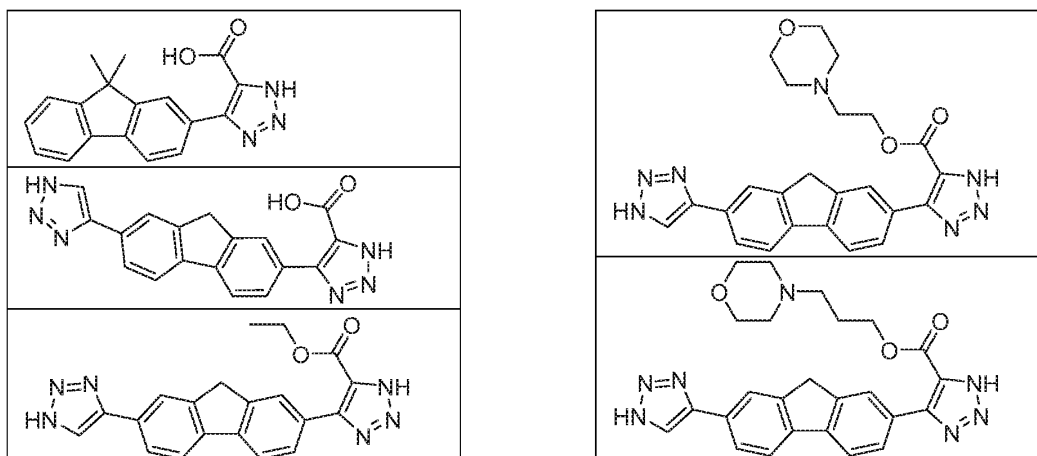
each R^4 is independently $-OC_{1-6}alkyl$, $-OC(O)R^a$, $-OC(O)OR^a$, $-OP(O)(OR^b)_2$, or monocyclic heterocyclyl;

each R^a is independently C_{1-6} alkyl optionally substituted with $-NH_2$ or $-OP(O)(OR^b)_2$; and

R^b is hydrogen.

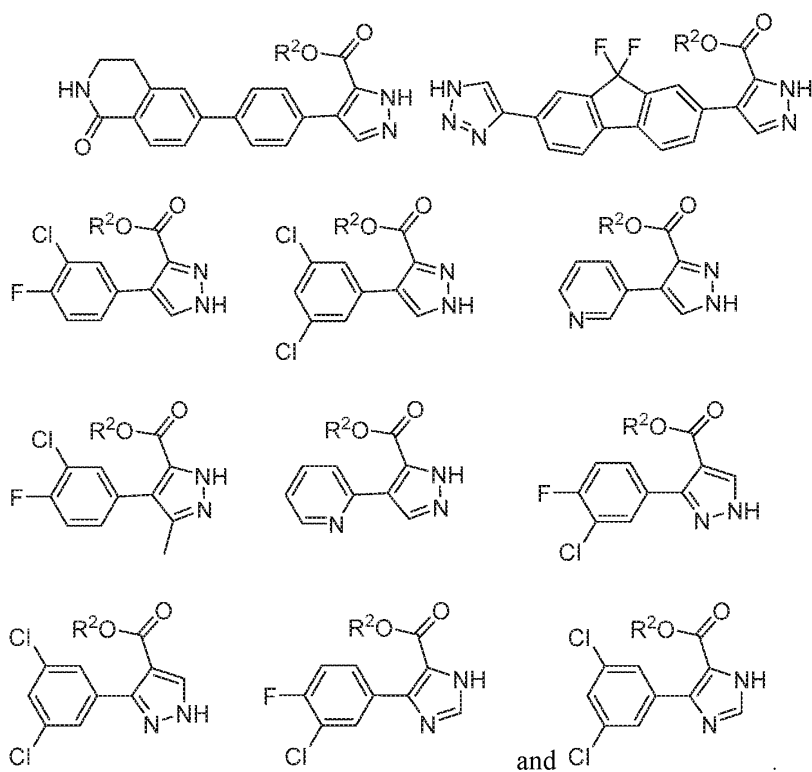
24. A compound selected from:





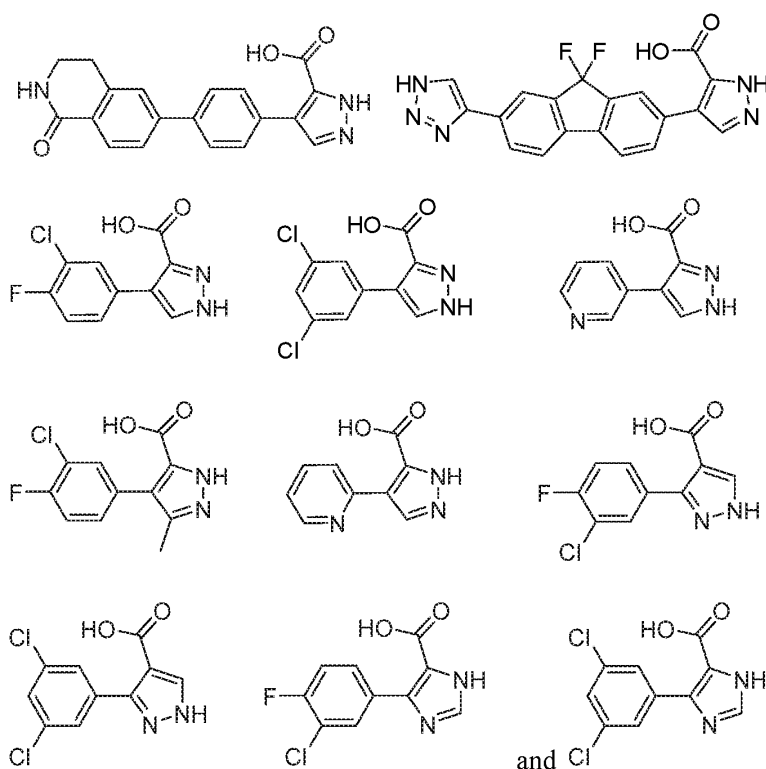
25. A compound selected from Table 1.

26. A compound selected from:

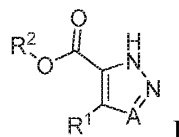


wherein R² is as defined in claim 1.

27. The compound of claim 26, wherein the compound is selected from:



28. A pharmaceutical composition comprising a compound, or a pharmaceutically acceptable salt, tautomer, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, of any one of claims 1-27.
29. A method for the treatment of primary hyperoxaluria type 1, comprising administering a patient in need thereof, a therapeutically effective amount of a compound of any one of claims 1-27, or the pharmaceutical composition of claim 28, or a compound of Formula I:



or a pharmaceutically acceptable salt, tautomer, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein

A is N or CH;

R^1 is alkynyl, cycloalkyl, aryl, heteroaryl or heterocyclyl, wherein each is optionally substituted with one to three R^3 ;

R^2 is hydrogen, $-(CH_2CH_2O)_{1-9}CH_2CH_2OCH_3$, C_{1-6} alkyl optionally substituted with one to three R^4 , cycloalkyl, or heteroaryl optionally substituted with one to three R^5 ;

each R^3 is independently cyano, halo, $-L-C_{1-9}$ alkyl, $-L-C_{1-4}$ haloalkyl, $-L-OC_{1-4}$ haloalkyl, $-NR^7R^8$, $-C(O)NR^7R^8$, $-S(O)_2NR^7R^8$, $-NR^7C(O)R^8$, $-OR^7$, $-L$ -aryl, $-L$ -heteroaryl or $-L$ -heterocyclyl, wherein each is optionally substituted with one to three R^6 , and each L is independently $-C\equiv C-$ or absent;

each R^4 is independently halo, hydroxy, $-OC_{1-6}$ alkyl, $-NH_2$, $-NHC_{1-6}$ alkyl, $-N(C_{1-6}alkyl)_2$, $-OC(O)R^a$, $-OC(O)OR^a$, $-OP(O)(OR^b)_2$, or monocyclic heterocyclyl; wherein each is optionally substituted with one to three R^5 ; provided only one R^4 is heterocyclyl;

each R^5 is independently cyano, halo, C_{1-4} alkyl, hydroxy, $-OC_{1-4}$ alkyl, C_{1-4} haloalkyl, or $-OC_{1-4}$ haloalkyl;

each R^6 is independently cyano, halo, $-C(O)R^7$, $-C(O)OR^7$, $-C(O)NR^7R^8$, $-S(O)_2NR^7R^8$, $-NR^7C(O)R^8$, $-OR^7$, C_{1-4} alkyl, $-OC_{1-4}$ alkyl, C_{1-4} haloalkyl, $-OC_{1-4}$ haloalkyl, phenyl, heterocyclyl, or heteroaryl; wherein each is optionally substituted with one to three C_{1-4} alkyl, $-C(O)OH$ or C_{1-4} haloalkyl;

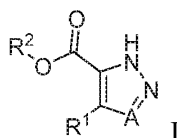
R^7 and R^8 are each independently hydrogen, C_{1-4} alkyl or phenyl, pyridyl, or R^7 and R^8 together with the nitrogen atom to which they are attached form a heterocyclyl;

each R^a is independently C_{1-6} alkyl optionally substituted with $-NH_2$, $-NHC_{1-6}$ alkyl, $-N(C_{1-6}alkyl)_2$, or $-OP(O)(OR^b)_2$;

each R^b is independently hydrogen or C_{1-4} alkyl;

provided that when R^1 is phenyl, then R^3 is aryl or heteroaryl, each of which is optionally substituted with one to three R^6 ; and when R^1 is heteroaryl, then R^2 is not unsubstituted C_{1-6} alkyl.

30. A method for the treatment of recurrent kidney stone formers, comprising administering a patient in need thereof, a therapeutically effective amount of a compound of any one of claims 1-27, the pharmaceutical composition of claim 28, or a compound of Formula I:



or a pharmaceutically acceptable salt, tautomer, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein

A is N or CH;

R¹ is alkynyl, cycloalkyl, aryl, heteroaryl or heterocyclyl, wherein each is optionally substituted with one to three R³;

R² is hydrogen, -(CH₂CH₂O)₁₋₉CH₂CH₂OCH₃, C₁₋₆ alkyl optionally substituted with one to three R⁴, cycloalkyl, or heteroaryl optionally substituted with one to three R⁵;

each R³ is independently cyano, halo, -L-C₁₋₉ alkyl, -L-C₁₋₄ haloalkyl, -L-OC₁₋₄ haloalkyl, -NR⁷R⁸, -C(O)NR⁷R⁸, -S(O)₂NR⁷R⁸, -NR⁷C(O)R⁸, -OR⁷, -L-aryl, -L-heteroaryl or -L-heterocyclyl, wherein each is optionally substituted with one to three R⁶, and each L is independently -C≡C- or absent;

each R⁴ is independently halo, hydroxy, -OC₁₋₆alkyl, -NH₂, -NHC₁₋₆ alkyl, -N(C₁₋₆alkyl)₂, -OC(O)R^a, -OC(O)OR^a, -OP(O)(OR^b)₂, or monocyclic heterocyclyl; wherein each is optionally substituted with one to three R⁵; provided only one R⁴ is heterocyclyl;

each R⁵ is independently cyano, halo, C₁₋₄ alkyl, hydroxy, -OC₁₋₄alkyl, C₁₋₄ haloalkyl, or -OC₁₋₄ haloalkyl;

each R⁶ is independently cyano, halo, -C(O)R⁷, -C(O)OR⁷, -C(O)NR⁷R⁸, -S(O)₂NR⁷R⁸, -NR⁷C(O)R⁸, -OR⁷, C₁₋₄ alkyl, -OC₁₋₄alkyl, C₁₋₄ haloalkyl, -OC₁₋₄ haloalkyl, phenyl, heterocyclyl, or heteroaryl; wherein each is optionally substituted with one to three C₁₋₄ alkyl, -C(O)OH or C₁₋₄ haloalkyl;

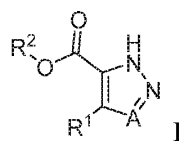
R⁷ and R⁸ are each independently hydrogen, C₁₋₄ alkyl or phenyl, pyridyl, or R⁷ and R⁸ together with the nitrogen atom to which they are attached form a heterocyclyl;

each R^a is independently C₁₋₆ alkyl optionally substituted with -NH₂, -NHC₁₋₆ alkyl, -N(C₁₋₆alkyl)₂, or -OP(O)(OR^b)₂; and

each R^b is independently hydrogen or C₁₋₄ alkyl;

provided that when R¹ is phenyl, then R³ is aryl or heteroaryl, each of which is optionally substituted with one to three R⁶; and when R¹ is heteroaryl, then R² is not unsubstituted C₁₋₆ alkyl.

31. A method of inhibiting the production of glyoxylate and/or oxalate, and/or inhibiting glycolate oxidase (GO), comprising administering a patient in need thereof, a therapeutically effective amount of a compound of any one of claims 1-27, the pharmaceutical composition of claim 28, or a compound of Formula I:



or a pharmaceutically acceptable salt, tautomer, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein

A is N or CH;

R¹ is alkynyl, cycloalkyl, aryl, heteroaryl or heterocyclyl, wherein each is optionally substituted with one to three R³;

R² is hydrogen, -(CH₂CH₂O)₁₋₉CH₂CH₂OCH₃, C₁₋₆ alkyl optionally substituted with one to three R⁴, cycloalkyl, or heteroaryl optionally substituted with one to three R⁵;

each R³ is independently cyano, halo, -L-C₁₋₉ alkyl, -L-C₁₋₄ haloalkyl, -L-OC₁₋₄ haloalkyl, -NR⁷R⁸, -C(O)NR⁷R⁸, -S(O)₂NR⁷R⁸, -NR⁷C(O)R⁸, -OR⁷, -L-aryl, -L-heteroaryl or -L-heterocyclyl, wherein each is optionally substituted with one to three R⁶, and each L is independently -C≡C- or absent;

each R⁴ is independently halo, hydroxy, -OC₁₋₆alkyl, -NH₂, -NHC₁₋₆ alkyl, -N(C₁₋₆alkyl)₂, -OC(O)R^a, -OC(O)OR^a, -OP(O)(OR^b)₂, or monocyclic heterocyclyl; wherein each is optionally substituted with one to three R⁵; provided only one R⁴ is heterocyclyl;

each R⁵ is independently cyano, halo, C₁₋₄ alkyl, hydroxy, -OC₁₋₄alkyl, C₁₋₄ haloalkyl, or -OC₁₋₄ haloalkyl;

each R⁶ is independently cyano, halo, -C(O)R⁷, -C(O)OR⁷, -C(O)NR⁷R⁸, -S(O)₂NR⁷R⁸, -NR⁷C(O)R⁸, -OR⁷, C₁₋₄ alkyl, -OC₁₋₄alkyl, C₁₋₄ haloalkyl, -OC₁₋₄ haloalkyl, phenyl, heterocyclyl, or heteroaryl; wherein each is optionally substituted with one to three C₁₋₄ alkyl, -C(O)OH or C₁₋₄ haloalkyl;

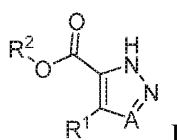
R⁷ and R⁸ are each independently hydrogen, C₁₋₄ alkyl or phenyl, pyridyl, or R⁷ and R⁸ together with the nitrogen atom to which they are attached form a heterocyclyl;

each R^a is independently C₁₋₆ alkyl optionally substituted with -NH₂, -NHC₁₋₆ alkyl, -N(C₁₋₆alkyl)₂, or -OP(O)(OR^b)₂; and

each R^b is independently hydrogen or C₁₋₄ alkyl;

provided that when R^1 is phenyl, then R^3 is aryl or heteroaryl, each of which is optionally substituted with one to three R^6 ; and when R^1 is heteroaryl, then R^2 is not unsubstituted C_{1-6} alkyl.

32. The use of a compound of any one of claims 1-27, or the pharmaceutical composition of claim 28, for controlling or inhibiting the production of recurrent kidney stone formers, in a patient in need thereof.
33. The use of a compound of Formula I, or a pharmaceutically acceptable salt, tautomer, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, for controlling or inhibiting the production of recurrent kidney stone formers, in a patient in need thereof, wherein a compound of formula I:



A is N or CH;

R^1 is alkynyl, cycloalkyl, aryl, heteroaryl or heterocyclyl, wherein each is optionally substituted with one to three R^3 ;

R^2 is hydrogen, $-(CH_2CH_2O)_{1-9}CH_2CH_2OCH_3$, C_{1-6} alkyl optionally substituted with one to three R^4 , cycloalkyl, or heteroaryl optionally substituted with one to three R^5 ;

each R^3 is independently cyano, halo, $-L-C_{1-9}$ alkyl, $-L-C_{1-4}$ haloalkyl, $-L-OC_{1-4}$ haloalkyl, $-NR^7R^8$, $-C(O)NR^7R^8$, $-S(O)_2NR^7R^8$, $-NR^7C(O)R^8$, $-OR^7$, $-L$ -aryl, $-L$ -heteroaryl or $-L$ -heterocyclyl, wherein each is optionally substituted with one to three R^6 , and each L is independently $-C\equiv C-$ or absent;

each R^4 is independently halo, hydroxy, $-OC_{1-6}$ alkyl, $-NH_2$, $-NHC_{1-6}$ alkyl, $-N(C_{1-6}alkyl)_2$, $-OC(O)R^a$, $-OC(O)OR^a$, $-OP(O)(OR^b)_2$, or monocyclic heterocyclyl; wherein each is optionally substituted with one to three R^5 ; provided only one R^4 is heterocyclyl;

each R^5 is independently cyano, halo, C_{1-4} alkyl, hydroxy, $-OC_{1-4}$ alkyl, C_{1-4} haloalkyl, or $-OC_{1-4}$ haloalkyl;

each R^6 is independently cyano, halo, $-C(O)R^7$, $-C(O)OR^7$, $-C(O)NR^7R^8$, $-S(O)_2NR^7R^8$, $-NR^7C(O)R^8$, $-OR^7$, C_{1-4} alkyl, $-OC_{1-4}$ alkyl, C_{1-4} haloalkyl, $-OC_{1-4}$ haloalkyl, phenyl, heterocyclyl, or heteroaryl; wherein each is optionally substituted with one to three C_{1-4} alkyl, $-C(O)OH$ or C_{1-4} haloalkyl;

R⁷ and R⁸ are each independently hydrogen, C₁₋₄ alkyl or phenyl, pyridyl, or R⁷ and R⁸ together with the nitrogen atom to which they are attached form a heterocyclyl;

each R^a is independently C₁₋₆ alkyl optionally substituted with -NH₂, -NHC₁₋₆ alkyl, -N(C₁₋₆alkyl)₂, or -OP(O)(OR^b)₂; and

each R^b is independently hydrogen or C₁₋₄ alkyl;

provided that when R¹ is phenyl, then R³ is aryl or heteroaryl, each of which is optionally substituted with one to three R⁶; and when R¹ is heteroaryl, then R² is not unsubstituted C₁₋₆ alkyl.

34. The method of any one of claims 29-31, further comprising administering an additional therapeutic agent.
35. The use of any one of claims 32-33, in combination with an additional therapeutic agent.
36. The method of claim 34, or the use of claim 35, wherein the additional therapeutic agent is a calcium oxalate crystallization inhibitor, oxalate degrading enzyme inhibitor, SiRNA, oxazyme, lumasiran, nedosiran, oxabate, or reloxaliase.
37. The method of claim 34, or the use of claim 35, wherein the additional therapeutic agent is a SGLT2 inhibitor.
38. The method or use of claim 37, wherein the SGL2 inhibitor is dapagliflozin, ertugliflozin, luseogliflozin, canagliflozin, tofogliflozin, ipragliflozin, ipragliflozin, empagliflozin, or potassium citrate.