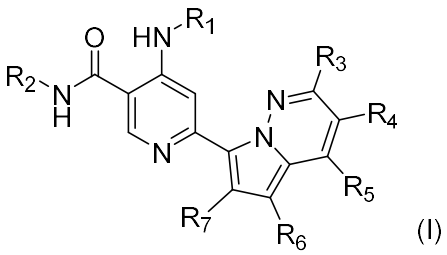
CLAIMS

What is claimed:

1. A compound of Formula (I)



(I)

wherein:

R^1 and R^2 are each independently selected from:

a) C_{1-10} alkyl optionally substituted with Z^1;

b) C_{3-10} cycloalkyl optionally substituted with Z^1;

c) 5-10 membered heteroaryl optionally substituted with Z^1;

d) C_{6-10} aryl optionally substituted with Z^1;

e) 4-7 membered monocyclic heterocyclyl optionally substituted with Z^1;

f) 6-12 membered bicyclic heterocyclyl optionally substituted with Z^1; or

g) $-N(R^{12})(R^{12})$, $-S(O)_2R^{12}$, $-S(O)_2N(R^{12})(R^{12})$, or -H;

R^3 and R^4 are each independently selected from:

a) H, halo, $-NO_2$, -CN, $-O-R^{12}$, $-C(O)-R^{12}$, $-C(O)-N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})C(O)-R^{12}$, $-N(R^{12})C(O)O-R^{12}$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})C(O)-N(R^{12})(R^{12})$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$;

b) C_{1-9} alkyl optionally substituted with Z^1;

c) C_{2-9} alkynyl optionally substituted with Z^1;

d) C_{2-9} alkenyl optionally substituted with Z^1;

e) 5-10 membered heteroaryl optionally substituted with Z^1;

f) C_{6-10} aryl optionally substituted with Z^1;

g) 4-12 membered heterocyclyl optionally substituted with Z^1; or

h) C_{3-10} cycloalkyl optionally substituted with Z^1;

R^5, R^6 and R^7 are each independently selected from:

a) H, halo, $-NO_2$, -CN, $-O-R^{12}$, $-C(O)-R^{12}$, $-C(O)-N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})C(O)-R^{12}$, $-N(R^{12})C(O)O-R^{12}$, or $-N(R^{12})S(O)_2(R^{12}$;

b) C_{1-5} alkyl optionally substituted with Z^1; or

c) Cyclopropyl, oxetanyl or azetidinyl optionally substituted with Z^1;

Z^1 is independently oxo, halo, $-NO_2$, $-N_3$, -CN, C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, heterocyclyl, $-O-R^{12}$, $-C(O)-R^{12}$, $-C(O)O-R^{12}$, $-C(O)-N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})C(O)-R^{12}$, $-N(R^{12})C(O)O-R^{12}$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-NR^{12}S(O)_2N(R^{12})(R^{12})$, $-NR^{12}S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$;

wherein any alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, aryl, heteroaryl or heterocyclyl is optionally substituted with Z^{1a};

each Z^{1a} is independently oxo, halo, $-NO_2$, -CN, $-N_3$, C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, heterocyclyl, $-O-R^{12}$, $-C(O)R^{12}$, $-C(O)O-R^{12}$, $-C(O)N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})-C(O)R^{12}$, $-N(R^{12})C(O)O(R^{12})$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})S(O)_2-N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$;

wherein any alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, aryl, heteroaryl or heterocyclyl is optionally substituted with Z^{1b};

each R^{12} is independently H, C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, aryl, heteroaryl or heterocyclyl;

wherein any alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heteroaryl or heterocyclyl is optionally substituted with Z^{1a};

each Z^{1b} is independently oxo, hydroxy, halo, $-NO_2$, $-N_3$, -CN, C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, heterocyclyl, $-O(C_{1-9}$ alkyl), $-O(C_{2-6}$ alkenyl), $-O(C_{2-6}$ alkynyl), $-O(C_{3-15}$ cycloalkyl), $-O(C_{1-8}$ haloalkyl), -O(aryl), -O(heteroaryl), -O(heterocyclyl), $-NH_2$, $-NH(C_{1-9}$ alkyl), $-NH(C_{2-6}$ alkenyl), $-NH(C_{2-6}$ alkynyl), $-NH(C_{3-15}$ cycloalkyl), $-NH(C_{1-8}$ haloalkyl), -NH(aryl), -NH(heteroaryl), -NH(heterocyclyl), $-N(C_{1-9}$ alkyl)$_2$, $-N(C_{3-15}$ cycloalkyl)$_2$, $-N(C_{2-6}$ alkenyl)$_2$, $-N(C_{2-6}$ alkynyl)$_2$, $-N(C_{3-15}$ cycloalkyl)$_2$, $-N(C_{1-8}$ haloalkyl)$_2$, $-N(aryl)_2$, -N(heteroaryl)$_2$, -N(heterocyclyl)$_2$, $-N(C_{1-9}$ alkyl)(C_{3-15} cycloalkyl), $-N(C_{1-9}$ alkyl)(C_{2-6} alkenyl), $-N(C_{1-9}$ alkyl)(C_{2-6} alkynyl), $-N(C_{1-9}$ alkyl)(C_{3-15} cycloalkyl), $-N(C_{1-9}$ alkyl)(C_{1-8} haloalkyl), $-N(C_{1-9}$ alkyl)(aryl), $-N(C_{1-9}$ alkyl)(heteroaryl), $-N(C_{1-9}$

alkyl)(heterocyclyl), -C(O)(C_{1-9} alkyl), -C(O)(C_{2-6} alkenyl), -C(O)(C_{2-6} alkynyl), -C(O)(C_{3-15} cycloalkyl), -C(O)(C_{1-8} haloalkyl), -C(O)(aryl), -C(O)(heteroaryl), -C(O)(heterocyclyl), -C(O)O(C_{1-9} alkyl), -C(O)O(C_{2-6} alkenyl), -C(O)O(C_{2-6} alkynyl), -C(O)O(C_{3-15} cycloalkyl), -C(O)O(C_{1-8} haloalkyl), -C(O)O(aryl), -C(O)O(heteroaryl), -C(O)O(heterocyclyl), -C(O)NH_2, -C(O)NH(C_{1-9} alkyl), -C(O)NH(C_{2-6} alkenyl), -C(O)NH(C_{2-6} alkynyl), -C(O)NH(C_{3-15} cycloalkyl), -C(O)NH(C_{1-8} haloalkyl), -C(O)NH(aryl), -C(O)NH(heteroaryl), -C(O)NH(heterocyclyl), -C(O)N(C_{1-9} alkyl)$_2$, -C(O)N(C_{3-15} cycloalkyl)$_2$, -C(O)N(C_{2-6} alkenyl)$_2$, -C(O)N(C_{2-6} alkynyl)$_2$, -C(O)N(C_{3-15} cycloalkyl)$_2$, -C(O)N(C_{1-8} haloalkyl)$_2$, -C(O)N(aryl)$_2$, -C(O)N(heteroaryl)$_2$, -C(O)N(heterocyclyl)$_2$, -NHC(O)(C_{1-9} alkyl), -NHC(O)(C_{2-6} alkenyl), -NHC(O)(C_{2-6} alkynyl), -NHC(O)(C_{3-15} cycloalkyl), -NHC(O)(C_{1-8} haloalkyl), -NHC(O)(aryl), -NHC(O)(heteroaryl), -NHC(O)(heterocyclyl), -NHC(O)O(C_{1-9} alkyl), -NHC(O)O(C_{2-6} alkenyl), -NHC(O)O(C_{2-6} alkynyl), -NHC(O)O(C_{3-15} cycloalkyl), -NHC(O)O(C_{1-8} haloalkyl), -NHC(O)O(aryl), -NHC(O)O(heteroaryl), -NHC(O)O(heterocyclyl), -NHC(O)NH(C_{1-9} alkyl), -NHC(O)NH(C_{2-6} alkenyl), -NHC(O)NH(C_{2-6} alkynyl), -NHC(O)NH(C_{3-15} cycloalkyl), -NHC(O)NH(C_{1-8} haloalkyl), -NHC(O)NH(aryl), -NHC(O)NH(heteroaryl), -NHC(O)NH(heterocyclyl), -SH, -S(C_{1-9} alkyl), -S(C_{2-6} alkenyl), -S(C_{2-6} alkynyl), -S(C_{3-15} cycloalkyl), -S(C_{1-8} haloalkyl), -S(aryl), -S(heteroaryl), -S(heterocyclyl), -NHS(O)(C_{1-9} alkyl), -N(C_{1-9} alkyl)(S(O)(C_{1-9} alkyl), -S(O)N(C_{1-9} alkyl)$_2$, -S(O)(C_{1-9} alkyl), -S(O)(NH)(C_{1-9} alkyl), -S(O)(C_{2-6} alkenyl), -S(O)(C_{2-6} alkynyl), -S(O)(C_{3-15} cycloalkyl), -S(O)(C_{1-8} haloalkyl), -S(O)(aryl), -S(O)(heteroaryl), -S(O)(heterocyclyl), -S(O)$_2$(C_{1-9} alkyl), -S(O)$_2$(C_{2-6} alkenyl), -S(O)$_2$(C_{2-6} alkynyl), -S(O)$_2$(C_{3-15} cycloalkyl), -S(O)$_2$(C_{1-8} haloalkyl), -S(O)$_2$(aryl), -S(O)$_2$(heteroaryl), -S(O)$_2$(heterocyclyl), -S(O)$_2$NH(C_{1-9} alkyl), or -S(O)$_2$N(C_{1-9} alkyl)$_2$;

wherein any alkyl, cycloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with one or more halo, C_{1-9} alkyl, C_{1-8} haloalkyl, -OH, -NH_2, -NH(C_{1-9} alkyl), -NH(C_{3-15} cycloalkyl), -NH(C_{1-8} haloalkyl), -NH(aryl), -NH(heteroaryl), -NH(heterocyclyl), -N(C_{1-9} alkyl)$_2$, -N(C_{3-15} cycloalkyl)$_2$, -NHC(O)(C_{3-15} cycloalkyl), -NHC(O)(C_{1-8} haloalkyl), -NHC(O)(aryl), -NHC(O)(heteroaryl), -NHC(O)(heterocyclyl), -NHC(O)O(C_{1-9} alkyl), -NHC(O)O(C_{2-6} alkynyl), -NHC(O)O(C_{3-15} cycloalkyl), -NHC(O)O(C_{1-8} haloalkyl), -NHC(O)O(aryl), -NHC(O)O(heteroaryl), -NHC(O)O(heterocyclyl), -

NHC(O)NH(C_{1-9} alkyl), -S(O)(NH)(C_{1-9} alkyl), S(O)$_2$(C_{1-9} alkyl), -S(O)$_2$(C_{3-15} cycloalkyl), -S(O)$_2$(C_{1-8} haloalkyl), -S(O)$_2$(aryl), -S(O)$_2$(heteroaryl), -S(O)$_2$(heterocyclyl), -S(O)$_2$NH(C_{1-9} alkyl), -S(O)$_2$N(C_{1-9} alkyl)$_2$, -O(C_{3-15} cycloalkyl), -O(C_{1-8} haloalkyl), -O(aryl), -O(heteroaryl), -O(heterocyclyl), or -O(C_{1-9} alkyl); and

with the proviso that when R^1 is C_3 alkyl, R^2 is C_5 alkyl substituted with F and hydroxyl, R^3, R^5, R^6, R^7 are H, and R^4 is CN, then R^1 is substituted with ~~Z^1~~ oxo, halo, -NO_2, -N_3, -CN, C_{2-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, heterocyclyl, -O-R^{12}, -C(O)-R^{12}, -C(O)O-R^{12}, -C(O)-N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})C(O)-R^{12}, -N(R^{12})C(O)O-R^{12}, -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -NR^{12}S(O)$_2$N(R^{12})(R^{12}), -NR^{12}S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$$R^{12}$ or -S(O)$_2$N(R^{12})(R^{12});

wherein any alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, aryl, heteroaryl or heterocyclyl is optionally substituted with Z^{1a};
or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof.

2. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^1 is C_{1-10} alkyl optionally substituted with Z^1, with the proviso that when R^1 is C_3 alkyl, R^2 is C_5 alkyl substituted with F and hydroxyl, R^3, R^5, R^6, R^7 are H, and R^4 is CN, then R^1 is substituted with ~~Z^1~~ oxo, halo, -NO_2, -N_3, -CN, C_{2-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^{12}, -C(O)-R^{12}, -C(O)O-R^{12}, -C(O)-N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})C(O)-R^{12}, -N(R^{12})C(O)O-R^{12}, -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -NR^{12}S(O)$_2$N(R^{12})(R^{12}), -NR^{12}S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$$R^{12}$ or -S(O)$_2$N(R^{12})(R^{12});

wherein any alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, aryl, heteroaryl or 4-20 membered heterocyclyl is optionally substituted with Z^{1a}.

3. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^1 is methyl.

4. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^1 is C_{6-10} alkyl optionally substituted with Z^1.

5. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof ,wherein:

R^1 is C_{1-5} alkyl substituted with one or more substituents selected from -Cl, oxo, -CN, C_{2-6} alkenyl, C_{2-6} alkynyl, cyclopropyl, naphthyl, heteroaryl, nitrogen or sulfur containing monocyclic 4-20 membered heterocyclyl, bicyclic 4-20 membered heterocyclyl, C_{7-15} cycloalkyl, -O-R^9, -C(O)-R^{12}, -C(O)O-R^{12}, -C(O)-N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})C(O)-R^{12}, -N(R^{12})C(O)O-R^{12}, -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -NR^{12}S(O)$_2$N(R^{12})(R^{12}), -NR^{12}S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$$R^{12}$ or -S(O)$_2$N(R^{12})(R^{12});

R^9 at each occurrence is independently C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{1-6} haloalkyl, C_{3-15} cycloalkyl, aryl, 4-20 membered heterocyclyl, or heteroaryl;

wherein each C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{1-6} haloalkyl, C_{3-15} cycloalkyl, aryl, heterocyclyl, or heteroaryl is optionally substituted with Z^{1a};

wherein said C_{1-5} alkyl is also optionally substituted with Z^1; and

wherein each said C_{2-6} alkenyl, C_{2-6} alkynyl, cyclopropyl, naphthyl, heteroaryl, nitrogen or sulfur containing monocyclic 4-20 membered heterocyclyl, bicyclic 4-20 membered heterocyclyl, or C_{7-15} cycloalkyl is optionally substituted with Z^{1a}.

6. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^1 is C_{1-5} alkyl optionally substituted with Z^1;

wherein said C_{1-5} alkyl is substituted with one or more C_{4-6} cycloalkyl, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, or phenyl;

wherein said C_{4-6} cycloalkyl, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, or phenyl is optionally substituted with Z^{1a};

wherein said C_{4-6} cycloalkyl, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, or phenyl is substituted by one or more halo, oxo, -CN, C_{2-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-7} cycloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^9, -C(O)-R^{12}, -C(O)O-R^{12}, -C(O)-N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})C(O)-R^{12}, -N(R^{12})C(O)O-R^{12}, -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -NR^{12}S(O)$_2$N(R^{12})(R^{12}), -NR^{12}S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$$R^{12}$ or -S(O)$_2$N(R^{12})(R^{12}); and wherein said C_{2-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-7} cycloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with Z^{1b}.

7. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^1 is C_{1-5} alkyl optionally substituted with F or –OH and substituted with one or more substituents selected from C_{4-6} cycloalkyl, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, or phenyl; wherein said C_{4-6} cycloalkyl, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, or phenyl is substituted with two or more substituents selected from -OH and –CH_3 and optionally substituted with Z^{1a}.

8. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^1 is C_{3-10} cycloalkyl optionally substituted with Z^1.

9. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^1 is C_{7-10} cycloalkyl optionally substituted with Z^1, wherein when said C_7-C_{10} cycloalkyl is bicyclo[2.2.1]heptanyl, then said C_{7-10} cycloalkyl is substituted with at least one of oxo, -Cl, -NO_2, -CN, -N_3, C_{5-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{7-15} cycloalkyl, C_{5-8} haloalkyl, aryl, pyrazolyl, -O-R^9, -C(O)O-R^{12}, -C(O)N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})-C(O)R^{12}, -N(R^{12})C(O)O(R^{12}), -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -N(R^{12})S(O)$_2$-N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$O(R^{12}), -OC(O)R^{12}, -

$OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, or $-S(O)_2N(R^{12})(R^{12})$.

10. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^1 is C_{3-6} cycloalkyl substituted with one or more $-O-R^{16}$;

wherein said C_{3-6} cycloalkyl is optionally substituted with Z^1;

R^{16} at each occurrence is independently C_{5-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{1-6} haloalkyl, C_{3-15} cycloalkyl, aryl, 4-20 membered heterocyclyl, or heteroaryl;

wherein each C_{5-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{1-6} haloalkyl, C_{3-15} cycloalkyl, aryl, heterocyclyl, or heteroaryl is optionally substituted with Z^{1a}.

11. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^1 is C_{3-6} cycloalkyl substituted with one or more $-C(O)-R^{11}$;

wherein said C_{3-6} cycloalkyl is optionally substituted with Z^1;

wherein R^{11} at each occurrence is independently C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15}cycloalkyl, aryl, 4-20 membered heterocyclyl, or heteroaryl,

wherein each C_{1-9} alkyl is optionally substituted with $-NO_2$, $-N_3$, -CN, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{4-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O-R^{12}$, $-C(O)-R^{12}$, $-C(O)O-R^{12}$, $-C(O)-N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})C(O)-R^{12}$, $-N(R^{12})C(O)O-R^{12}$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-NR^{12}S(O)_2N(R^{12})(R^{12})$, $-NR^{12}S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$; and

wherein each said C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, aryl, heterocyclyl, or heteroaryl is optionally substituted with Z^{1a}.

12. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^1 is C_{3-6} cycloalkyl substituted with one or more oxo, C_{5-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -C(O)O-R^{12}, -C(O)-N(R^9)(R^9), -C(O)N(H)(C_{4-9} alkyl), -C(O)N(H)(C_{3-10} cycloalkyl), -C(O)N(H)(4-20 membered heterocyclyl), -C(O)N(H)(aryl), -C(O)N(H)(heteroaryl), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})C(O)-R^{12}, -N(R^{12})C(O)O-R^{12}, -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -NR^{12}S(O)$_2$N(R^{12})(R^{12}), -NR^{12}S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2R^{12}$ or -S(O)$_2$N(R^{12})(R^{12});

wherein said C_{5-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, aryl, heteroaryl, heterocyclyl, -C(O)N(H)(C_{4-9} alkyl), -C(O)N(H)(C_{3-10} cycloalkyl), -C(O)N(H)(4-20 membered heterocyclyl), -C(O)N(H)(aryl), or -C(O)N(H)(heteroaryl) is optionally substituted with Z^{1a}; and wherein said C_{3-6} cycloalkyl is optionally substituted with Z^1;

wherein when C_{3-6} cycloalkyl is bicyclo[1.1.1]pentanyl; then said bicyclo[1.1.1]pentanyl is substituted with one or more oxo, -NO_2, -N_3, C_{5-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{7-15} cycloalkyl, C_{5-8} haloalkyl, aryl, pyrazolyl, -O-R^{16}, -C(O)R^{11}, -C(O)O-R^{12}, -C(O)N(R^9)(R^9), -C(O)N(H)(C_4 alkyl), -C(O)N(H)(R^{16}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})-C(O)R^{12}, -N(R^{12})C(O)O(R^{12}), -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -N(R^{12})S(O)$_2$-N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, or -S(O)$_2$N(R^{12})(R^{12}).

13. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein

R^1 is C_{3-6} cycloalkyl substituted with C_4 alkyl, wherein said C_4 alkyl is optionally substituted with halo, -NO_2, -CN, -N_3, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^9, -C(O)-R^{12}, -C(O)O-R^{12}, -C(O)-N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})C(O)-R^{12}, -N(R^{12})C(O)O-R^{12}, -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -NR^{12}S(O)$_2$N(R^{12})(R^{12}), -NR^{12}S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2R^{12}$ or -S(O)$_2$N(R^{12})(R^{12});

wherein said C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with Z^{1a}; and

wherein said C_{3-6} cycloalkyl is optionally substituted with Z^1;

wherein when said C_{3-6} cycloalkyl is bicyclo[1.1.1]pentanyl substituted with C_4 alkyl then said C_4 alkyl is further substituted with oxo, $-NO_2$, $-N_3$, C_{5-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{7-15} cycloalkyl, C_{5-8} haloalkyl, aryl, heteroaryl, $-O-R^9$, $-C(O)R^{12}$, $-C(O)O-R^{12}$, $-C(O)N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})-C(O)R^{12}$, $-N(R^{12})C(O)O(R^{12})$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})S(O)_2-N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, or $-S(O)_2N(R^{12})(R^{12})$.

14. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein

R^1 is C_{3-6} cycloalkyl optionally substituted with Z^1; and

wherein said C_{3-6} cycloalkyl is substituted with four or more substituents selected from the group consisting of F, -OH, -Cl, -CN, C_{1-3} alkyl, C_{1-3} fluoroalkyl, C_{1-4} hydroxyalkyl, C_{1-4} alkoxy, $-C(O)NH_2$, $-C(O)NH(C_{1-3}$ alkyl); and $-C(O)(C_{1-3}$ fluoroalkyl).

15. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^1 is C_{3-6} cycloalkyl substituted with C_{1-3} fluoroalkyl, or $–C(O)(C_{1-3}$ fluoroalkyl)

wherein said C_{3-6} cycloalkyl is also optionally substituted with Z^1;

wherein said C_{1-3} fluoroalkyl or $–C(O)(C_{1-3}$ fluoroalkyl) is further substituted with at least one oxo, -Cl, $-NO_2$, -CN, $-N_3$, C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{3-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O-R^{12}$, $-C(O)R^{12}$, $-C(O)O-R^{12}$, $-C(O)N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})-C(O)R^{12}$, $-N(R^{12})C(O)O(R^{12})$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})S(O)_2-N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$; and

wherein said C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{3-8} haloalkyl, aryl, heteroaryl, heterocyclyl is optionally substituted with Z^{1b}.

16. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^1 is C_{3-6} cycloalkyl substituted with at least one C_{1-3} alkyl or C_{1-4} hydroxyalkyl wherein said C_{3-6} cycloalkyl is optionally substituted with Z^1;

wherein said C_{1-3} alkyl or C_{1-4} hydroxyalkyl is further substituted with oxo, chloro, $-NO_2$, -CN, $-N_3$, C_{4-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O-R^9$, $-C(O)R^{12}$, $-C(O)O-R^{12}$, $-C(O)N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})-C(O)R^{12}$, $-N(R^{12})C(O)O(R^{12})$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})S(O)_2-N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$; and

wherein said C_{4-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, heterocyclyl is optionally substituted with Z^{1b} .

17. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^1 is C_{3-6} cycloalkyl substituted with at least one C_{1-4} alkoxy or C(O)NH(C_{1-3} alkyl);

wherein said C_{3-6} cycloalkyl is optionally substituted with Z^1 and wherein said C_{1-4} alkoxy or C(O)NH(C_{1-3} alkyl) is further substituted with oxo, halo, $-NO_2$, -CN, $-N_3$, C_{4-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O-R^{12}$, $-C(O)R^{12}$, $-C(O)O-R^{12}$, $-C(O)N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})-C(O)R^{12}$, $-N(R^{12})C(O)O(R^{12})$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})S(O)_2-N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$;

wherein said C_{4-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, heterocyclyl is optionally substituted with Z^{1b}.

18. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^1 is 5-10 membered heteroaryl optionally substituted with Z^1.

19. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^1 is imidazolyl, triazolyl, oxazolyl, isoxazolyl, pyridinyl, thiadiazole, oxadiazole, pyrimidinyl, pyridizinyl, pyrazinyl, isothiazolyl, tetrazolyl, thiophenyl, furanyl, triazinyl, or 8-10 membered heteroaryl optionally substituted with Z^1.

20. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^1 is a 6 membered heteroaryl optionally substituted with Z^1.

21. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^1 is 4-7 membered monocyclic heterocyclyl optionally substituted with Z^1.

22. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^1 is azetidinyl, morpholinyl, thiomorpholinyl, 4-7 membered sultam, 4-7 membered cyclic carbamate, 4-7 membered cyclic carbonate, or 4-7 membered cyclic sulfide optionally substituted with Z^1.

23. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^1 is 6-12 membered bicyclic heterocyclyl optionally substituted with Z^1;

wherein when said 6-12 membered bicyclic heterocyclyl is 4,5,6,7-tetrahydropyrazolo[1,5-a]pyrazinyl then said 6-12 membered bicyclic heterocyclyl is substituted with at least one oxo, C_{3-6} cycloalkyl, or C(O)(C_{1-5} alkyl).

24. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^1 is oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, pyrrolidinyl, piperidinyl, pyrazolyl, or thiazolyl;

wherein said oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, pyrrolidinyl, piperidinyl, pyrazolyl or thiazolyl, is substituted with one or more substituents selected from -Cl, oxo, -CN, C_{5-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{7-10} cycloalkyl, aryl, pyridinyl, pyridizinyl, 5-10 membered bicyclic heteroaryl, 5-membered heteroaryl, nitrogen or sulfur containing monocyclic 4-20 membered heterocyclyl, bicyclic heterocyclyl, -O-R^9, -C(O)-R^{11}, -C(O)O-R^{12}, -C(O)-N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})C(O)-R^{12}, -N(R^{12})C(O)O-R^{12}, -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -NR^{12}S(O)$_2$N(R^{12})(R^{12}), -NR^{12}S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, or -S(O)$_2$N(R^{12})(R^{12});

wherein said C_{5-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{7-10} cycloalkyl, aryl, pyridinyl, pyridizinyl, 5-10 membered bicyclic heteroaryl, 5-membered heteroaryl, nitrogen or sulfur containing monocyclic heterocyclyl or bicyclic 4-10 membered heterocyclyl is optionally substituted with Z^{1a};

wherein said oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, pyrrolidinyl, piperidinyl, pyrazolyl, thiazolyl, is optionally substituted with Z^1.

25. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^1 is oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, pyrrolidinyl, piperidinyl, pyrazolyl, or thiazolyl;

wherein said oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, pyrrolidinyl, piperidinyl, pyrazolyl, or thiazolyl, is optionally substituted with Z^1;

wherein said oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, pyrrolidinyl, piperidinyl, pyrazolyl, thiazolyl, is substituted with 3 or more substituents selected from F, -OH, C_{1-4} alkyl, C_{1-3} hydroxyalkyl, C_{1-4} fluoroalkyl, -(CH$_2$)$_{1-3}$O(C_{1-3} alkyl), -C(O)(C_{1-3} fluoroalkyl), -S(O)$_2$(C_{1-3} alkyl), C_{3-6} cycloalkyl, C_{3-6} fluorocycloalkyl, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, pyrimidinyl, fluoropyrimidinyl, or methoxyprimidinyl.

26. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein

R^1 is pyrrolidinyl, piperidinyl, pyrazolyl or thiazolyl;

wherein said pyrrolidinyl, piperidinyl, pyrazolyl or thiazolyl is optionally substituted with Z^1;

wherein said pyrrolidinyl, piperidinyl, pyrazolyl or thiazolyl is substituted with one or more substituents independently selected from $-(CH_2)_{1-3}O(C_{1-3}$ alkyl), $-S(O)_2(C_{1-3}$ alkyl), oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, or $CH_2(C_{3-6}$ cycloalkyl); and

wherein said $-(CH_2)_{1-3}O(C_{1-3}$ alkyl), $-S(O)_2(C_{1-3}$ alkyl), oxetanyl, tetrahydrofuranyl, tetrahydropyranyl or $CH_2(C_{3-6}$ cycloalkyl) are independently substituted with one or more oxo, halo, $-NO_2$, -CN, $-N_3$, C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O-R^{12}$, $-C(O)R^{12}$, $-C(O)O-R^{12}$, $-C(O)N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})-C(O)R^{12}$, $-N(R^{12})C(O)O(R^{12})$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})S(O)_2-N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$;

wherein said C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with Z^{1b}.

27. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^1 is oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, pyrrolidinyl, piperidinyl, pyrazolyl, or thiazolyl; wherein said oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, pyrrolidinyl, piperidinyl, pyrazolyl, or thiazolyl is optionally substituted with a -F or –OH and is substituted with one or more substituents independently selected from C_{1-4} alkyl or C_{1-3} hydroxyalkyl;

wherein said C_{1-4} alkyl or C_{1-3} hydroxyalkyl is substituted with one or more oxo, -Cl, $-NO_2$, -CN, $-N_3$, C_{4-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{7-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O-R^{16}$, $-C(O)R^{12}$, $-C(O)O-R^{12}$, $-C(O)N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})-C(O)R^{12}$, -

$N(R^{12})C(O)O(R^{12})$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})S(O)_2-N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$; and

wherein any alkyl, hydroxyalkyl, alkenyl, alkynyl, cycloalkyl, aryl, heteroaryl or heterocyclyl is optionally substituted with Z^{1b}.

28. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^1 is oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, pyrrolidinyl, piperidinyl, pyrazolyl, or thiazolyl;

wherein said oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, pyrrolidinyl, piperidinyl, pyrazolyl, or thiazolyl is optionally substituted with a -F or –OH and is substituted with one or more substituents independently selected from C_{1-4} fluoroalkyl, $-C(O)(C_{1-3}$ fluoroalkyl), C_{3-6} cycloalkyl, C_{3-6} fluorocycloalkyl, and fluoropyrimidinyl;

wherein said C_{1-4} fluoroalkyl, $-C(O)(C_{1-3}$ fluoroalkyl), C_{3-6} cycloalkyl, C_{3-6} fluorocycloalkyl or fluoropyrimidyl is substituted with one or more oxo, -Cl, $-NO_2$, -CN, $-N_3$, C_{4-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O-R^{12}$, $-C(O)R^{12}$, $-C(O)O-R^{12}$, $-C(O)N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})-C(O)R^{12}$, $-N(R^{12})C(O)O(R^{12})$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})S(O)_2-N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$;

wherein any alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heteroaryl or heterocyclyl is optionally substituted with Z^{1b} .

29. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^1 is C_{6-10} aryl optionally substituted with Z^1.

30. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^1 is C_{6-10} aryl is substituted with one or more C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^9, -C(O)R^{11}, -C(O)O-R^{12}, -C(O)NH(C_{3-6} cycloalkyl), -C(O)NH(C_{4-6} alkyl), -C(O) 4-20 membered heterocyclyl, N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})C(O)-R^{12}, -N(R^{12})C(O)O-R^{12}, -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -NR^{12}S(O)$_2$N(R^{12})(R^{12}), -NR^{12}S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$$R^{12}$ or -S(O)$_2$N(R^{12})(R^{12});

wherein said C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, aryl, heteroaryl, heterocyclyl, -C(O)NH(C_{3-6} cycloalkyl), -C(O)NH(C_{4-6} alkyl),or -C(O) 4-20 membered heterocyclyl is optionally substituted with Z^{1a};

wherein said C_{6-10} aryl is optionally substituted with Z^1.

31. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^1 is C_{6-10} aryl substituted with one or more -C(O)NH(C_{1-3} alkyl) and optionally substituted with Z^{1a};

wherein said -C(O)NH(C_{1-3} alkyl) is substituted with one or more oxo, halo, -NO_2, -CN, -N_3, C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^{12}, -C(O)R^{12}, -C(O)O-R^{12}, -C(O)N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})-C(O)R^{12}, -N(R^{12})C(O)O(R^{12}), -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -N(R^{12})S(O)$_2$-N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$$R^{12}$ or -S(O)$_2$N(R^{12})(R^{12});

wherein said C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with Z^{1b}.

32. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^1 is C_{6-10} aryl substituted with one or more -C(O)(C_{1-3} fluoroalkyl);

wherein said -C(O)(C_{1-3} fluoroalkyl) is substituted with one or more oxo, -Cl, -NO_2, -CN, -N_3, C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{3-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^{12}, -C(O)R^{12}, -C(O)O-R^{12}, -C(O)N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})-C(O)R^{12}, -N(R^{12})C(O)O(R^{12}), -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -N(R^{12})S(O)$_2$-N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$$R^{12}$ or -S(O)$_2$N(R^{12})(R^{12});

wherein said C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{3-8} haloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with Z^{1b}; and

wherein said C_{6-10} aryl is optionally substituted with Z^1.

33. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^1 is -N(R^{12})(R^{12}), -S(O)$_2$$R^{12}$, -S(O)$_2$N($R^{12}$)(R^{12}), or -H.

34. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^2 is C_{1-10} alkyl optionally substituted with Z^1.

35. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^2 is C_{1-10} alkyl.

36. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^2 is C_{7-10} alkyl, optionally substituted with Z^1.

37. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is C_{1-6} alkyl substituted with one or more -O(C_{1-2} alkyl), -NHC(O)(C_{1-3} alkyl), or -S(O)$_2$(C_{1-3} alkyl);

wherein said -O(C_{1-2} alkyl) is substituted with one or more oxo, -Cl, -NO_2, -CN, -N_3, C_{2-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{2-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^{12}, -C(O)R^{12}, -C(O)O-R^{12}, -C(O)N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})-C(O)R^{12}, -N(R^{12})C(O)O(R^{12}), -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -N(R^{12})S(O)$_2$-N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$$R^{12}$ or -S(O)$_2$N(R^{12})(R^{12}); and said -O(C_{1-2} alkyl) is optionally substituted with -F;

wherein said -NHC(O)(C_{1-3} alkyl), or -S(O)$_2$(C_{1-3} alkyl) is substituted with one or more oxo, halo, -NO_2, -CN, -N_3, C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, heterocyclyl, -O-R^{12}, -C(O)R^{12}, -C(O)O-R^{12}, -C(O)N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})-C(O)R^{12}, -N(R^{12})C(O)O(R^{12}), -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -N(R^{12})S(O)$_2$-N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$$R^{12}$ or -S(O)$_2$N(R^{12})(R^{12});

wherein said C_{1-6} alkyl is optionally substituted with Z^{1a}; and

wherein each said C_{2-9} alkyl, C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, C_{2-8} haloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with Z^{1b}.

38. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is C_{4-6} alkyl substituted with one or more substituents selected from -Cl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, aryl, heteroaryl, monocyclic 4-20 membered heterocyclyl, 4-10 membered bicyclic heterocyclyl, -O(C_{3-9} alkyl), -O(C_{3-10} cycloalkyl), -O(4-20 membered heterocyclyl), -O(aryl), -O(heteroaryl), -C(O)-R^{12}, -C(O)O-R^{12}, -C(O)-N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})C(O)(C_{4-9} alkyl), -N(R^{12})C(O)(C_{3-10} cycloalkyl), -N(R^{12})C(O)(4-20 membered heterocyclyl), -N(R^{12})C(O)(aryl), -N(R^{12})C(O)(heteroaryl), -N(R^{12})C(O)O-R^{12}, -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -NR^{12}S(O)$_2$N(R^{12})(R^{12}), -NR^{12}S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$(C_{4-9} alkyl), -S(O)$_2$(aryl), -S(O)$_2$(C_{3-10} cycloalkyl), -S(O)$_2$(4-20 membered heterocyclyl), - S(O)$_2$(heteroaryl), or -S(O)$_2$N(R^{12})(R^{12});

wherein said C_{4-6} alkyl is also optionally substituted with Z^1; and

wherein said C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, aryl, heteroaryl, monocyclic 4-20 membered heterocyclyl, bicyclic 4-10 membered heterocyclyl, -O(C_{3-9} alkyl), -O(C_{3-10} cycloalkyl), -O(4-20 membered heterocyclyl), -O(aryl), -O(heteroaryl), -N(R^{12})C(O)(C_{4-9} alkyl), -N(R^{12})C(O)(C_{3-10} cycloalkyl), -N(R^{12})C(O)(4-20 membered heterocyclyl), -N(R^{12})C(O)(aryl), -N(R^{12})C(O)(heteroaryl), -S(O)$_2$(C_{4-9} alkyl), -S(O)$_2$(aryl), -S(O)$_2$(C_{3-10} cycloalkyl), -S(O)$_2$(4-20 membered heterocyclyl), -S(O)$_2$(heteroaryl), -NHC(O)(C_{1-3} alkyl), or -S(O)$_2$(C_{1-3} alkyl) is optionally substituted with Z^{1a}.

39. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is C_{4-6} alkyl substituted with one or more -O(CH_2)$_2$$R^{17}$ or -O(CH_2)R^{17};

R^{17} at each occurrence is independently C_{3-15} cycloalkyl, aryl, 4-20 membered heterocyclyl, heteroaryl, -O-R^{12}, -C(O)-R^{12}, -C(O)O-R^{12}, -C(O)-N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})C(O)-R^{12}, -N(R^{12})C(O)O-R^{12}, -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -NR^{12}S(O)$_2$N(R^{12})(R^{12}), -NR^{12}S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$$R^{12}$ or -S(O)$_2$N(R^{12})(R^{12});

wherein said C_{3-15} cycloalkyl, aryl, heterocyclyl, and heteroaryl optionally is substituted with Z^{1b}; and

wherein said C_{4-6} alkyl is also optionally substituted with Z^1.

40. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is C_{4-6} alkyl substituted with five or more substituents selected from F, hydroxyl, -CN, -OCH_3, -OCD_3, -NHC(O)(C_{1-3} alkyl), -S(O)$_2$(C_{1-3} alkyl), or C_{1-2} fluoroalkoxy; and

wherein said C_{4-6} alkyl is optionally substituted with Z^1.

41. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is C_{1-3} alkyl substituted with one or more substituents selected from -Cl, C_{2-6} alkenyl, C_{2-6} alkynyl, cyclopropyl, napthyl, bicyclic 4-10 membered heterocyclyl, C_{7-15} cycloalkyl, $-O(CH_2)_2R^{17}$, $-O(CH_2)R^{17}$, -O(C_{3-9} alkyl), -O(C_{3-10} cycloalkyl), -O(4-20 membered heterocyclyl), -O(aryl), -O(heteroaryl), -C(O)(C_{1-9} alkyl), -C(O)(cyclopropyl), $-C(O)O-R^{12}$, $-C(O)-N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})C(O)$(C_{4-9} alkyl), $-N(R^{12})C(O)$(C_{3-10} cycloalkyl), $-N(R^{12})C(O)$(4-20 membered heterocyclyl), $-N(R^{12})C(O)$(aryl), $-N(R^{12})C(O)$(heteroaryl), $-N(R^{12})C(O)O-R^{12}$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-NR^{12}S(O)_2N(R^{12})(R^{12})$, $-NR^{12}S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, -$S(O)_2$(C_{4-9} alkyl), -$S(O)_2$(aryl), -$S(O)_2$(C_{3-10} cycloalkyl), -$S(O)_2$(4-20 membered heterocyclyl), - $S(O)_2$(heteroaryl), or $-S(O)_2N(R^9)(R^{12})$;

wherein said C_{1-3} alkyl is also optionally substituted with Z^1; and

wherein said C_{2-6} alkenyl, C_{2-6} alkynyl, cyclopropyl, napthyl, bicyclic heterocyclyl,C_{7-15} cycloalkyl , -O(C_{3-9} alkyl), -O(C_{3-10} cycloalkyl), -O(heterocyclyl), -O(aryl), -O(heteroaryl), $-N(R^{12})C(O)$(C_{4-9} alkyl), $-N(R^{12})C(O)$(C_{3-10} cycloalkyl), $-N(R^{12})C(O)$(heterocyclyl), $-N(R^{12})C(O)$(aryl), $-N(R^{12})C(O)$(heteroaryl), -$S(O)_2$(C_{4-9} alkyl), -$S(O)_2$(aryl), -$S(O)_2$(C_{3-10} cycloalkyl), -$S(O)_2$(heterocyclyl), or - $S(O)_2$(heteroaryl) is optionally substituted with Z^{1a}.

42. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is C_{1-3} alkyl substituted with one or more substituents selected from azetidinyl, tetrahydrofuranyl, triazolyl, oxazolyl, isoxazolyl, thiadiazole, oxadiazole, pyrimidinyl, pyridizinyl, pyrazinyl, isothiazolyl, tetrazolyl, furanyl, thiomorpholinyl, 4-7 membered sultam, 4-7 membered cyclic carbamate, 4-7 membered cyclic carbonate, 4-7 membered cyclic sulfide, or 8-10 membered heteroaryl; any of which is optionally substituted with Z^{1a}; and

wherein said C_{1-3} alkyl is also optionally substituted with Z^1.

43. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is C_{1-3} alkyl substituted with one substituent selected from phenyl, oxetanyl, tetrahydropyranyl, morpholinyl, piperidinyl, imidazolyl, pyridinyl, thiophenyl, or C_{4-6} cycloalkyl;

wherein said phenyl, oxetanyl, tetrahydropyranyl, morpholinyl, piperidinyl, imidazolyl, pyridinyl, thiophenyl, or C_{4-6} cycloalkyl is substituted with one or more oxo, $-NO_2$, $-N_3$, -CN, C_{4-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O(C_{3-6}$ alkyl), $-O(C_{3-6}$ cycloalkyl), -O(4-20 membered heterocyclyl), $-C(O)-R^{12}$, $-C(O)O-R^{12}$, $-C(O)-N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})C(O)-R^{12}$, $-N(R^{12})C(O)O-R^{12}$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-NR^{12}S(O)_2N(R^{12})(R^{12})$, $-NR^{12}S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^9)(R^{12})$; and

wherein any alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, aryl, heteroaryl or heterocyclyl is optionally substituted with Z^{1a}.

44. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is C_{1-3} alkyl optionally substituted with Z^1 and is substituted with one substituent selected from phenyl, oxetanyl, tetrahydropyranyl, morpholinyl, piperidinyl, imidazolyl, pyridinyl, thiophenyl, or C_{4-6} cycloalkyl;

wherein said phenyl, oxetanyl, tetrahydropyranyl, morpholinyl, piperidinyl, imidazolyl, pyridinyl, thiophenyl, or C_{4-6} cycloalkyl is substituted with four or more substituents selected from -F, -Cl, -OH, C_{1-3} alkyl, $-O(C_{1-2}$ alkyl) or $-S(O)_2NH_2$.

45. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is C_{1-3} alkyl substituted with oxo and optionally substituted with one or more substituents selected from halo, azetidinyl, pyrrolidinyl, piperazinyl, tetrahydrofuranyl, thiomorpholinyl, -CN, C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, cyclopropyl, C_{7-15} cycloalkyl, C_{1-8} haloalkyl, $-O-R^{12}$, $-C(O)-R^{12}$, $-C(O)O-R^{12}$, $-C(O)-N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})C(O)-R^{12}$, $-N(R^{12})C(O)O-R^{12}$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-NR^{12}S(O)_2N(R^{12})(R^{12})$, -

$NR^{12}S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^9)(R^{12})$; and

wherein said C_{1-3} alkyl is optionally substituted with Z^1;

wherein said, C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, cyclopropyl, C_{7-15} cycloalkyl, C_{1-8} haloalkyl, azetidinyl, pyrrolidinyl, piperazinyl, tetrahydrofuranyl, or thiomorpholinyl is optionally substituted with Z^{1a} .

46. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^2 is C_3 alkyl substituted with five or more substituents selected from -F, -OH, $-OCH_3$, -CN, $-NHC(O)(C_{1-3}$ alkyl), C_{1-2} fluoroalkoxy, or $-S(O)_2(C_{1-3}$ alkyl).

47. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^2 is C_{3-10} cycloalkyl optionally substituted with Z^1.

48. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^2 is cyclopropyl optionally substituted with Z^1.

49. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^2 is C_{7-10} cycloalkyl optionally substituted with Z^1.

50. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is C_{4-6} cycloalkyl substituted with one or more substituents selected from -halo, oxo, -CN, C_{1-4} alkyl, C_{5-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O(C_{4-9}$ alkyl), $-O(C_{3-10}$ cycloalkyl), -O(4-20 membered heterocyclyl), -O(aryl), -O(heteroaryl), $-N(R^{12})C(O)(C_{5-9}$ alkyl), $-N(R^{12})C(O)(C_{3-10}$ cycloalkyl), $-N(R^{12})C(O)($ 4-20 membered heterocyclyl), -

$N(R^{12})C(O)$(aryl), -$N(R^{12})C(O)$(4-20 membered heteroaryl), -$NH(R^{12})$, -$N(R^{12})$(C_{4-9} alkyl), -$N(R^{12})$(C_{3-10} cycloalkyl), -$N(R^{12})$(4-20 membered heterocyclyl), -$N(R^{12})$(aryl), -$N(R^{12})$(heteroaryl), -$N(R^{12})C(O)O$(C_{4-9} alkyl), -$N(R^{12})C(O)O$(C_{3-10} cycloalkyl), -$N(R^{12})C(O)O$(4-20 membered heterocyclyl), -$N(R^{12})C(O)O$(aryl), -$N(R^{12})C(O)O$(heteroaryl), -$C(O)N(R^{12})$(C_{5-9} alkyl), -$C(O)N(R^{12})$(C_{7-10} cycloalkyl), -$C(O)N(R^{12})$(4-20 membered heterocyclyl), -$C(O)N(R^{12})$(aryl), -$C(O)N(R^{12})$(heteroaryl), -$C(O)N(R^{9})(R^{9})$, -C(O)O-R^{12}, -$N(R^{12})_2(R^{12})^+$, -$N(R^{12})C(O)N(R^{12})$(R^{12}), -$N(R^{12})S(O)_2(R^{12})$, -$NR^{12}S(O)_2N(R^{12})$(R^{12}), -$N(R^{12})S(O)_2O(R^{12})$, -$OC(O)R^{12}$, -OC(O)-$N(R^{12})$(R^{12}), -$Si(R^{12})_3$, -S-R^{12}, -$S(O)R^{12}$, -$S(O)_2R^{12}$, -S(O)(NH)R^{12}, or -$S(O)_2N(R^{12})$(R^{12});

wherein said C_{4-6} cycloalkyl is also optionally substituted with Z^1;

wherein said C_{1-4} alkyl is optionally substituted with oxo, halo, -NO_2, -CN, -N_3, C_{4-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^{16}, -O(C_{4-9} alkyl), -$C(O)R^{12}$, -C(O)O-R^{12}, -$C(O)N(R^{12})$(R^{12}), -$N(R^{12})$(R^{12}), -$N(R^{12})_2(R^{12})^+$, -$N(R^{12})$-$C(O)R^{12}$, -$N(R^{12})C(O)O(R^{12})$, -$N(R^{12})C(O)N(R^{12})$(R^{12}), -$N(R^{12})S(O)_2(R^{12})$, -$N(R^{12})S(O)_2$-$N(R^{12})$(R^{12}), -$N(R^{12})S(O)_2O(R^{12})$, -$OC(O)R^{12}$, -$OC(O)OR^{12}$, -OC(O)-$N(R^{12})$(R^{12} R^{12}), -$Si(R^{12})_3$, -S-R^{12}, -$S(O)R^{12}$, -S(O)(NH)R^{12}, -$S(O)_2R^{12}$ or -$S(O)_2N(R^{12})$(R^{12}); and

wherein each said C_{5-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, -O(C_{4-9} alkyl), -O(C_{3-10} cycloalkyl), -O(heterocyclyl), -O(aryl), -O(heteroaryl), -$N(R^{12})C(O)$(C_{5-9} alkyl), -$N(R^{12})C(O)$(C_{3-10} cycloalkyl), -$N(R^{12})C(O)$(heterocyclyl), -$N(R^{12})C(O)$(aryl), -$N(R^{12})C(O)$(heteroaryl), -$N(R^{12})$(C_{4-9} alkyl), -$N(R^{12})$(C_{3-10} cycloalkyl), -$N(R^{12})$(heterocyclyl), -$N(R^{12})$(aryl), -$N(R^{12})$(heteroaryl), -$N(R^{12})C(O)O$(C_{4-9} alkyl), -$N(R^{12})C(O)O$(C_{3-10} cycloalkyl), -$N(R^{12})C(O)O$(heterocyclyl), -$N(R^{12})C(O)O$(aryl), -$N(R^{12})C(O)O$(heteroaryl), -$C(O)N(R^{12})$(C_{5-9} alkyl), -$C(O)N(R^{12})$(C_{7-10} cycloalkyl), -$C(O)N(R^{12})$(heterocyclyl), -$C(O)N(R^{12})$(aryl), -$C(O)N(R^{12})$(heteroaryl), aryl, heteroaryl, or heterocyclyl is optionally substituted with Z^{1a}.

51. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is C_{4-6} cycloalkyl substituted with one or more substituents selected from C_{1-4} hydroxyalkyl, C_{1-3} alkoxy, -$(CH_2)_{1-3}O(C_{1-3}$ alkyl), -C(O)NH(C_{1-4} alkyl), -C(O)NH(C_{3-6} cycloalkyl), -N(C_{1-3} alkyl)$_2$, -NHC(O)O(C_{1-3} alkyl), -NHC(O)(C_{1-4} hydroxyalkyl);

wherein said C_{4-6} cycloalkyl is optionally substituted with Z^1;

wherein said -C(O)NH(C_{3-6} cycloalkyl) is substituted with Z^{1a};

wherein said C_{1-4} hydroxyalkyl or -NHC(O)(C_{1-4} hydroxyalkyl) is substituted with oxo, halo, -NO_2, -CN, -N_3, C_{4-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^9, -C(O)R^{12}, -C(O)O-R^{12}, -C(O)N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})-C(O)R^{12}, -N(R^{12})C(O)O(R^{12}), -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -N(R^{12})S(O)$_2$-N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2R^{12}$ or -S(O)$_2$N(R^{12})(R^{12});

wherein said C_{1-3} alkoxy, -$(CH_2)_{1-3}O(C_{1-3}$ alkyl), -N(C_{1-3} alkyl)$_2$, -NHC(O)O(C_{1-3} alkyl) is substituted with oxo, halo, -NO_2, -CN, -N_3, C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, heterocyclyl, -O-R^{12}, -C(O)R^{12}, -C(O)O-R^{12}, -C(O)N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})-C(O)R^{12}, -N(R^{12})C(O)O(R^{12}), -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -N(R^{12})S(O)$_2$-N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2R^{12}$ or -S(O)$_2$N(R^{12})(R^{12});

wherein said -C(O)NH(C_{1-4} alkyl) is substituted with oxo, halo, -NO_2, -CN, -N_3, C_{4-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^{12}, -C(O)R^{12}, -C(O)O-R^{12}, -C(O)N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})-C(O)R^{12}, -N(R^{12})C(O)O(R^{12}), -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -N(R^{12})S(O)$_2$-N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2R^{12}$ or -S(O)$_2$N(R^{12})(R^{12}); and

wherein each said C_{3-9} alkyl, C_{4-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with Z^{1b}.

52. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is C_{4-6} cycloalkyl substituted with one or more -NHC(O)(C_{1-3} alkyl);

wherein at least one -NHC(O)(C_{1-3} alkyl) is substituted with one or more oxo, halo, -NO_2, -CN, -N_3, C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^9, -C(O)R^{12}, -C(O)O-R^{12}, -C(O)N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})-C(O)R^{12}, -N(R^{12})C(O)O(R^{12}), -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -N(R^{12})S(O)$_2$-N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$$R^{12}$ or -S(O)$_2$N(R^{12})(R^{12});

wherein said C_{4-6} cycloalkyl is optionally substituted with Z^1; and

wherein said C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with Z^{1a}.

53. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is C_{4-6} cycloalkyl substituted with three or more substituents selected from -OH, C_{1-4} hydroxyalkyl, C_{1-3} alkoxy, -(CH_2)$_{1-3}$O(C_{1-3} alkyl), -C(O)NH(C_{1-4} alkyl), -C(O)NH(C_{3-6} cycloalkyl), -N(C_{1-3} alkyl)$_2$, -NHC(O)(C_{1-3} alkyl), -NHC(O)O(C_{1-3} alkyl), or -NHC(O)(C_{1-4} hydroxyalkyl);

wherein said C_{4-6} cycloalkyl is optionally substituted with Z^1.

54. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^2 is s 5-10 membered heteroaryl optionally substituted with Z^1.

55. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^2 is oxazolyl, isoxazolyl, thiadiazole, thiazole, oxadiazole, isothiazolyl, tetrazolyl, thiophenyl, furanyl, or a 6-10 membered heteroaryl; any of which is optionally substituted with Z^1;

56. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^2 is 4-7 membered monocyclic heterocyclyl optionally substituted with Z^1.

57. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^2 is azetidinyl, oxetanyl, pyrrolidinyl, morpholinyl, thiomorpholinyl, 4-7 membereded sultam, 4-7 membered cyclic carbamate, 4-7 membered cyclic carbonate, or 4-7 membered cyclic sulfide; any of which is optionally substituted with Z^1.

58. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, piperazinyl pyrrolyl, pyrazolyl, imidazolyl, or triazolyl;

wherein said tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, piperazinyl pyrrolyl, pyrazolyl, imidazolyl, or triazolyl is substituted with one or more substituents selected from oxo, halo, -CN, C_{2-4} alkyl, C_{5-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^{12}, -C(O)-R^{12}, -C(O)O-R^{12}, -C(O)-N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})C(O)-R^{12}, -N(R^{12})C(O)O-R^{12}, -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -NR^{12}S(O)$_2$N(R^{12})(R^{12}), -NR^{12}S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)$_2$(C_{4-9} alkyl), -S(O)$_2$(C_{3-10} cycloalkyl), -S(O)$_2$(4-20 membered heterocyclyl), -S(O)$_2$(aryl), -S(O)$_2$(heteroaryl), -S(O)(NH)R^{12},or -S(O)$_2$N(R^{12})(R^{12});

wherein said tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, piperazinyl, pyrrolyl, pyrazolyl, imidazolyl, or triazolyl is optionally substituted with Z^{1a};

wherein said C_{2-4} alkyl is optionally substituted with halo, -NO_2, -CN, -N_3, C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^9, -C(O)R^{12}, -C(O)O-R^{12}, -C(O)N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12}) $^+$, -N(R^{12})-C(O)R^{12}, -N(R^{12})C(O)O(R^{12}), -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -N(R^{12})S(O)$_2$-N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$$R^{12}$ or -S(O)$_2$N(R^{12})(R^{12}); and

wherein each said C_{3-9} alkyl, C_{5-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, heterocyclyl, $-S(O)_2(C_{4-9}$ alkyl), $-S(O)_2(C_{3-10}$ cycloalkyl), $-S(O)_2$(heterocyclyl), $-S(O)_2$(aryl), or $-S(O)_2$(heteroaryl) is optionally substituted with Z^{1a}.

59. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, piperazinyl pyrrolyl, pyrazolyl, imidazolyl, or triazolyl;

wherein said tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, piperazinyl pyrrolyl, pyrazolyl, imidazolyl, or triazolyl is substituted with one or more C_1 alkyl;

wherein said tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, piperazinyl, pyrrolyl, pyrazolyl, imidazolyl, or triazolyl is optionally substituted with Z^1;

wherein said C_1 alkyl is optionally substituted with oxo, halo, $-NO_2$, -CN, $-N_3$, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O-R^9$, $-C(O)R^{12}$, $-C(O)O-R^{12}$, $-C(O)N(R^9)(R^9)$, $-C(O)N(R^{12})(C_{4-9}$ alkyl), $-C(O)N(R^{12})(C_{3-10}$ cycloalkyl), $-C(O)N(R^{12})$(4-20 membered heterocyclyl), $-C(O)N(R^{12})$(aryl), $-C(O)N(R^{12})$(heteroaryl), $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})-C(O)R^{12}$, $-N(R^{12})C(O)O(R^{12})$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})S(O)_2-N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$; and

wherein said C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, heterocyclyl, $-C(O)N(R^{12})(C_{3-10}$ cycloalkyl), $-C(O)N(R^{12})$(heterocyclyl), $-C(O)N(R^{12})$(aryl), $-C(O)N(R^{12})$(heteroaryl) is optionally substituted with Z^{1a}.

60. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, piperazinyl pyrrolyl, pyrazolyl, imidazolyl, or triazolyl; any of which is optionally substituted with Z^1;

wherein said tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, piperazinyl pyrrolyl, pyrazolyl, imidazolyl, or triazolyl is substituted with one or more $S(O)_2(C_{1-3}$ alkyl);

wherein said $S(O)_2(C_{1-3}$ alkyl) is substituted with oxo, halo, $-NO_2$, -CN, $-N_3$, C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O-R^{12}$, $-C(O)R^{12}$, $-C(O)O-R^{12}$, $-C(O)N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})-C(O)R^{12}$, $-N(R^{12})C(O)O(R^{12})$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})S(O)_2-N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$; and

wherein said C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with Z^{1b}.

61. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, piperazinyl pyrrolyl, pyrazolyl, imidazolyl, or triazolyl; any of which is optionally substituted with Z^1;

wherein said tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, piperazinyl pyrrolyl, pyrazolyl, imidazolyl, or triazolyl is substituted with one or more C_{1-4} hydroxyalkyl;

wherein said C_{1-4} hydroxyalkyl is substituted with oxo, halo, $-NO_2$, -CN, $-N_3$, C_{4-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O-R^9$, $-C(O)R^{12}$, $-C(O)O-R^{12}$, $-C(O)N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})-C(O)R^{12}$, $-N(R^{12})C(O)O(R^{12})$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})S(O)_2-N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$; and

wherein said C_{4-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with Z^{1b}.

62. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, piperazinyl pyrrolyl, pyrazolyl, imidazolyl, or triazolyl; any of which is optionally substituted with Z^1;

wherein said tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, piperazinyl pyrrolyl, pyrazolyl, imidazolyl, or triazolyl is substituted with one or more -$CH_2C(O)NH(C_{1-6}$ alkyl);

wherein said -$CH_2C(O)NH(C_{1-6}$ alkyl) is substituted with oxo, -Cl, -NO_2, -CN, -N_3, C_{6-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^9, -C(O)R^{12}, -C(O)O-R^{12}, -C(O)N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})-C(O)R^{12}, -N(R^{12})C(O)O(R^{12}), -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -N(R^{12})S(O)$_2$-N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2R^{12}$ or -S(O)$_2$N(R^{12})(R^{12});

wherein said -$CH_2C(O)NH(C_{1-6}$ alkyl) is optionally substituted with Z^{1a}; and

wherein said C_{6-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with Z^{1b}.

63. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, piperazinyl, pyrrolyl, pyrazolyl, imidazolyl, or triazolyl;

wherein said tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, piperazinyl, pyrrolyl, pyrazolyl, imidazolyl, or triazolyl is substituted with one or more -$CH_2C(O)NH(C_{4-6}$ alkyl); and

wherein said tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, piperazinyl pyrrolyl, pyrazolyl, imidazolyl, or triazolyl is optionally substituted with Z^1.

64. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^2 is C_{6-10} aryl optionally substituted with Z^1.

65. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^2 is 6-12 membered bicyclic heterocyclyl optionally substituted with Z^1;

wherein when said 6-12 membered bicyclic heterocyclyl is 1-oxa-7-azaspiro[3.5]nonanyl, then said 1-oxa-7-azaspiro[3.5]nonanyl is substituted with one or more Z^1.

66. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^2 is $-N(R^{12})(R^{12})$, $-S(O)_2R^{12}$, $-S(O)_2N(R^{12})(R^{12})$; or -H.

67. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^3 is selected from H, halo, $-NO_2$, -CN, $-O-R^{12}$, $-C(O)-R^{12}$, $-C(O)-N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})C(O)-R^{12}$, $-N(R^{12})C(O)O-R^{12}$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})C(O)-N(R^{12})(R^{12})$, $-S(O)_2R^{12}$, $-SR^{12}$ and $-S(O)_2N(R^{12})(R^{12})$.

68. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^3 is selected from $-O-R^{12}$, $-C(O)-R^{12}$, $-C(O)-N(R^{12})(R^{12})$, $-N(R^9)(R^9)$, $-NH(R^9)$, $-N(R^{12})C(O)-R^{12}$, $-N(R^{12})C(O)O-R^{12}$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})C(O)-N(R^{12})(R^{12})$, $-S(O)_2(R^{12})$, $-S-R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$;

wherein when said $-N(H)(R^9)$ is $NH(C_{1-3}$ alkyl), $-N(H)(R^9)$ is $NH(C_{1-4}$ hydroxyalkyl), or $-O-R^{12}$ is $-O(C_{1-3}$ alkyl), then said $NH(C_{1-3}$ alkyl), $NH(C_{1-4}$ hydroxyalkyl), or $-O(C_{1-3}$ alkyl) is further substituted with one or more oxo, halo, $-NO_2$, -CN, $-N_3$, C_{4-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O-R^9$, $-C(O)R^{12}$, $-C(O)O-R^{12}$, $-C(O)N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})-C(O)R^{12}$, $-N(R^{12})C(O)O(R^{12})$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})S(O)_2-N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$; and

wherein said C_{4-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with Z^{1a}.

69. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^3 is selected from -O(C_4 alkyl) or -N(H)(C_4 alkyl); wherein said -O(C_4 alkyl) is optionally substituted with Z^{1a}; wherein said -N(H)(C_4 alkyl) is optionally substituted with oxo, halo, -NO_2, -CN, -N_3, C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^9, -C(O)R^{12}, -C(O)O-R^{12}, -C(O)N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})-C(O)R^{12}, -N(R^{12})C(O)O(R^{12}), -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -N(R^{12})S(O)$_2$-N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$$R^{12}$ or -S(O)$_2$N(R^{12})(R^{12});

wherein said C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with Z^{1a}.

70. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^3 is C_{1-9} alkyl optionally substituted with Z^1.

71. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^3 is C_{1-2} alkyl optionally substituted with F and further substituted with one or more oxo, -Cl, -NO_2, -N_3, -CN, C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^{12}, -C(O)-R^{12}, -C(O)O-R^{12}, -C(O)-N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})C(O)-R^{12}, -N(R^{12})C(O)O-R^{12}, -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -NR^{12}S(O)$_2$N(R^{12})(R^{12}), -NR^{12}S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$$R^{12}$ or -S(O)$_2$N(R^{12})(R^{12}); and

wherein said C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with Z^{1a}.

72. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^3 is C_3 alkyl substituted with one or more Z^1.

73. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^3 is C_{4-9} alkyl optionally substituted with Z^1.

74. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^3 is C_{2-9} alkynyl optionally substituted with Z^1.

75. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^3 is C_{2-9} alkenyl optionally substituted with Z^1.

76. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^3 is a 5-10 membered heteroaryl optionally substituted with Z^1.

77. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^3 is a 5-10 membered heteroaryl optionally substituted with Z^1;

wherein if said 5-10 membered heteroaryl is pyridinyl, then said pyridinyl is further substituted with one or more Z^1.

78. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^3 is C_{6-10} aryl optionally substituted with Z^1.

79. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^3 is C_{6-10} aryl optionally substituted with Z^1;

wherein when said C_{6-10} aryl is cyanophenyl then said cyanophenyl is further substituted with one or more oxo, halo, $-NO_2$, $-N_3$, C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O-R^{12}$, $-C(O)R^{12}$, $-C(O)O-R^{12}$, $-C(O)N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})-C(O)R^{12}$, $-N(R^{12})C(O)O(R^{12})$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})S(O)_2-N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$; and

wherein said C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, heterocyclyl is optionally substituted with Z^{1a}.

80. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^3 is a 4-12 membered heterocyclyl optionally substituted with Z^1.

81. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^3 is a 4-12 membered heterocyclyl optionally substituted with Z^1;

wherein when said 4-12 membered heterocyclyl is hydroxypyrrolidinyl then said hydroxypyrrolidinyl is further substituted with one or more oxo, halo, -CN, $-NO_2$, $-N_3$, C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O-R^9$, $-C(O)R^{12}$, $-C(O)O-R^{12}$, $-C(O)N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})-C(O)R^{12}$, $-N(R^{12})C(O)O(R^{12})$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})S(O)_2-N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$;

wherein said C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, or 4-20 membered heterocyclyl is optionally substituted with Z^{1a}.

82. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^3 is C_{3-10} cycloalkyl optionally substituted with Z^1.

83. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^3 is C_{3-6} cycloalkyl substituted with one or more Z^1.

84. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^3 is C_{7-10} cycloalkyl optionally substituted with Z^1.

85. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^4 is H, halo, $-NO_2$, -CN, $-O-R^{12}$, $-C(O)-R^{12}$, $-C(O)-N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})C(O)-R^{12}$, $-N(R^{12})C(O)O-R^{12}$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})C(O)-N(R^{12})(R^{12})$, $-S(O)_2R^{12}$, $-SR^{12}$ or $-S(O)_2N(R^{12})(R^{12})$.

86. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^4 is $-O-R^{12}$, $-C(O)-R^{12}$, $-C(O)-N(R^{12})(R^{12})$, $-N(R^9)(R^9)$, $-NH(R^9)$, $-N(R^{12})C(O)-R^{12}$, $-N(R^{12})C(O)O-R^{12}$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})C(O)-N(R^{12})(R^{12})$, $-S(O)_2(R^{12})$, $-SR^{12}$ or $-S(O)_2N(R^{12})(R^{12})$;

wherein when said $-N(H)(R^9)$ is $NH(C_{1-3}$ alkyl), $-N(H)(R^9)$ is $NH(C_{1-4}$ hydroxyalkyl), or $-O-R^{12}$ is $-O(C_{1-3}$ alkyl), then said $NH(C_{1-3}$ alkyl), $NH(C_{1-4}$ hydroxyalkyl), or $-O(C_{1-3}$ alkyl) is further substituted with one or more oxo, halo, $-NO_2$, -CN, $-N_3$, C_{4-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O-R^9$, $-C(O)R^{12}$, $-C(O)O-R^{12}$, $-C(O)N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})-C(O)R^{12}$, $-N(R^{12})C(O)O(R^{12})$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})S(O)_2-N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$;

wherein said C_{4-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with Z^{1a}.

87. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^4 is selected from -O(C_4 alkyl) or -N(H)(C_4 alkyl); wherein said -O(C_4 alkyl) is optionally substituted with Z^{1a};

wherein said -N(H)(C_4 alkyl) is optionally substituted with oxo, halo, -NO_2, -CN, -N_3, C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^9, -C(O)R^{12}, -C(O)O-R^{12}, -C(O)N(R^{12})(R^{12}), -N(R^{12})(V), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})-C(O)R^{12}, -N(R^{12})C(O)O(R^{12}), -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -N(R^{12})S(O)$_2$-N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$$R^{12}$ or -S(O)$_2$N(R^{12})(R^{12});

wherein said C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, heterocyclyl is optionally substituted with Z^{1a}.

88. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^4 is C_{1-9} alkyl optionally substituted with Z^1.

89. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^4 is C_{1-2} alkyl optionally substituted with F and further substituted with one or more oxo, -Cl, -NO_2, -N_3, -CN, C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^{12}, -C(O)-R^{12}, -C(O)O-R^{12}, -C(O)-N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})C(O)-R^{12}, -N(R^{12})C(O)O-R^{12}, -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -NR^{12}S(O)$_2$N(R^{12})(R^{12}), -NR^{12}S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$$R^{12}$ or -S(O)$_2$N(R^{12})(R^{12}); and

wherein said C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with Z^{1a}.

90. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^4 is C_3 alkyl substituted with one or more Z^1.

91. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^4 is C_{4-9} alkyl optionally substituted with Z^1.

92. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^4 is C_{2-9} alkynyl optionally substituted with Z^1.

93. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^4 is C_{2-9} alkenyl optionally substituted with Z^1.

94. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^4 is a 5-10 membered heteroaryl optionally substituted with Z^1.

95. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^4 is a 5-10 membered heteroaryl optionally substituted with Z^1;

wherein when said 5-10 membered heteroaryl is pyridinyl then said pyridinyl is further substituted with one or more Z^1.

96. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^4 is C_{6-10} aryl optionally substituted with Z^1.

97. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^4 is C_{6-10} aryl optionally substituted with Z^1;

wherein when said C_{6-10} aryl is cyanophenyl then said cyanophenyl is further substituted with one or more oxo, halo, $-NO_2$, $-N_3$, C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O-R^{12}$, $-C(O)R^{12}$, $-C(O)O-R^{12}$, $-C(O)N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})-C(O)R^{12}$, $-N(R^{12})C(O)O(R^{12})$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})S(O)_2-N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$; and

wherein said C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, heterocyclyl is optionally substituted with Z^{1a}.

98. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^4 is a 4-12 membered heterocyclyl optionally substituted with Z^1.

99. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

R^4 is a 4-12 membered heterocyclyl optionally substituted with Z^1; wherein when said 4-12 membered heterocyclyl is hydroxypyrrolidinyl then said hydroxypyrrolidinyl is further substituted with one or more oxo, halo, -CN, $-NO_2$, $-N_3$, C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O-R^9$, $-C(O)R^{12}$, $-C(O)O-R^{12}$, $-C(O)N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})-C(O)R^{12}$, $-N(R^{12})C(O)O(R^{12})$, $-N(R^{12})C(O)N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})S(O)_2-N(R^{12})(R^{12})$, $-N(R^{12})S(O)_2O(R^{12})$, $-OC(O)R^{12}$, $-OC(O)OR^{12}$, $-OC(O)-N(R^{12})(R^{12})$, $-Si(R^{12})_3$, $-S-R^{12}$, $-S(O)R^{12}$, $-S(O)(NH)R^{12}$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$;

wherein said C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, heterocyclyl is optionally substituted with Z^{1a}.

100. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^4 is C_{3-10} cycloalkyl optionally substituted with Z^1.

101. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^4 is C_{3-6} cycloalkyl substituted with one or more Z^1.

102. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^4 is C_{7-10} cycloalkyl optionally substituted with Z^1.

103. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein at least one of R^5, R^6 or R^7 is independently selected from H, halo, $-NO_2$, -CN, $-O-R^{12}$, $-C(O)-R^{12}$, $-C(O)-N(R^{12})(R^{12})$, $-N(R^9)(R^9)$, $NH(R^9)$, $-N(R^{12})C(O)-R^{12}$, $-N(R^{12})C(O)O-R^{12}$, or $-N(R^{12})S(O)_2(R^{12})$.

104. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein at least one of R^5, R^6 or R^7 is independently selected from $-NO_2$, $-O-R^{12}$, $-C(O)-R^{12}$, $-C(O)-N(R^{12})(R^{12})$, $-N(R^9)(R^9)$, $-N(R^{12})C(O)-R^{12}$, $-N(R^{12})C(O)O-R^{12}$, or $-N(R^{12})S(O)_2(R^{12})$.

105. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein at least one of R^5, R^6 or R^7 is independently C_{1-5} alkyl optionally substituted with Z^1.

106. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein at least one of R^5, R^6 or R^7 is independently C_{1-2} alkyl optionally substituted with F and substituted with one or more oxo, -Cl, $-NO_2$, $-N_3$, -CN, C_{3-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, $-O-R^{12}$, $-C(O)-R^{12}$, $-C(O)O-R^{12}$, $-C(O)-N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})_2(R^{12})^+$, $-N(R^{12})C(O)-R^{12}$, $-N(R^{12})C(O)O-$

R^{12}, -$N(R^{12})C(O)N(R^{12})(R^{12})$, -$N(R^{12})S(O)_2(R^{12})$, -$NR^{12}S(O)_2N(R^{12})(R^{12})$, -$NR^{12}S(O)_2O(R^{12})$, -$OC(O)R^{12}$, -$OC(O)$-$N(R^{12})(R^{12})$, -$Si(R^{12})_3$, -S-$R^{12}$, -$S(O)R^{12}$, -$S(O)(NH)R^{12}$, -$S(O)_2R^{12}$ or -$S(O)_2N(R^{12})(R^{12})$; wherein any alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, aryl, heteroaryl or heterocyclyl is optionally substituted with Z^{1a}.

107. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein at least one of R^5, R^6 or R^7 is independently C_3 alkyl substituted with one or more Z^1.

108. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein at least one of R^5, R^6 or R^7 is independently $C_{4\text{-}5}$ alkyl optionally substituted with Z^1.

109. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein at least one of R^5, R^6 or R^7 is independently cyclopropyl, oxetanyl, or azetidinyl optionally substituted with Z^1.

110. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein at least one of R^5, R^6 or R^7 is independently cyclopropyl, oxetanyl, or azetidinyl; wherein said cyclopropyl is substituted with one or more Z^1; wherein said oxetanyl or azetidinyl is optionally substituted with Z^1.

111. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein no more than two of R^3, R^4, R^5, R^6 or R^7 are H.

112. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^3 is H or F.

113. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^4 is H, F, -CN or Cl.

114. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^5 is H or F.

115. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^6 is H or F.

116. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^7 is H or F.

117. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein:

Z^1 is selected H, halo, -CN, C_{1-9} alkyl, C_{3-15} cycloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^{12}, -C(O)-R^{12}, -C(O)-N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})C(O)-R^{12}, -N(R^{12})C(O)O-R^{12}, -N(R^{12})S$(O)_2$(R^{12}), -OC(O)-N(R^{12})(R^{12}), -S$(O)_2R^{12}$ or -S$(O)_2$N(R^{12})(R^{12}); and

wherein any alkyl, cycloalkyl, aryl, heteroaryl or heterocyclyl is optionally substituted with Z^{1a}.

118. A pharmaceutical composition comprising an effective amount of a compound of claim 1, together with a pharmaceutically acceptable carrier, and optionally a diluent.

119. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^1 is 5-10 membered heteroaryl optionally substituted with Z^1, wherein when said 5-10 membered heteroaryl is furanyl, pyranyl, pyrraolyl, imidazolyl, pyrazolyl, triazoyl, pyridinyl, pyrimidinyl, pyridazinyl, pyrazinyl, thiaphenyl, oxazoyl, thiazoyl, said 5-10 membered heteroaryl is optionally substituted with a 5-12 membered bicyclic ring or a 5-12 membered hetero

bicyclic ring, wherein the bicyclic ring and the hetero bicyclic ring may be fused, spiro or bridged.

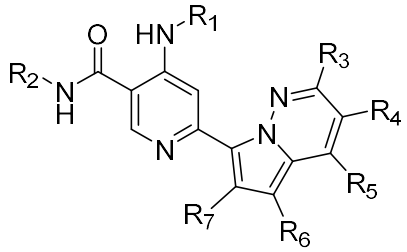
120. The compound of claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, wherein R^1 is 5-12 membered bicyclic ring optionally substituted with Z^1.

121. The compound of claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, R^1 is 5-12 membered bicyclic ring optionally substituted with C_{1-3} alkyl, C_{2-6} alkenyl, C_{2-6} alkynl, 3-6 membered cyclo alkyl, 3-6 membered heterocyclyl, 5-6 membered aryl, or 5-6 membered heteroaryl, where the C_{1-3} alkyl, C_{2-6} alkenyl, C_{2-6} alkynl, 3-6 membered cyclo alkyl, 3-6 membered heterocyclyl, 5-6 membered aryl, or 5-6 membered heteroaryl groups can further be substituted with one or more Z^{1a} groups.

122. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, R^1 is 5-12 membered bicyclic heterocyclyl optionally substituted with Z^1.

123. The compound of Claim 1, or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof, R^1 is 5-12 membered bicyclic heterocyclyl optionally substituted with C_{1-3} alkyl, C_{2-6} alkenyl, C_{2-6} alkynl, 3-6 membered cyclo alkyl, 3-6 membered heterocyclyl, 5-6 membered aryl, or 5-6 membered heteroaryl, where the C_{1-3} alkyl, C_{2-6} alkenyl, C_{2-6} alkynl, 3-6 membered cyclo alkyl, 3-6 membered heterocyclyl, 5-6 membered aryl, or 5-6 membered heteroaryl groups can further be substituted with one or more Z^{1a} groups.

124. A compound of Formula (I)



(I)

wherein:

R^1 and R^2 are each independently selected from:

h) $C_{1\text{-}10}$ alkyl optionally substituted with Z^1;

i) $C_{3\text{-}10}$ cycloalkyl optionally substituted with Z^1;

j) 5-10 membered heteroaryl optionally substituted with Z^1;

k) $C_{6\text{-}10}$ aryl optionally substituted with Z^1;

l) 4-7 membered monocyclic heterocyclyl optionally substituted with Z^1;

m) 6-12 membered bicyclic heterocyclyl optionally substituted with Z^1; or

n) $-N(R^{12})(R^{12})$, $-S(O)_2R^{12}$, $-S(O)_2N(R^{12})(R^{12})$, or -H;

wherein when R^1 or R^2 is $C_{1\text{-}10}$ alkyl, $C_{3\text{-}10}$ cycloalkyl, 5-10 membered heteroaryl, $C_{6\text{-}10}$ aryl, 4-7 membered monocyclic heterocyclyl, 6-12 membered bicyclic heterocyclyl, two Z^1 groups either attached to the same atom on R^1 or R^2, or two Z^1 groups attached to adjacent atoms on R^1 or R^2, append together to form a 3-6 membered cycloalkyl or 3-6 membered heterocyclyl;

R^3 and R^4 are each independently selected from:

i) H, halo, $-NO_2$, -CN, $-O-R^{12}$, $-C(O)-R^{12}$, $-C(O)-N(R^{12})(R^{12})$, $-N(R^{12})(R^{12})$, $-N(R^{12})C(O)-R^{12}$, $-N(R^{12})C(O)O-R^{12}$, $-N(R^{12})S(O)_2(R^{12})$, $-N(R^{12})C(O)-N(R^{12})(R^{12})$, $-S(O)_2R^{12}$ or $-S(O)_2N(R^{12})(R^{12})$;

j) $C_{1\text{-}9}$ alkyl optionally substituted with Z^1;

k) $C_{2\text{-}9}$ alkynyl optionally substituted with Z^1;

l) $C_{2\text{-}9}$ alkenyl optionally substituted with Z^1;

m) 5-10 membered heteroaryl optionally substituted with Z^1;

n) $C_{6\text{-}10}$ aryl optionally substituted with Z^1;

o) 4-12 membered heterocyclyl optionally substituted with Z^1; or

p) $C_{3\text{-}10}$ cycloalkyl optionally substituted with Z^1;

R^5, R^6 and R^7 are each independently selected from:

d) H, halo, -NO_2, -CN, -O-R^{12}, -C(O)-R^{12}, -C(O)-N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})C(O)-R^{12}, -N(R^{12})C(O)O-R^{12}, or -N(R^{12})$S(O)_2$(R^{12};

e) C_{1-5} alkyl optionally substituted with Z^1; or

f) Cyclopropyl, oxetanyl or azetidinyl optionally substituted with Z^1;

Z^1 is independently oxo, halo, -NO_2, -N_3, -CN, C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O-R^{12}, -C(O)-R^{12}, -C(O)O-R^{12}, -C(O)-N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})C(O)-R^{12}, -N(R^{12})C(O)O-R^{12}, -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})$S(O)_2$(R^{12}), -$NR^{12}S(O)_2N(R^{12})$(R^{12}), -$NR^{12}S(O)_2O(R^{12})$, -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -$S(O)_2R^{12}$ or -$S(O)_2N(R^{12})$(R^{12});

wherein any alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, aryl, heteroaryl or heterocyclyl is optionally substituted with Z^{1a};

each Z^{1a} is independently oxo, halo, -NO_2, -CN, -N_3, C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, heterocyclyl, -O-R^{12}, -C(O)R^{12}, -C(O)O-R^{12}, -C(O)N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})-C(O)R^{12}, -N(R^{12})C(O)O(R^{12}), -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})$S(O)_2$(R^{12}), -N(R^{12})$S(O)_2$-N(R^{12})(R^{12}), -N(R^{12})$S(O)_2O(R^{12})$, -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -$S(O)_2R^{12}$ or -$S(O)_2N(R^{12})$(R^{12});

wherein any alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, aryl, heteroaryl or heterocyclyl is optionally substituted with Z^{1b};

each R^{12} is independently H, C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, aryl, heteroaryl or 4-20 membered heterocyclyl, wherein the C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, aryl, heteroaryl or heterocyclyl can further optionally be substituted with one or more Z^{1a} group;

each Z^{1b} is independently oxo, hydroxy, halo, -NO_2, -N_3, -CN, C_{1-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, 4-20 membered heterocyclyl, -O(C_{1-9} alkyl), -O(C_{2-6} alkenyl), -O(C_{2-6} alkynyl), -O(C_{3-15} cycloalkyl), -O(C_{1-8} haloalkyl), -O(aryl), -O(heteroaryl), -O(4-20 membered heterocyclyl), -NH_2, -NH(C_{1-9} alkyl), -NH(C_{2-6} alkenyl), -NH(C_{2-6} alkynyl), -NH(C_{3-15} cycloalkyl), -NH(C_{1-8} haloalkyl), -NH(aryl), -NH(heteroaryl), -NH(4-20 membered heterocyclyl), -N(C_{1-9} alkyl)$_2$, -N(C_{3-15} cycloalkyl)$_2$, -N(C_{2-6} alkenyl)$_2$, -N(C_{2-6}

alkynyl)$_2$, -N(C_{3-15} cycloalkyl)$_2$, -N(C_{1-8} haloalkyl)$_2$, -N(aryl)$_2$, -N(heteroaryl)$_2$, -N(4-20 membered heterocyclyl)$_2$, -N(C_{1-9} alkyl)(C_{3-15} cycloalkyl), -N(C_{1-9} alkyl)(C_{2-6} alkenyl), -N(C_{1-9} alkyl)(C_{2-6} alkynyl), -N(C_{1-9} alkyl)(C_{3-15} cycloalkyl), -N(C_{1-9} alkyl)(C_{1-8} haloalkyl), -N(C_{1-9} alkyl)(aryl), -N(C_{1-9} alkyl)(heteroaryl), -N(C_{1-9} alkyl)(4-20 membered heterocyclyl), -C(O)(C_{1-9} alkyl), -C(O)(C_{2-6} alkenyl), -C(O)(C_{2-6} alkynyl), -C(O)(C_{3-15} cycloalkyl), -C(O)(C_{1-8} haloalkyl), -C(O)(aryl), -C(O)(heteroaryl), -C(O)(4-20 membered heterocyclyl), -C(O)O(C_{1-9} alkyl), -C(O)O(C_{2-6} alkenyl), -C(O)O(C_{2-6} alkynyl), -C(O)O(C_{3-15} cycloalkyl), -C(O)O(C_{1-8} haloalkyl), -C(O)O(aryl), -C(O)O(heteroaryl), -C(O)O(4-20 membered heterocyclyl), -C(O)NH_2, -C(O)NH(C_{1-9} alkyl), -C(O)NH(C_{2-6} alkenyl), -C(O)NH(C_{2-6} alkynyl), -C(O)NH(C_{3-15} cycloalkyl), -C(O)NH(C_{1-8} haloalkyl), -C(O)NH(aryl), -C(O)NH(heteroaryl), -C(O)NH(4-20 membered heterocyclyl), -C(O)N(C_{1-9} alkyl)$_2$, -C(O)N(C_{3-15} cycloalkyl)$_2$, -C(O)N(C_{2-6} alkenyl)$_2$, -C(O)N(C_{2-6} alkynyl)$_2$, -C(O)N(C_{3-15} cycloalkyl)$_2$, -C(O)N(C_{1-8} haloalkyl)$_2$, -C(O)N(aryl)$_2$, -C(O)N(heteroaryl)$_2$, -C(O)N(4-20 membered heterocyclyl)$_2$, -NHC(O)(C_{1-9} alkyl), -NHC(O)(C_{2-6} alkenyl), -NHC(O)(C_{2-6} alkynyl), -NHC(O)(C_{3-15} cycloalkyl), -NHC(O)(C_{1-8} haloalkyl), -NHC(O)(aryl), -NHC(O)(heteroaryl), -NHC(O)(4-20 membered heterocyclyl), -NHC(O)O(C_{1-9} alkyl), -NHC(O)O(C_{2-6} alkenyl), -NHC(O)O(C_{2-6} alkynyl), -NHC(O)O(C_{3-15} cycloalkyl), -NHC(O)O(C_{1-8} haloalkyl), -NHC(O)O(aryl), -NHC(O)O(heteroaryl), -NHC(O)O(4-20 membered heterocyclyl), -NHC(O)NH(C_{1-9} alkyl), -NHC(O)NH(C_{2-6} alkenyl), -NHC(O)NH(C_{2-6} alkynyl), -NHC(O)NH(C_{3-15} cycloalkyl), -NHC(O)NH(C_{1-8} haloalkyl), -NHC(O)NH(aryl), -NHC(O)NH(heteroaryl), -NHC(O)NH(4-20 membered heterocyclyl), -SH, -S(C_{1-9} alkyl), -S(C_{2-6} alkenyl), -S(C_{2-6} alkynyl), -S(C_{3-15} cycloalkyl), -S(C_{1-8} haloalkyl), -S(aryl), -S(heteroaryl), -S(4-20 membered heterocyclyl), -NHS(O)(C_{1-9} alkyl), -N(C_{1-9} alkyl)(S(O)(C_{1-9} alkyl), -S(O)N(C_{1-9} alkyl)$_2$, -S(O)(C_{1-9} alkyl), -S(O)(NH)(C_{1-9} alkyl), -S(O)(C_{2-6} alkenyl), -S(O)(C_{2-6} alkynyl), -S(O)(C_{3-15} cycloalkyl), -S(O)(C_{1-8} haloalkyl), -S(O)(aryl), -S(O)(heteroaryl), -S(O)(4-20 membered heterocyclyl), -S(O)$_2$(C_{1-9} alkyl), -S(O)$_2$(C_{2-6} alkenyl), -S(O)$_2$(C_{2-6} alkynyl), -S(O)$_2$(C_{3-15} cycloalkyl), -S(O)$_2$(C_{1-8} haloalkyl), -S(O)$_2$(aryl), -S(O)$_2$(heteroaryl), -S(O)$_2$(heterocyclyl), -S(O)$_2$NH(C_{1-9} alkyl), or -S(O)$_2$N(C_{1-9} alkyl)$_2$;

wherein any alkyl, cycloalkyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with one or more halo, C_{1-9} alkyl, C_{1-8} haloalkyl, -OH, -NH_2, -NH(C_{1-9} alkyl), -NH(C_{3-15} cycloalkyl), -NH(C_{1-8} haloalkyl), -NH(aryl), -NH(heteroaryl), -NH(heterocyclyl), -N(C_{1-9}

alkyl)$_2$, -N(C_{3-15} cycloalkyl)$_2$, -NHC(O)(C_{3-15} cycloalkyl), -NHC(O)(C_{1-8} haloalkyl), -NHC(O)(aryl), -NHC(O)(heteroaryl), -NHC(O)(heterocyclyl), -NHC(O)O(C_{1-9} alkyl), -NHC(O)O(C_{2-6} alkynyl), -NHC(O)O(C_{3-15} cycloalkyl), -NHC(O)O(C_{1-8} haloalkyl), -NHC(O)O(aryl), -NHC(O)O(heteroaryl), -NHC(O)O(heterocyclyl), -NHC(O)NH(C_{1-9} alkyl), -S(O)(NH)(C_{1-9} alkyl), S(O)$_2$(C_{1-9} alkyl), -S(O)$_2$(C_{3-15} cycloalkyl), -S(O)$_2$(C_{1-8} haloalkyl), -S(O)$_2$(aryl), -S(O)$_2$(heteroaryl), -S(O)$_2$(heterocyclyl), -S(O)$_2$NH(C_{1-9} alkyl), -S(O)$_2$N(C_{1-9} alkyl)$_2$, -O(C_{3-15} cycloalkyl), -O(C_{1-8} haloalkyl), -O(aryl), -O(heteroaryl), -O(heterocyclyl), or -O(C_{1-9} alkyl); and

with the proviso that when R^1 is C_3 alkyl, R^2 is C_5 alkyl substituted with F and hydroxyl, R^3, R^5, R^6, R^7 are H, and R^4 is CN, then R^1 is substituted with ~~Z^1~~ oxo, halo, -NO_2, -N_3, -CN, C_{2-9} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-15} cycloalkyl, C_{1-8} haloalkyl, aryl, heteroaryl, heterocyclyl, -O-R^{12}, -C(O)-R^{12}, -C(O)O-R^{12}, -C(O)-N(R^{12})(R^{12}), -N(R^{12})(R^{12}), -N(R^{12})$_2$(R^{12})$^+$, -N(R^{12})C(O)-R^{12}, -N(R^{12})C(O)O-R^{12}, -N(R^{12})C(O)N(R^{12})(R^{12}), -N(R^{12})S(O)$_2$(R^{12}), -NR^{12}S(O)$_2$N(R^{12})(R^{12}), -NR^{12}S(O)$_2$O(R^{12}), -OC(O)R^{12}, -OC(O)OR^{12}, -OC(O)-N(R^{12})(R^{12}), -Si(R^{12})$_3$, -S-R^{12}, -S(O)R^{12}, -S(O)(NH)R^{12}, -S(O)$_2$$R^{12}$ or -S(O)$_2$N(R^{12})(R^{12});

wherein any alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, aryl, heteroaryl or heterocyclyl is optionally substituted with Z^{1a};
or a pharmaceutically acceptable salt, stereoisomer, mixture of stereoisomers, or deuterated analog thereof.