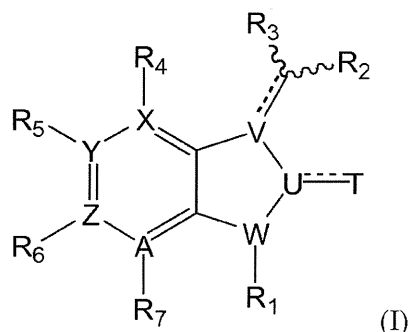


What is claimed is:

A compound of Formula I,



or an enantiomer, diastereomer, tautomer, or pharmaceutically acceptable salt or solvate thereof,

wherein

R_1 is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

R_2 is monocyclic or bicyclic heterocycle or substituted heterocycle, aryl or substituted aryl;

R_3 is hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, halogen, $-OR_a$, $-C(O)R_a$, $-C(O)OR_a$, $-NR_aR_b$, $S(O)_2NR_aR_b$;

R_4 , R_5 , R_6 , and R_7 are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)R_e$, $S(=O)_2R_e$, $P(=O)_2R_e$, $S(=O)_2OR_e$, $P(=O)_2OR_e$, NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$;

T is O, S or R_a ;

U, V, and W are each independently a carbon, N, O, or S;

X, Y, Z, and A are each independently a carbon or N, with the proviso that the ring in which X, Y, Z, and A exist is aromatic;

with the provision that

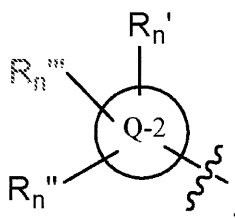
one of R₄, R₅, R₆, and R₇ is substituted heterocycle or substituted aryl,

and

R₄, R₅, R₆, or R₇ is absent if X, Y, Z, or A, respectively, is a heteroatom;

wherein

substituted heterocycle and substituted aryl in R₄, R₅, R₆, and R₇ is the following group:



wherein

Q-2 is heterocycle or aryl;

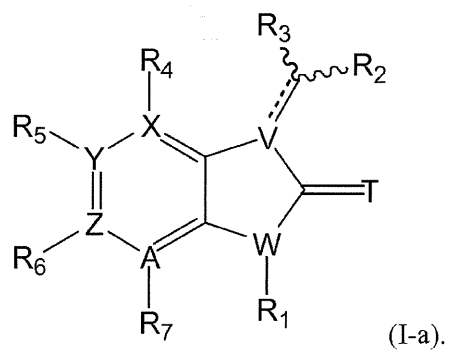
R_n', R_n'' and R_n''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF₃, alkyl or substituted alkyl, OR_a, SR_a, C(=O)R_a, C(=O)OR_a, NH₂, S(O)₂NH₂, heterocycle or substituted heterocycle, or aryl or substituted aryl;

R_a is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl;

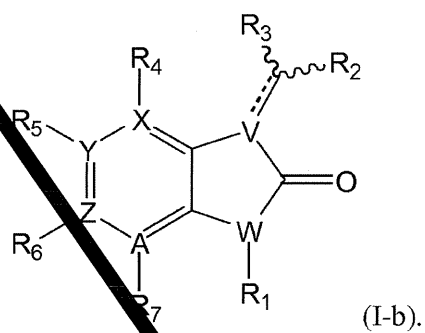
R_b, R_c and R_d are independently hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, or aryl or substituted aryl, or said R_b and R_c together with the N to which they are bonded optionally form a heterocycle or substituted heterocycle; and

R_e is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl.

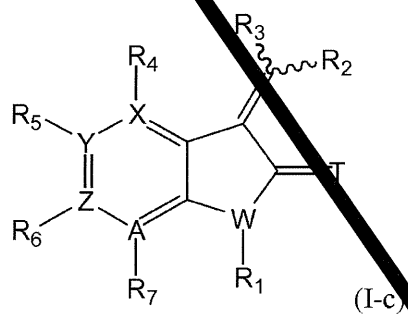
2. The compound of Claim 1, wherein T is O or S,



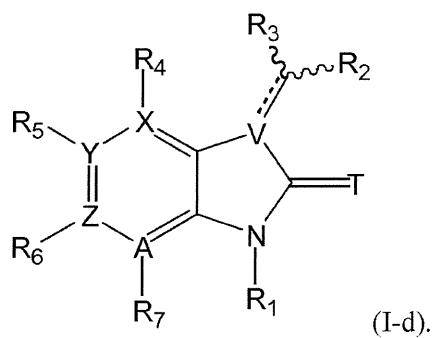
3. The compound of Claim 2, wherein T is O,



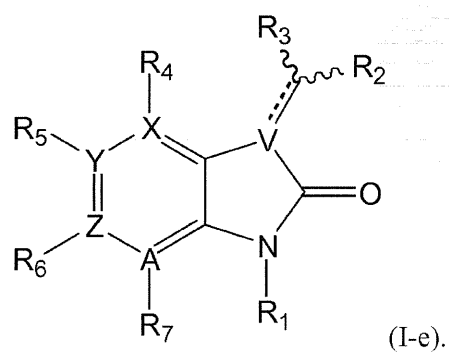
4. The compound of Claim 2, wherein V is carbon,



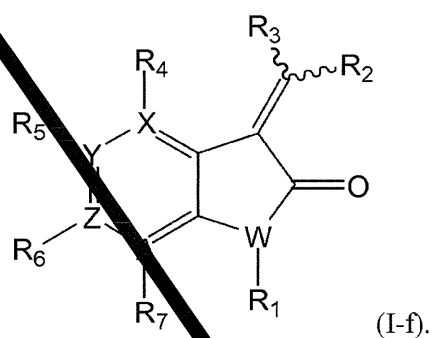
5. The compound of Claim 2, wherein W is N,



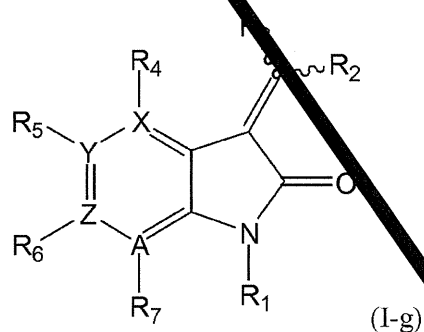
6. The compound of Claim 5, wherein T is O and W is N,



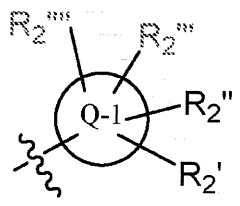
7. The compound of Claim 4, wherein T is O and V is carbon,



8. The compound of Claim 1, wherein U is carbon, V is carbon, W is N, and T is O,



9. The compound of any one of Claims 1 to 8, wherein each of X, Y, Z, and A is carbon.
10. The compound of any one of Claims 1 to 9, wherein R₁ is hydrogen.
11. The compound of any one of Claims 1 to 10, wherein R₂ is



wherein

Q-1 is heterocycle or aryl;

R_2 , R_2'' , R_2''' , and R_2'''' are each independently absent, hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $\text{NR}_b\text{S}(=\text{O})_2\text{R}_e$, $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{C}(=\text{O})\text{OR}_e$, $\text{C}(=\text{O})\text{R}_a$, $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{OC}(=\text{O})\text{R}_a$, $\text{OC}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{OR}_e$, $\text{NR}_d\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_d\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{R}_a$, or $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$.

12. The compound of Claim 10 or Claim 11, wherein one of X, Y, Z, and A is a heteroatom.
13. The compound of any one of Claims 10-12, wherein Q-1 is heteroaryl.
14. The compound of any one of Claims 10-12, wherein Q-1 is phenyl.
15. The compound of any one of Claims 12, wherein Q-1 is selected from the group consisting of pyrrole, furan, thiophene, pyridine, pyrimidine, pyrazine, pyridazine, imidazole, indole, pyrrolopyridinone, pyridone, pyrrolidine, piperidine, and pyrroloazepinone.
16. The compound of Claim 13, wherein Q-1 is selected from the group consisting of pyrrole, furan, thiophene, pyridine, pyrimidine, pyrazine, pyridazine, imidazole, indole, pyrrolopyridinone.
17. The compound of Claim 16, wherein Q-1 is pyrrole.
18. The compound of Claim 15, wherein Q-1 is pyridone, pyrrolidine, pyridinone, or piperidine.
19. The compound of Claim 18, wherein Q-1 is pyridone or pyridinone.

20. The compound of any one of Claims 11 to 19, wherein R_2 , R_2' , R_2'' , and R_2''' are independently absent, hydrogen, alkyl, substituted alkyl, substituted heterocycle, substituted aryl, $C(=O)OR_c$, or $C(=O)NR_bR_c$,

wherein

R_b and R_c are independently hydrogen, alkyl, substituted alkyl, substituted heterocycle, or said R_b and R_c together with the N to which they are bonded optionally form a heterocycle or substituted heterocycle, and

R_c is hydrogen.

21. The compound of Claim 20, wherein one of R_2 , R_2' , R_2'' , and R_2''' is $C(=O)NR_bR_c$,

wherein

R_b is hydrogen, and

R_c is alkyl substituted with $NR_{bn}R_{cn}$ (wherein R_{bn} and R_{cn} are alkyl, or said R_{bn} and R_{cn} together with the N to which they are bonded optionally form a substituted heterocycle (wherein said heterocycle is piperidine, or morpholine)), or R_b and R_c together with the N to which they are bonded optionally form a substituted heterocycle (wherein said heterocycle is piperidine, or morpholine), and
two of R_2 , R_2' , R_2'' , and R_2''' are independently alkyl, and
the other is hydrogen.

22. The compound of Claim 21, wherein one of R_2 , R_2' , R_2'' , and R_2''' is $C(=O)NR_bR_c$,

wherein

NR_bR_c is 2-(di-ethyl amino) ethyl, amino, 2-pyrrolidino ethyl, amino, 4-methyl piperazinyl, or morpholino.

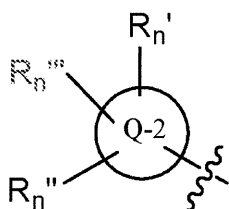
23. The compound of Claim 17, wherein Q-1 is pyrrole, one of R_2 , R_2' , R_2'' , and R_2''' is absent, two of R_2 , R_2' , R_2'' , and R_2''' are alkyl (e.g., methyl), and one of R_2 , R_2' , R_2'' , and R_2''' is $C(=O)NR_bR_c$.

24. The compound of Claim 23, wherein

R_b is hydrogen, and

R_c is alkyl substituted with $NR_{bn}R_{cn}$, wherein R_{bn} and R_{cn} are alkyl, or said R_{bn} and R_{cn} together with the N to which they are bonded optionally form a substituted heterocycle, and wherein said heterocycle is piperidine, or morpholine.

25. The compound of Claim 24, wherein NR_bR_c is 2-(di-ethyl amino) ethyl, amino, or 2-pyrrolidino ethyl amino.
26. The compound of Claim 23, wherein R_b and R_c together with the N to which they are bonded optionally form a heterocycle or substituted heterocycle.
27. The compound of Claim 26, wherein NR_bR_c is 4-methyl piperazinyl, or morpholino.
28. The compound of any one of Claims 1 to 22, wherein R_4 , R_5 , R_6 , and R_7 are each independently hydrogen, halogen, cyano, nitro, alkyl or substituted alkyl, OR_a , NR_bR_c , $\text{C}(=\text{O})\text{OR}_e$, $\text{C}(=\text{O})\text{R}_a$, $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, or

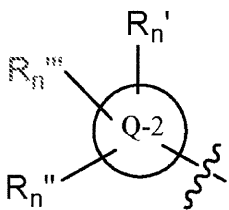


29. The compound of any one of Claims 1 to 22 and 28, wherein R_4 , R_5 , R_6 , and R_7 are each independently hydrogen, halogen, cyano, nitro, alkyl, OR_a , NR_bR_c , $\text{C}(=\text{O})\text{OR}_e$, $\text{C}(=\text{O})\text{R}_a$, $\text{C}(=\text{O})\text{NR}_b\text{R}_c$ (wherein

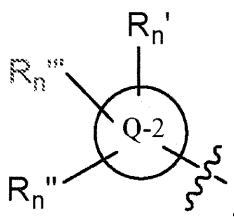
R_a is hydrogen, or alkyl or substituted alkyl,

R_b and R_c are independently hydrogen, or alkyl or substituted alkyl, and

R_e is alkyl or substituted alkyl (substituted alkyl is optionally substituted with one or more substituent(s) selected from the group consisting of hydroxy, amino, nitro, cyano, halogen, alkoxy, alkylcarbonyl, alkoxycarbonyl, aminocarbonyl, aryl, cycloalkyl, and heterocycle.)), and



30. The compound of Claim 29, wherein one of R_4 , R_5 , R_6 , and R_7 is



the others of R₄, R₅, R₆, and R₇ are each independently hydrogen.

31. The compound of Claim 30, wherein Q-2 is selected from the group consisting of pyrrole, furan, thiophene, imidazole, pyrazole, oxazole, isoxazole, thiazole, isothiazole, triazole, thiadiazole, oxadiazole, pyrrolidine, piperidine, azepane, tetrahydrofuran, oxane, oxepane, indole, indolinone, indazole, benzothiazole, quinoline, quinazoline, quinoxaline, imidazopyridine, imidazopyridazine, pyrazolopyridine, pyrazolopyrimidine, phthalazinone, and phenyl.
32. The compound of Claim 31, wherein Q-2 is selected from the group consisting of pyrrole, furan, thiophene, imidazole, pyrazole, oxazole, isoxazole, thiazole, isothiazole, triazole, thiadiazole, oxadiazole, pyrrolidine, piperidine, azepane, tetrahydrofuran, oxane, oxepane, indole, indolinone, indazole, benzothiazole, quinoline, quinazoline, quinoxaline, imidazopyridine, imidazopyridazine, pyrazolopyridine, pyrazolopyrimidine, and phthalazinone.
33. The compound of Claim 32, wherein Q-2 is selected from the group consisting of thiophene, imidazole, oxazole, thiazole, thiadiazole, piperidine, and pyrazole.
34. The compound of Claim 32, wherein Q-2 is selected from the group consisting of indole, indolinone, indazole, benzothiazole, quinoline, quinazoline, quinoxaline, imidazopyridine, imidazopyridazine, pyrazolopyridine, pyrazolopyrimidine, and phthalazinone.
35. The compound of Claim 34, wherein Q-2 is thiazole.
36. The compound of Claim 34, wherein Q-2 is imidazole.
37. The compound of Claim 34, wherein Q-2 is piperidine.
38. The compound of Claim 34, wherein Q-2 is pyrazole.
39. The compound of any one of Claims 28 to 31, wherein R_{n'} is pyrrolidinyl, piperidinyl, azepanyl, tetrahydrofuranyl, oxanyl, oxepanyl, pyranyl, phenyl,

thiophenyl, pyrazinyl, pyrimidinyl, pyridazinyl, or pyridyl (said piperidinyl, pyranyl, phenyl, thiophenyl, pyrazinyl, pyrimidinyl, pyridazinyl, and pyridyl are optionally substituted with halogen, cyano, nitro, alkyl or substituted alkyl, OR_a , NR_bR_c , $C(=O)OR_e$, $C(=O)R_a$, or $C(=O)NR_bR_c$ (wherein R_a is hydrogen, or alkyl or substituted alkyl, R_b and R_c are independently hydrogen, or alkyl or substituted alkyl, and R_e is alkyl or substituted alkyl (substituted alkyl is optionally substituted with one or more substituent(s) selected from the group consisting of hydroxy, amino, nitro, cyano, halogen, alkoxy, alkylcarbonyl, alkoxycarbonyl, aminocarbonyl, aryl, cycloalkyl, and heterocycle.)), and

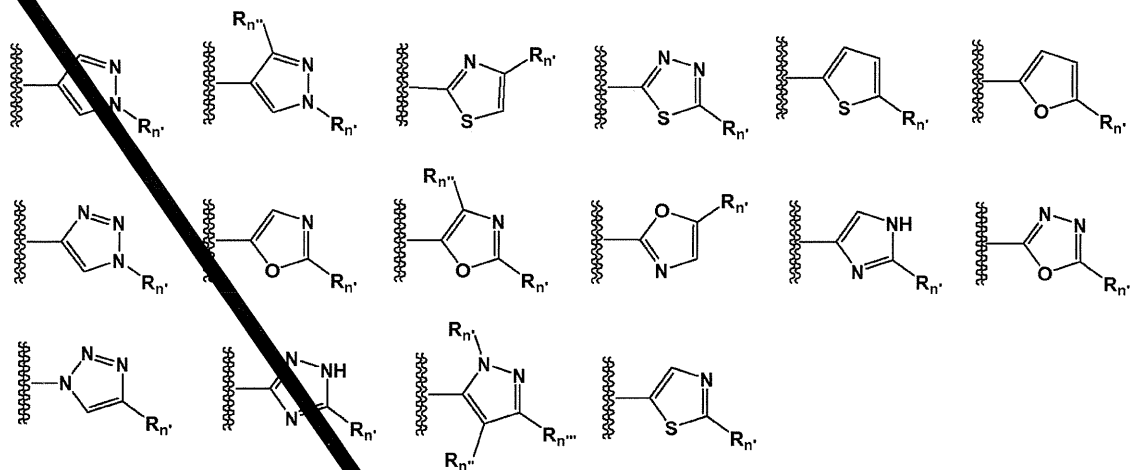
R_n and R_n are independently hydrogen, or alkyl or substituted alkyl (substituted alkyl is optionally substituted with one or more substituent(s) selected from the group consisting of hydroxy, amino, nitro, cyano, halogen, alkoxy, alkylcarbonyl, alkoxycarbonyl, aminocarbonyl, aryl, cycloalkyl, and heterocycle).

40. The compound of any one of Claims 28 to 31, wherein R_n , R_n and R_n are independently hydrogen, alkyl, or methoxy.
41. The compound of any one of Claims 28 to 31, wherein R_n , R_n and R_n are each hydrogen.
42. The compound of Claim 39, wherein R_n is pyrrolidinyl, piperidinyl, tetrahydrofuranyl, pyranyl, phenyl, pyrazinyl, pyrimidinyl, or pyridyl (said piperidinyl, pyranyl, phenyl, pyrazinyl, pyrimidinyl, and pyridyl are optionally substituted with halogen, cyano, alkyl or substituted alkyl, OR_a , or $C(=O)OR_e$ (wherein R_a is hydrogen, or alkyl or substituted alkyl, and R_e is alkyl or substituted alkyl (substituted alkyl is optionally substituted with one or more substituent(s) selected from the group consisting of hydroxy, amino, nitro, cyano, halogen, alkoxy, alkylcarbonyl, alkoxycarbonyl, aminocarbonyl, aryl, cycloalkyl, and heterocycle.)), and

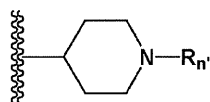
R_n and R_n are independently hydrogen, alkyl, or amino.

43. The compound of Claim 42, wherein R_n is phenyl or substituted phenyl, and R_n and R_n are independently hydrogen, or alkyl, or amino.
44. The compound of Claim 42, wherein R_n and R_n are independently hydrogen or alkyl.

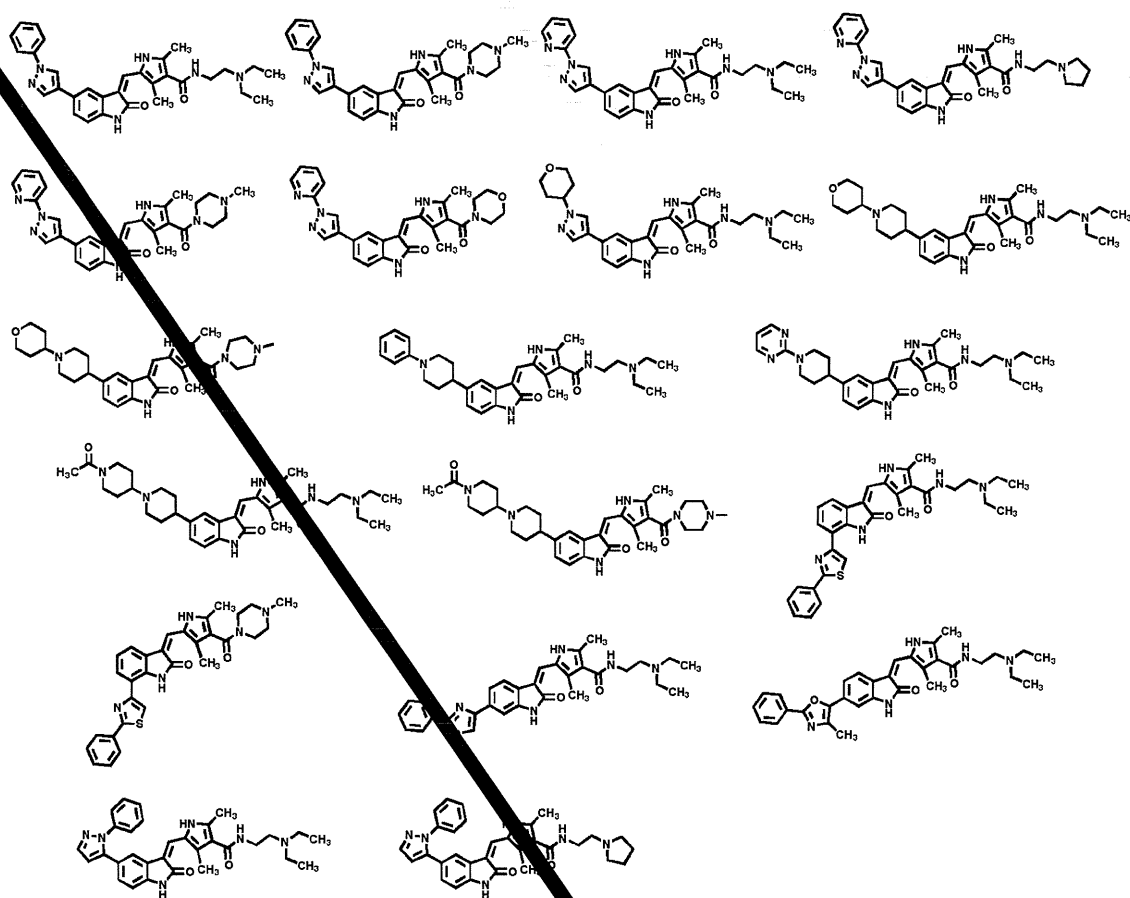
45. The compound of Claim 39 or Claim 42, wherein Q-2 is selected from the group consisting of the following group:



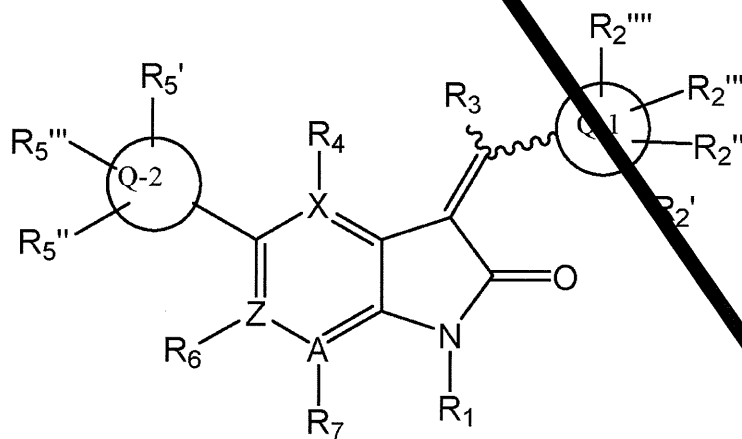
46. The compound of Claim 39 or 42, wherein Q-2 is selected from the group consisting of the following group:



47. The compound of Claim 1, wherein the compound is selected from the group consisting of:



48. A compound of Formula II:



(II)

or an enantiomer, diastereomer, tautomer, or pharmaceutically acceptable salt or solvate thereof,
wherein

R₁ is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a, SR_a, S(=O)₂R_e, S(=O)₂OR_e, C(=O)OR_d, C(=O)R_a, or C(=O)NR_bR_c;

R₃ is hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, halogen, -OR_a, -C(O)R_a, -C(O)OR_a, -NR_aR_b, S(O)₂NR_aR_b;

R₄, R₆, and R₇ are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF₃, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a, SR_a, S(=O)R_e, S(=O)₂R_e, P(=O)₂R_e, S(=O)₂OR_e, P(=O)₂OR_e, NR_bR_c, NR_bS(=O)₂R_e, NR_bP(=O)₂R_e, S(=O)₂NR_bR_c, P(=O)₂NR_bR_c, C(=O)OR_e, C(=O)R_a, C(=O)NR_bR_c, OC(=O)R_a, OC(=O)NR_bR_c, NR_bC(=O)OR_e, NR_dC(=O)NR_bR_c, NR_dS(=O)₂NR_bR_c, NR_dP(=O)₂NR_bR_c, NR_bC(=O)R_a, or NR_bP(=O)₂R_e;

X, Z, and A are each independently a carbon or N, with the proviso that the ring in which X, Z, and A exist is aromatic;

Q-1 and Q-2 is independently is heterocycle, or aryl;

R₂¹, R₂², R₂³, and R₂⁴ are each independently absent, hydrogen, halogen, cyano, nitro, trihalomethyl, OCF₃, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a, NR_bR_c, NR_bS(=O)₂R_e, NR_bP(=O)₂R_e, S(=O)₂NR_bR_c, P(=O)₂NR_bR_c, C(=O)OR_e, C(=O)R_a, C(=O)NR_bR_c, OC(=O)R_a, OC(=O)NR_bR_c, NR_bC(=O)OR_e, NR_dC(=O)NR_bR_c, NR_dS(=O)₂NR_bR_c, NR_dP(=O)₂NR_bR_c, NR_bC(=O)R_a, or NR_bP(=O)₂R_e;

R₅¹, R₅², and R₅³ are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF₃, alkyl or substituted alkyl, OR_a, SR_a, C(=O)R_a, C(=O)OR_e, NH₂, S(O)₂NH₂, heterocycle or substituted heterocycle, or aryl or substituted aryl;

wherein

R_a is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl;

R_b, R_c and R_d are independently hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, or aryl or substituted

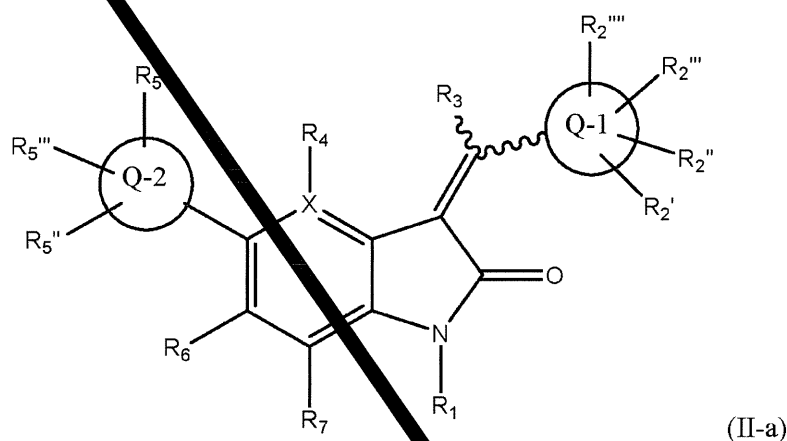
aryl, or said R_b and R_c together with the N to which they are bonded optionally form a heterocycle or substituted heterocycle; and

R_d is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl.

49. The compound of Claim 48, wherein each of X, Z, and A is carbon.

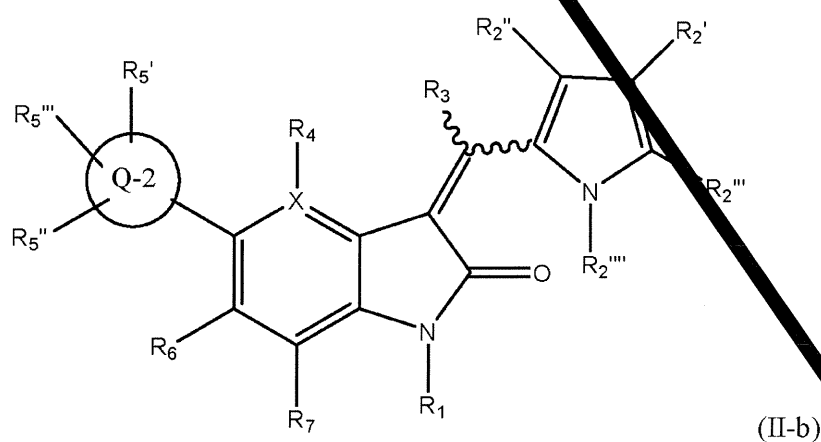
50. The compound of Claim 48, wherein one of X, Z, and A is a heteroatom.

51. The compound of Claim 48, wherein the compound has the formula



wherein R_1 , R_2' , R_2'' , R_2''' , R_3 , R_4 , R_5 , R_5' , R_5'' , R_6 , R_7 , X, Q-1, and Q-2 are the same as the above definitions.

52. The compound of Claim 48, wherein the compound has the formula,



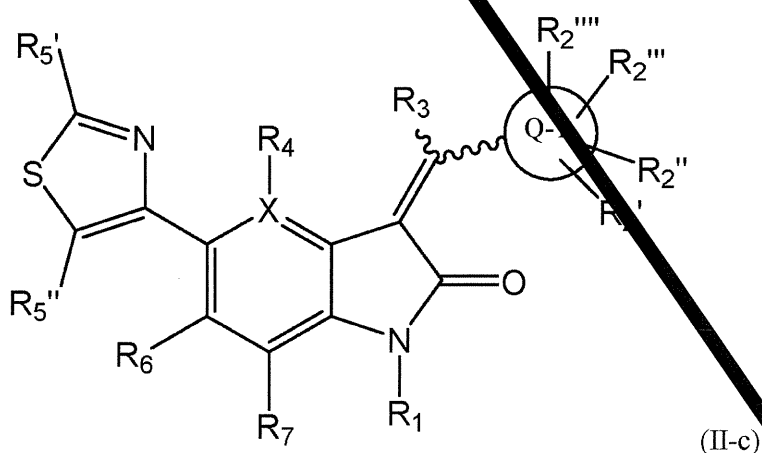
wherein

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bC(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$,

R_1 , R_3 , R_4 , R_5' , R_5'' , R_5''' , R_6 , R_7 , X , and $Q-2$ are the same as the above definitions.

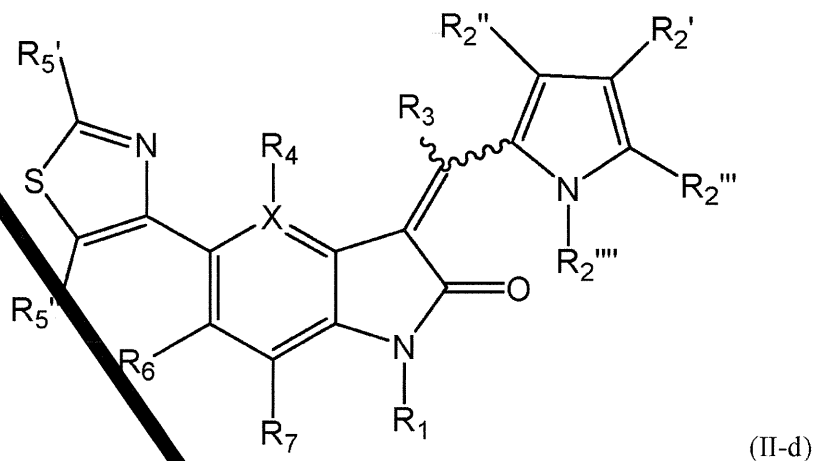
53. The compound of Claim 52, wherein X is C.
54. The compound of Claim 52, wherein X is N.
55. The compound of any one of Claims 52 to 54, wherein R_2''' is H.
56. The compound of any one of Claims 52 to 55, wherein each of R_2'' and R_2''' is H.
57. The compound of any one of Claims 52 to 55, wherein each of R_2'' and R_2''' is methyl.
58. The compound of the Claim 48, wherein the compound has the formula



wherein

R_1 , R_2' , R_2'' , R_2''' , R_3 , R_4 , R_5' , R_5'' , R_6 , R_7 , X , and $Q-1$ are the same as the above definitions.

59. The compound of Claim 48, wherein the compound has the formula of



wherein

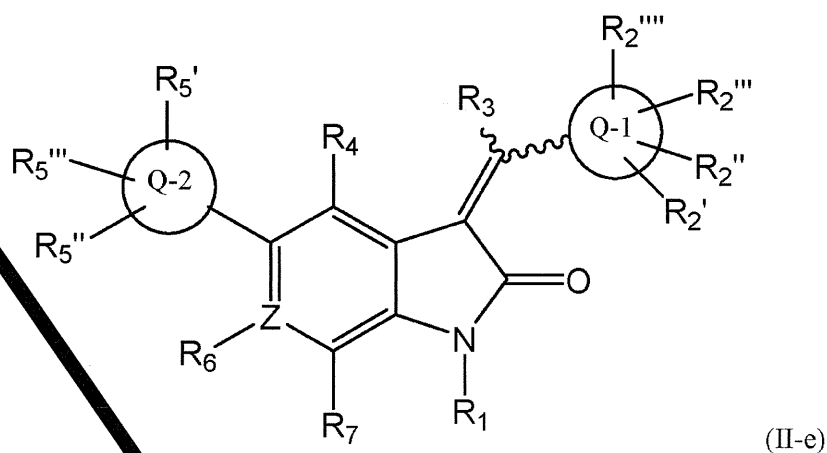
X is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $\text{NR}_b\text{S}(=\text{O})_2\text{R}_e$, $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{C}(=\text{O})\text{OR}_e$, $\text{C}(=\text{O})\text{R}_a$, $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{OC}(=\text{O})\text{R}_a$, $\text{OC}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{C}(=\text{O})\text{OR}_e$, $\text{NR}_d\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_d\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{R}_a$, or $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $\text{S}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{OR}_e$, $\text{C}(=\text{O})\text{OR}_d$, $\text{C}(=\text{O})\text{R}_a$, or $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, and

R_1 , R_3 , R_4 , R_5' , R_5'' , R_6 , and R_7 are the same as the above definitions.

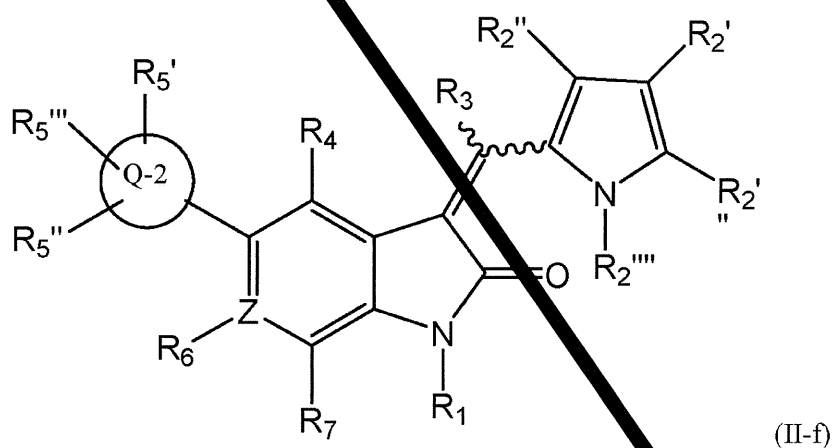
60. The compound of Claim 48, wherein the compound of formula (II-e),



wherein Z is C or N,

R_1 , R_2 , R_2' , R_2'' , R_2''' , R_3 , R_4 , R_5 , R_5' , R_5'' , R_5''' , R_6 , R_7 , Z, Q-1, and Q-2 are the same as the above definitions.

61. The compound of Claim 48, wherein the compound has of the formula of



wherein

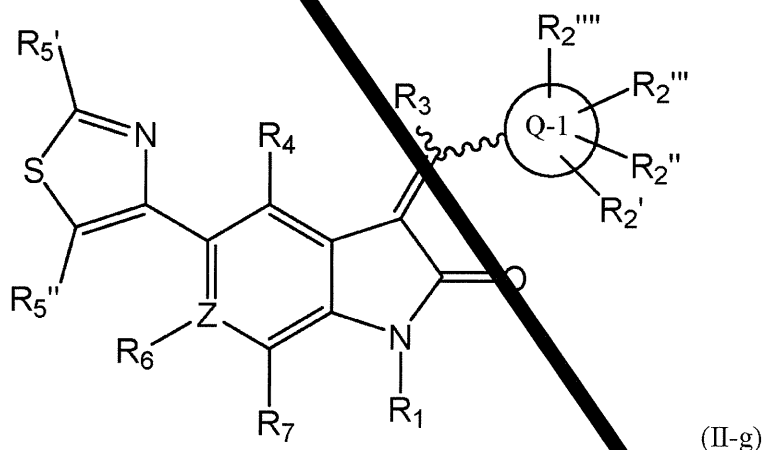
Z is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $\text{NR}_b\text{S}(=\text{O})_2\text{R}_e$, $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{C}(=\text{O})\text{OR}_e$, $\text{C}(=\text{O})\text{R}_a$, $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{OC}(=\text{O})\text{R}_a$, $\text{OC}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{OR}_e$, $\text{NR}_d\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_d\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{R}_a$, or $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, and

$R_{2''''}$ is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$, and

R_1 , R_2 , R_2' , R_2'' , R_2''' , R_2'''' , R_3 , R_4 , R_5 , R_5' , R_5'' , R_5''' , R_6 , R_7 , and Q-2 are the same as the above definitions.

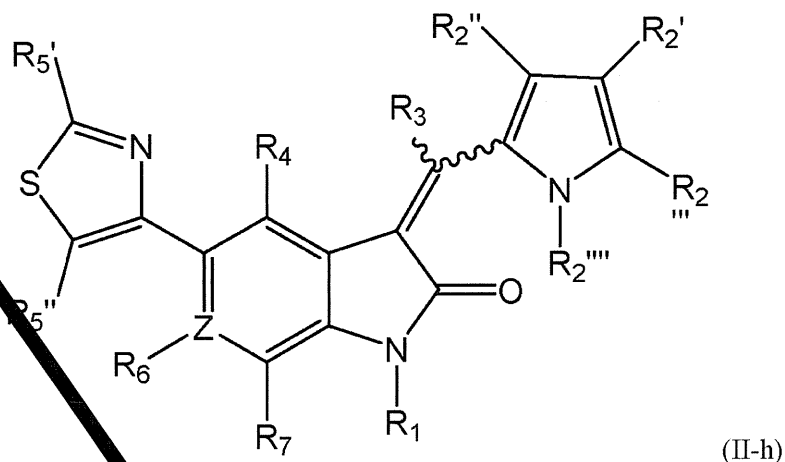
62. The compound of Claim 61, wherein Z is C.
63. The compound of Claim 62, wherein Z is N.
64. The compound of Claim 63, wherein $R_{2''''}$ is H.
65. The compound of any one of Claims 61 to 64, wherein each of R_2'' and R_2''' is H.
66. The compound of any one of Claims 61 to 64, wherein each of R_2'' and R_2''' is methyl.
67. The compound of Claim 48, wherein the compound formula



wherein Z is C or N,

R_1 , R_2 , R_2' , R_2'' , R_2''' , R_2'''' , R_3 , R_4 , R_5 , R_5' , R_5'' , R_6 , R_7 , and Q-1 are the same as the above definitions.

68. The compound of Claim 48, wherein the compound has the formula of



wherein

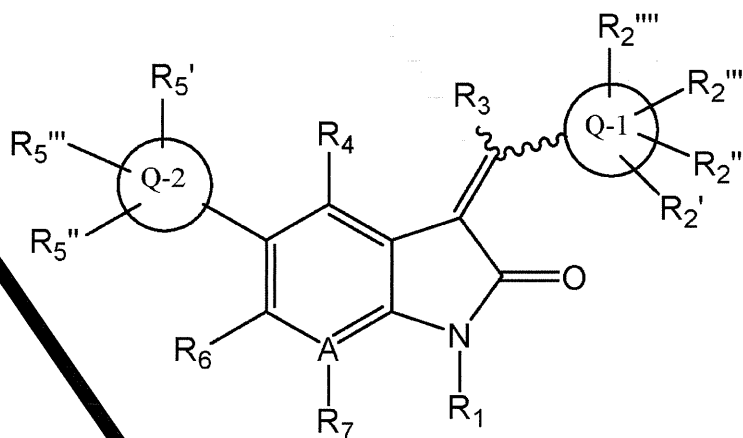
Z is C or N,

R_2 , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $\text{NR}_b\text{S}(=\text{O})_2\text{R}_e$, $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{C}(=\text{O})\text{OR}_e$, $\text{C}(=\text{O})\text{R}_a$, $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{OC}(=\text{O})\text{R}_a$, $\text{OC}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{OR}_e$, $\text{NR}_d\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_d\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{R}_a$, or $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $\text{S}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{OR}_e$, $\text{C}(=\text{O})\text{OR}_d$, $\text{C}(=\text{O})\text{R}_a$, or $\text{C}(=\text{O})\text{NR}_b\text{R}_c$,

R_1 , R_3 , R_4 , R_5 , R_5'' , R_6 , and R_7 are the same as the above definitions.

69. The compound of Claim 48, wherein the compound has the formula of

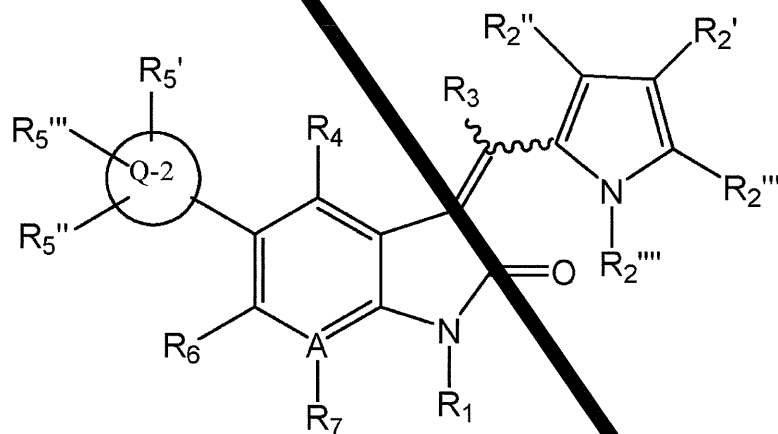


(II-i)

wherein A is C or N,

R_1 , R_2' , R_2'' , R_2''' , R_3 , R_4 , R_5' , R_5'' , R_5''' , R_6 , R_7 , Q-1 and Q-2 are the same as the above definitions.

70. The compound of Claim 48, wherein the compound has the formula of



(II-j)

wherein

A is C or N,

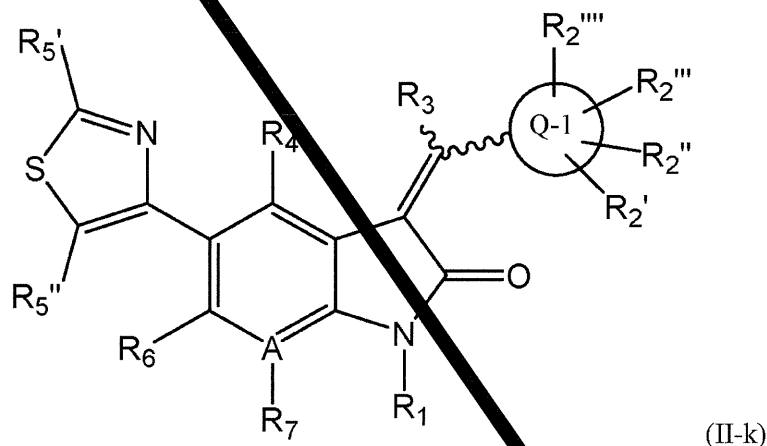
R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $\text{NR}_b\text{S}(=\text{O})_2\text{R}_e$, $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{C}(=\text{O})\text{OR}_e$, $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{OC}(=\text{O})\text{R}_a$, $\text{OC}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{OR}_e$, $\text{NR}_d\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_d\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{R}_a$, or $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted

cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$,

R_1 , R_3 , R_4 , R_5' , R_5'' , R_5''' , R_6 , R_7 , and Q-2 are the same as the above definitions.

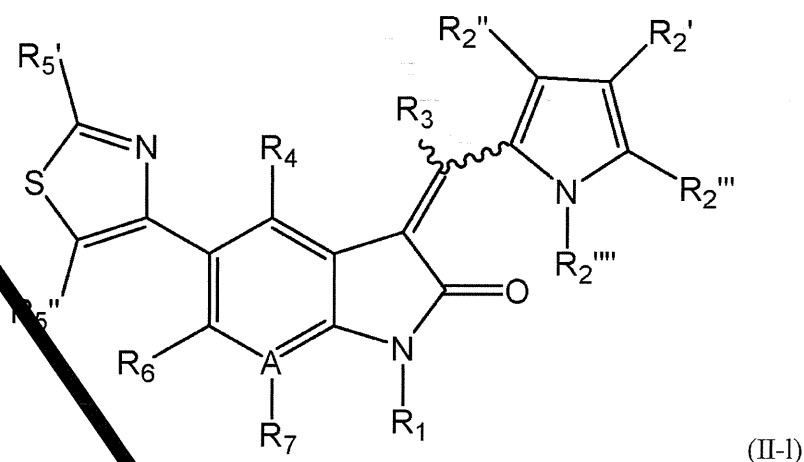
71. The compound of Claim 70, wherein A is C.
72. The compound of Claim 70, wherein, A is N.
73. The compound of any one of Claims 70 to 72, wherein, R_2''' is H.
74. The compound of any one of Claims 70 to 72, wherein each of R_2'' and R_2''' is H.
75. The compound of any one of Claims 70 to 72, wherein each of R_2'' and R_2''' is methyl.
76. The compound of Claim 48, wherein the compound has the formula of



wherein A is C or N,

R_1 , R_2' , R_2'' , R_2''' , R_3 , R_4 , R_5' , R_5'' , R_6 , R_7 , and Q-1 are the same as the above definitions.

77. The compound of Claim 48, wherein the compound has the formula of



wherein

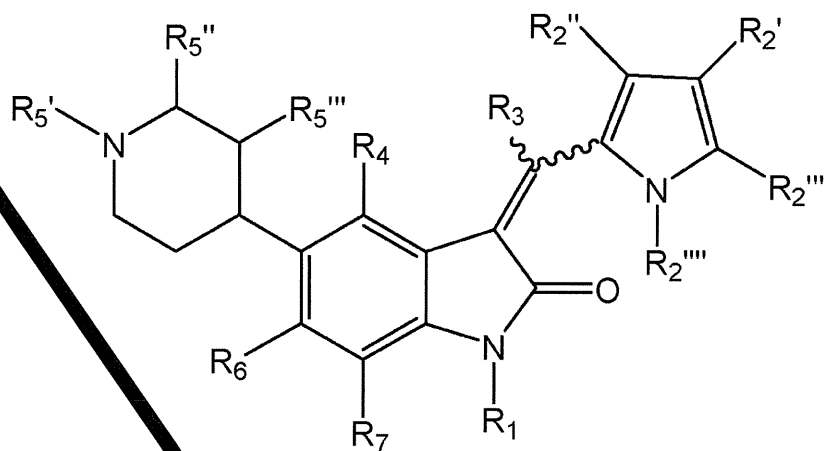
A is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$, and

R_1 , R_3 , R_4 , R_5' , R_5'' , R_6 , and R_7 are the same as the above definitions.

78. The compound of Claim 48, wherein the compound has the formula of

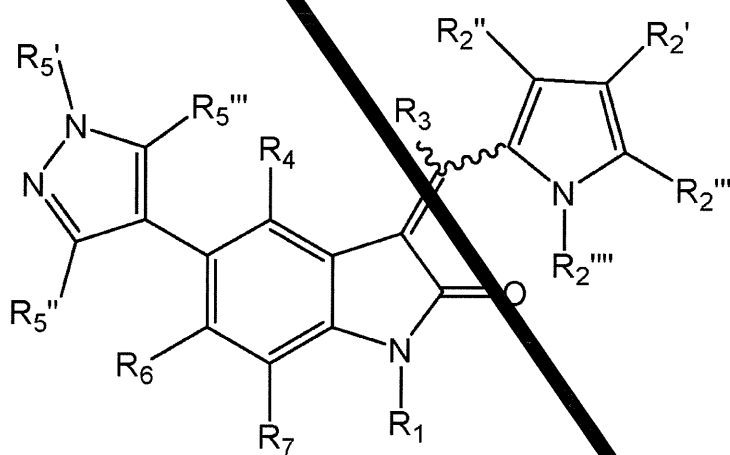


(II-m)

wherein

R_1 , R_2 , R_2' , R_2'' , R_2''' , R_2'''' , R_3 , R_4 , R_5 , R_5'' , R_5''' , R_6 , and R_7 are the same as the above definitions.

79. The compound of Claim 48, wherein the compound has the formula of

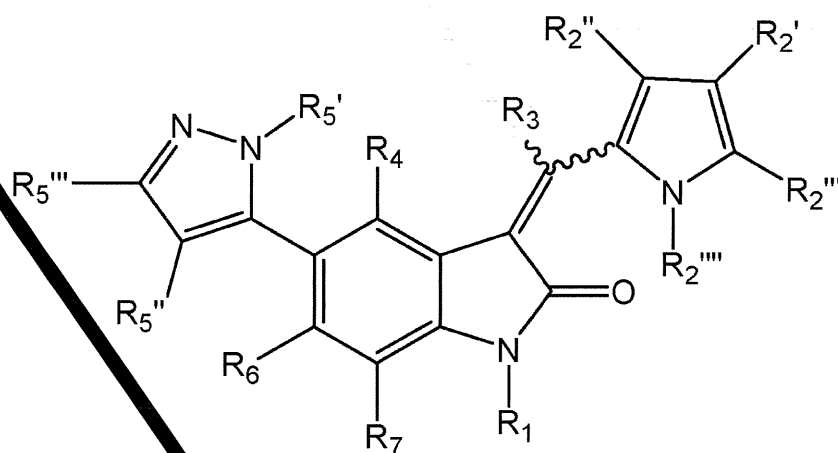


(II-n)

wherein

R_1 , R_2 , R_2' , R_2'' , R_2''' , R_2'''' , R_3 , R_4 , R_5 , R_5'' , R_5''' , R_6 , and R_7 are the same as the above definitions.

80. The compound of Claim 48, wherein the compound has the formula of

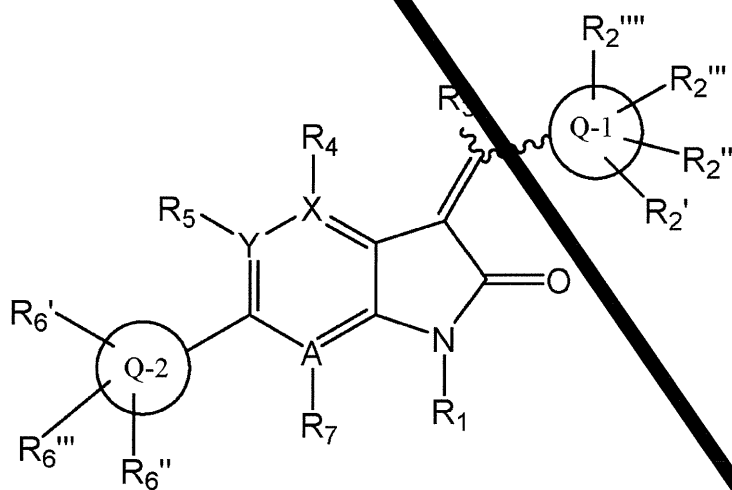


(II-o)

wherein

R_1 , R_2 , R_2' , R_2'' , R_2''' , R_2'''' , R_3 , R_4 , R_5 , R_5' , R_5'' , R_5''' , R_6 , and R_7 are the same as the above definitions.

81. The compound of Claim 80, wherein each of R_1 , R_2 , R_2' , R_2'' , R_2''' , R_2'''' , R_3 , R_4 , R_5 , R_5' , R_5'' , R_5''' , R_6 , R_7 , X, Z, A, Q-1, and Q-2 can be selected from any of the groups illustrated hereinabove.
82. A compound of Formula III,



(III)

or an enantiomer, diastereomer, tautomer, or pharmaceutically acceptable salt or solvate thereof,

wherein

- R_1 is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted

cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

R_1 is hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, halogen, $-OR_a$, $-S(=O)_2R_e$, $-C(=O)OR_a$, $-NR_aR_b$, or $S(O)_2NR_aR_b$;

R_4 , R_5 , and R_7 are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)R_e$, $S(=O)_2R_e$, $P(=O)_2R_e$, $S(=O)_2OR_e$, $P(=O)_2OR_e$, NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$;

X , Y , and A are each independently a carbon or N, with the proviso that the ring in which X , Y , and A exist is aromatic;

$Q-1$ and $Q-2$ are each independently is heterocycle or aryl;

R_2' , R_2'' , R_2''' and R_2'''' are each independently absent, hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$;

R_6' , R_6'' and R_6''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, OR_a , SR_a , $C(=O)R_a$, $C(=O)OR_a$, NH_2 , $S(O)_2NH_2$, heterocycle or substituted heterocycle, or aryl or substituted aryl;

wherein

R_a is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl;

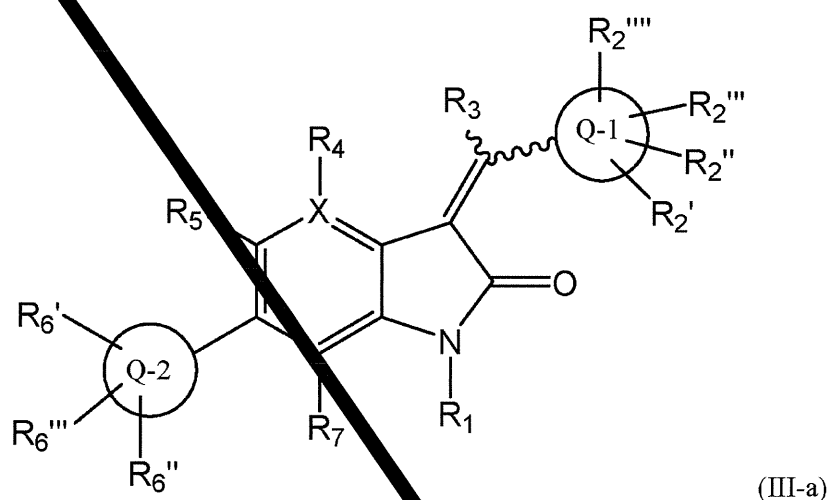
R_b , R_c and R_d are independently hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, or aryl or substituted aryl, or said R_b and R_c together with the N to which they are bonded optionally form a heterocycle or substituted heterocycle; and

R_e is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl.

83. The compound of Claim 82, wherein each of X, Y, and A is carbon.

84. The compound of Claim 82, wherein one of X, Y, and A is a heteroatom.

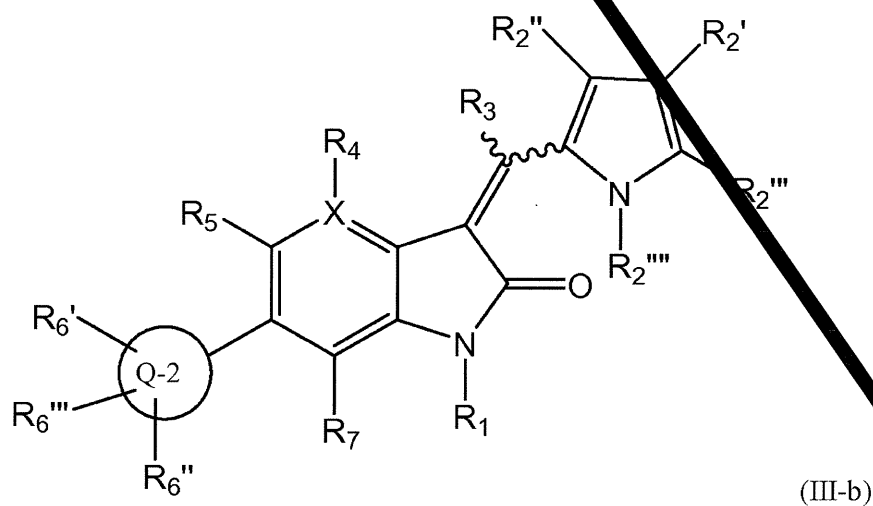
85. The compound of Claim 82, wherein the compound has the formula of



wherein X is C or N,

R_1 , R_2 , R_2'' , R_2''' , R_2'''' , R_3 , R_4 , R_5 , R_6' , R_6'' , R_6''' , R_7 , Q-1, and Q-2 are the same as the above definitions.

86. The compound of Claim 82, wherein the compound has the formula of



wherein

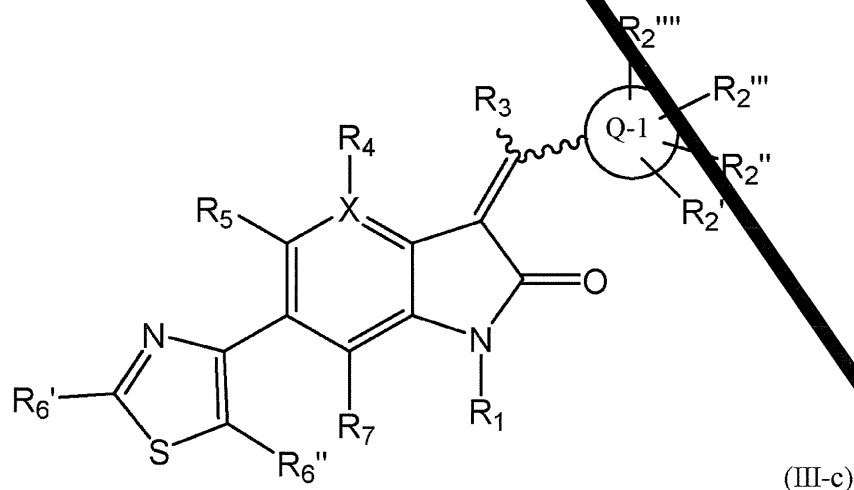
X is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$,

R_1 , R_3 , R_4 , R_5 , R_6' , R_6'' , R_6''' , R_7 , and Q-2 are the same as the above definitions.

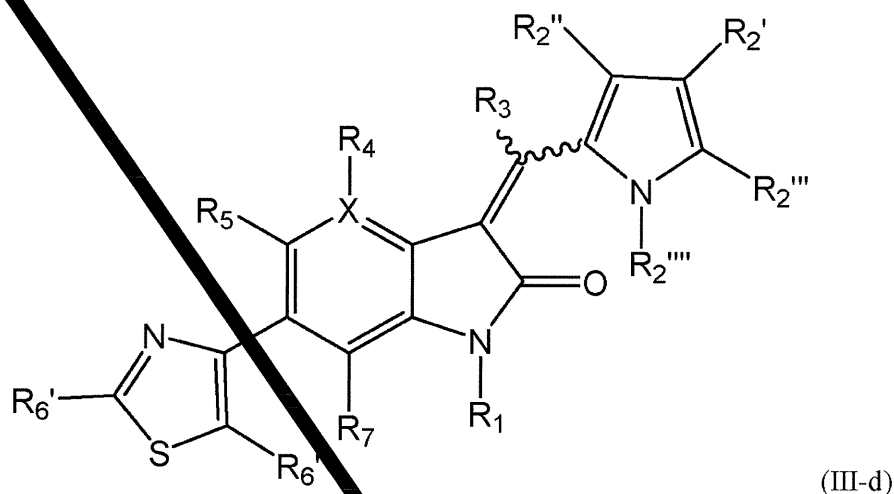
87. The compound of Claim 86, wherein X is C.
88. The compound of Claim 86, wherein X is N.
89. The compound of any one of Claims 86 to 88, wherein R_2''' is H.
90. The compound of any one of Claims 86 to 88, wherein each of R_2'' and R_2''' is H.
91. The compound of any one of Claims 86 to 88, wherein each of R_2'' and R_2''' is methyl.
92. The compound of Claim 82, wherein the compound has the formula of



wherein X is C or N,

R_1 , R_2 , R_2' , R_2'' , R_2''' , R_3 , R_4 , R_5 , R_6 , R_6' , R_6'' , R_7 , and Q-1 are the same as the above definitions.

93. The compound of Claim 82, wherein the compound has the formula of



wherein

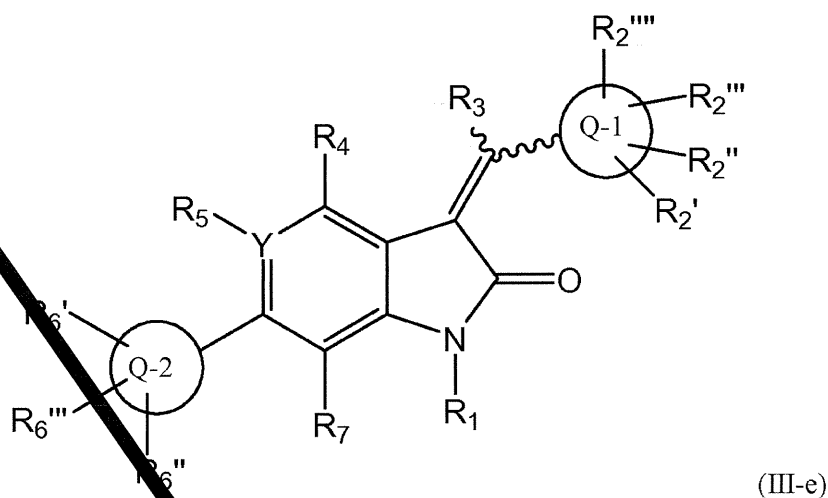
X is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $\text{NR}_b\text{S}(=\text{O})_2\text{R}_c$, $\text{NR}_b\text{P}(=\text{O})_2\text{R}_c$, $\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{C}(=\text{O})\text{OR}_c$, $\text{C}(=\text{O})\text{R}_a$, $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{OC}(=\text{O})\text{R}_a$, $\text{OC}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{OR}_c$, $\text{NR}_d\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_d\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{R}_a$, or $\text{NR}_b\text{S}(=\text{O})_2\text{R}_c$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $\text{S}(=\text{O})_2\text{R}_c$, $\text{S}(=\text{O})_2\text{OR}_c$, $\text{C}(=\text{O})\text{OR}_d$, $\text{C}(=\text{O})\text{R}_a$, or $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, and

R_1 , R_3 , R_4 , R_5 , R_6 , R_6' , and R_7 are the same as the above definitions.

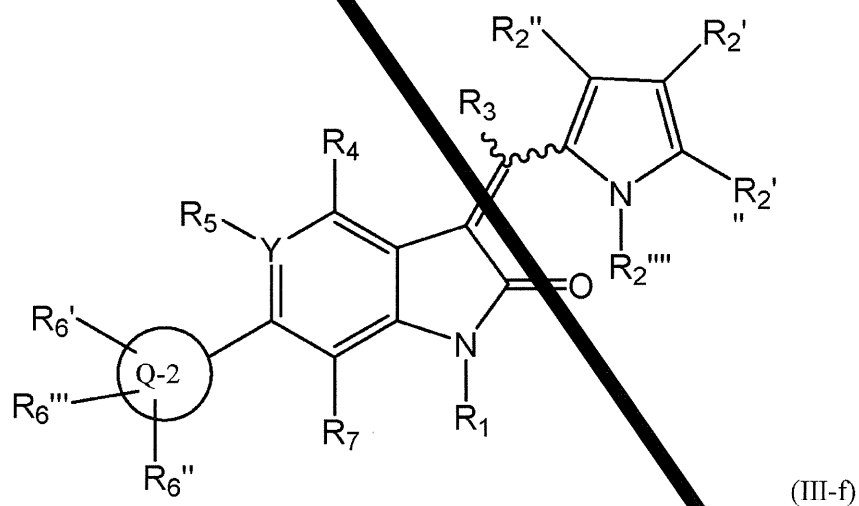
94. The compound of Claim 82, wherein the compound has the formula of



wherein Y is C or N,

R_1 , R_2' , R_2'' , R_2''' , R_3 , R_4 , R_5 , R_6' , R_6'' , R_6''' , R_7 , Q-1, and Q-2 are the same as the above definitions.

95. The compound of Claim 82, wherein the compound has the formula of



wherein

Y is C or N,

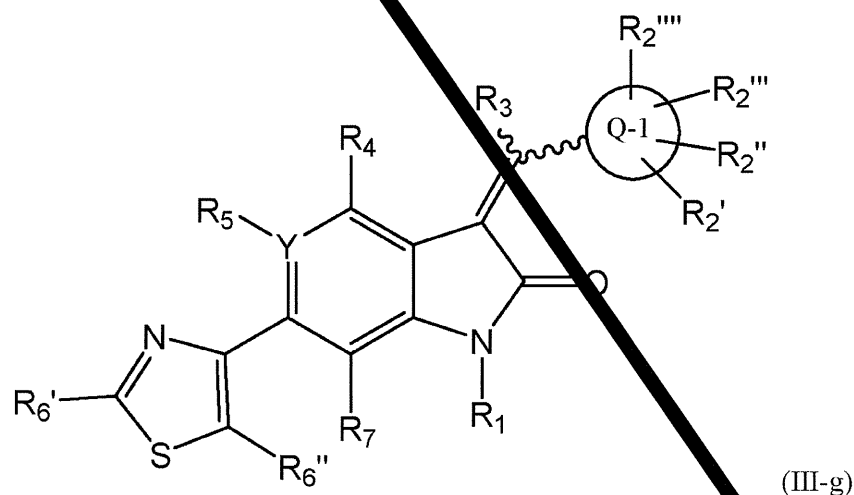
R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $\text{NR}_b\text{S}(=\text{O})_2\text{R}_e$, $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{C}(=\text{O})\text{OR}_e$, $\text{C}(=\text{O})\text{R}_a$,

$C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$,
 $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

$R_{2''''}$ is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $P(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$, and

R_1 , R_2 , R_4 , R_5 , R_6' , R_6'' , R_6''' , R_7 , and Q-2 are the same as the above definitions.

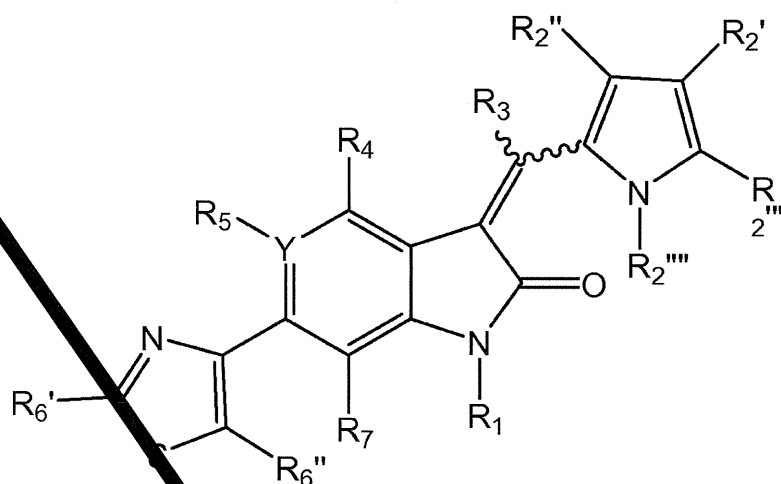
96. The compound of Claim 95, wherein Y is C.
97. The compound of Claim 95, wherein Y is N.
98. The compound of any one of Claims 95 to 97, wherein $R_{2''''}$ is H.
99. The compound of any one of Claims 95 to 97, wherein each of $R_{2''}$ and $R_{2'''}$ is H.
100. The compound of any one of Claims 95 to 97, wherein each of $R_{2''}$ and $R_{2'''}$ is methyl.
101. The compound of Claim 82, wherein the compound has the formula of



wherein Y is C or N,

R_1 , R_2 , R_2'' , R_2''' , R_2'''' , R_3 , R_4 , R_5 , R_6' , R_6'' , R_7 , and Q-1 are the same as the above definitions.

102. The compound of Claim 82, wherein the compound has the formula of



(III-h)

wherein

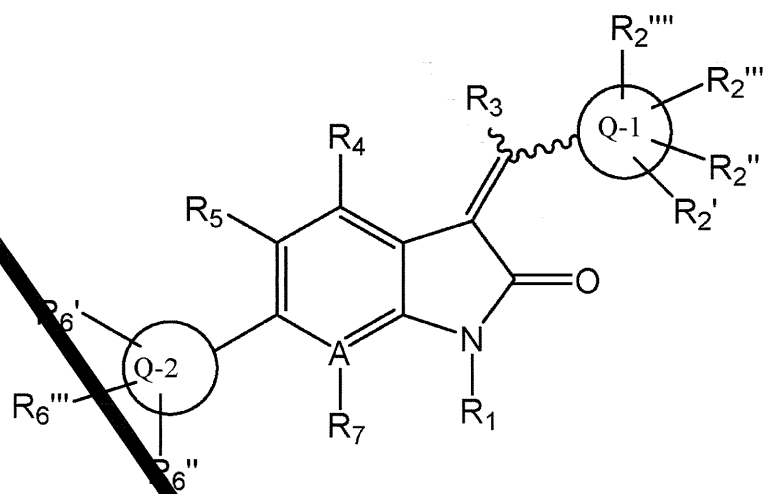
Y is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $\text{NR}_b\text{S}(=\text{O})_2\text{R}_e$, $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{C}(=\text{O})\text{OR}_e$, $\text{C}(=\text{O})\text{R}_a$, $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{OC}(=\text{O})\text{R}_a$, $\text{OC}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{OR}_e$, $\text{NR}_d\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_d\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{R}_a$, or $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $\text{S}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{OR}_e$, $\text{C}(=\text{O})\text{OR}_d$, $\text{C}(=\text{O})\text{R}_a$, or $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, and

R_1 , R_3 , R_4 , R_5 , R_6 , R_6' , and R_7 are the same as the above definitions.

103. The compound of Claim 82, wherein the compound has the formula of

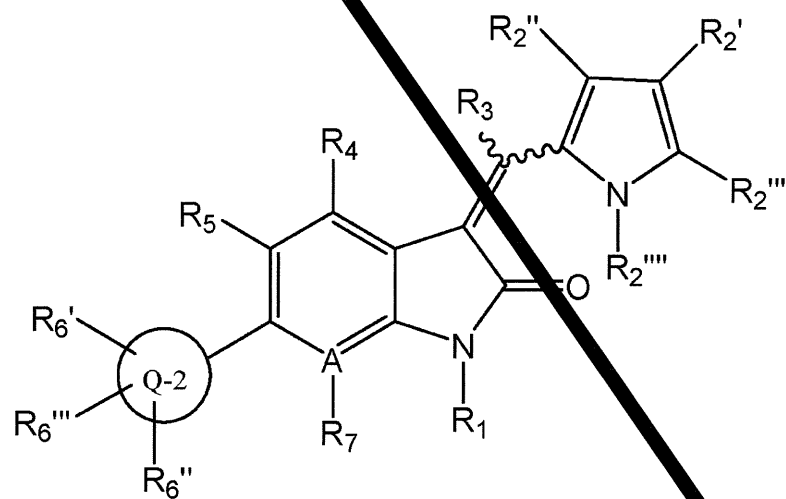


(III-i)

wherein A is C or N,

R_1 , R_2' , R_2'' , R_2''' , R_3 , R_4 , R_5 , R_6' , R_6'' , R_6''' , R_7 , Q-1, and Q-2 are the same as the above definitions.

104. The compound of Claim 82, wherein the compound has the formula of



(III-j)

wherein

A is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $\text{NR}_b\text{S}(=\text{O})_2\text{R}_e$, $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{C}(=\text{O})\text{OR}_e$, $\text{C}(=\text{O})\text{R}_a$,

$C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$,
 $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $P(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$, and

R_1 , R_3 , R_4 , R_5 , R_6' , R_6'' , R_6''' , R_7 , and Q-2 are the same as the above definitions.

105. The compound of Claim 104, wherein A is C.

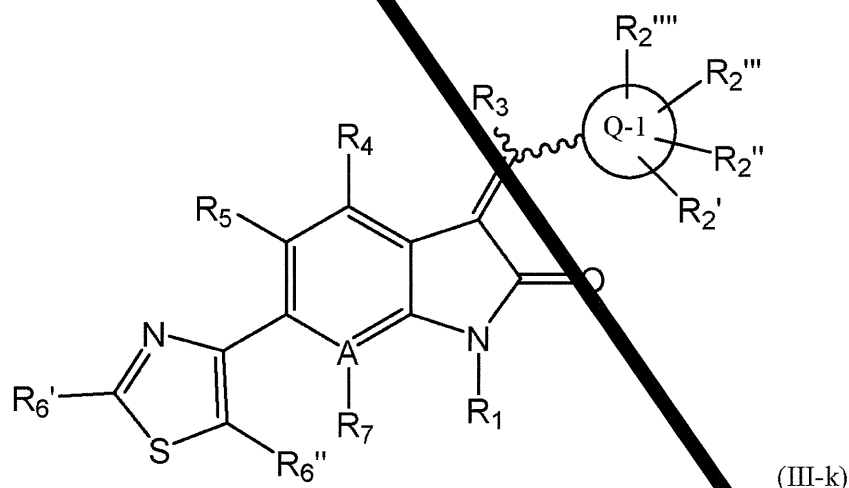
106. The compound of Claim 104, wherein A is N.

107. The compound of any one of Claims 104 to 106, wherein R_2''' is H.

108. The compound of any one of Claims 104 to 106, wherein each of R_2'' and R_2''' is H.

109. The compound of any one of Claims 104 to 106, wherein each of R_2'' and R_2''' is methyl.

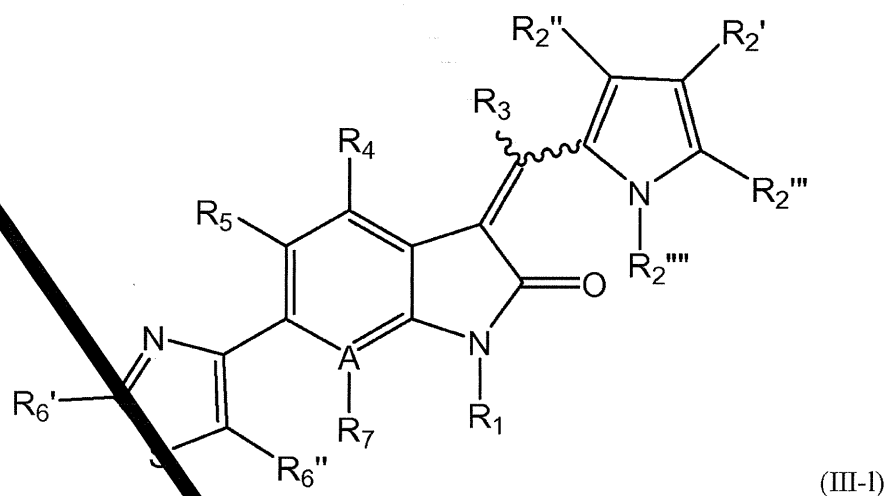
110. The compound of Claim 82, wherein the compound has the formula of



wherein A is C or N,

R_1 , R_2' , R_2'' , R_2''' , R_3 , R_4 , R_5 , R_6' , R_6'' , R_7 , and Q-1 are the same as the above definitions.

111. The compound of Claim 82, wherein the compound has the formula of



wherein

A is C or N,

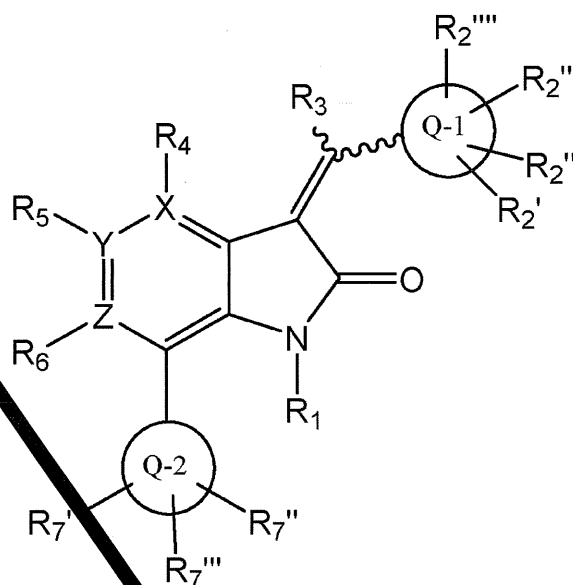
R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$,

R_1 , R_3 , R_4 , R_5 , R_6' , R_6'' , and R_7 are the same as the above definitions.

112. The compound of Claim 111, wherein each of R_1 , R_2' , R_2'' , R_2''' , R_3 , R_4 , R_5 , R_6' , R_6'' , R_6''' , R_7 , X, Y, A, Q-1, and Q-2 can be selected from any of the groups illustrated hereinabove.

113. A compound of Formula IV,



(IV)

or an enantiomer, diastereomer, tautomer, or pharmaceutically acceptable salt or solvate thereof,

wherein

R_1 is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

R_3 is hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, halogen, $-OR_a$, $-C(O)R_a$, $-C(O)OR_a$, $-NR_aR_b$, or $S(O)_2NR_aR_b$;

R_4 , R_5 , and R_6 are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)R_e$, $S(=O)_2R_e$, $P(=O)_2R_e$, $S(=O)_2OR_e$, $P(=O)_2OR_e$, NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$;

X , Y , and Z are each independently a carbon or N, with the proviso that the ring in which X , Y , and Z exist is aromatic;

Q-1 and Q-2 are each independently is heterocycle or aryl;

R_2 , R_2' , R_2'' and R_2''' are each independently absent, hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$,

R_7 , R_7' and R_7'' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, OR_a , SR_a , $C(=O)R_a$, $C(=O)OR_a$, NH_2 , $S(O)_2NH_2$, heterocycle or substituted heterocycle, or aryl or substituted aryl;

wherein

R_a is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl;

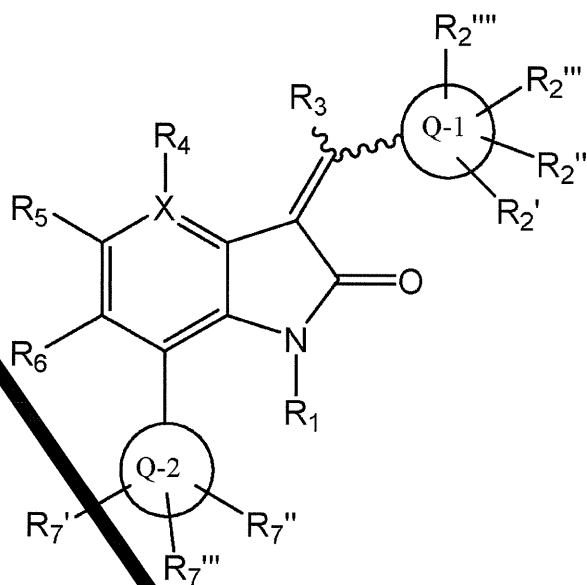
R_b , R_c and R_d are independently hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, or aryl or substituted aryl, or said R_b and R_c together with the N to which they are bonded optionally form a heterocycle or substituted heterocycle; and

R_e is alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl.

114. The compound of Claim 113, wherein each of X, Y, and Z is carbon.

115. The compound of Claim 113, wherein one of X, Y, and Z is a heteroatom.

116. The compound of Claim 113, wherein the compound has the formula of

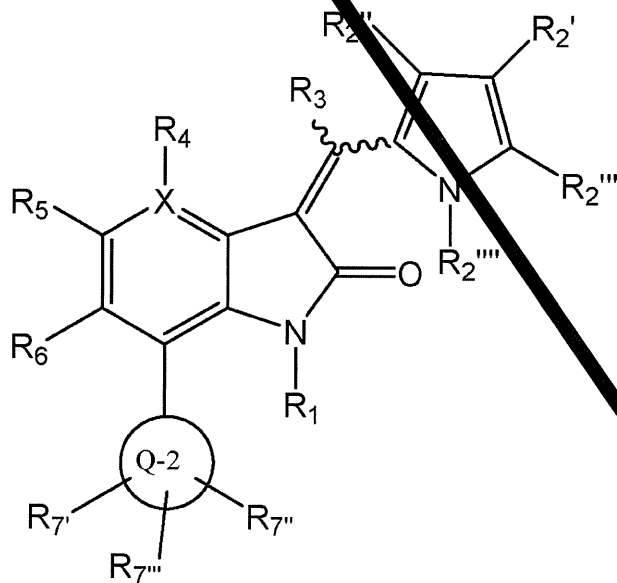


(IV-a)

wherein X is C or N,

R_1 , R_2' , R_2'' , R_2''' , R_2'''' , R_3 , R_4 , R_5 , R_6 , R_7 , R_7' , R_7'' , R_7''' , R_7'''' , Q-1, and Q-2 are the same as the above definitions.

117. The compound of Claim 113, wherein the compound has the formula:



(IV-b)

wherein

X is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl,

heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$,

R_1 , R_3 , R_4 , R_5 , R_6 , R_7 , R_7'' , R_7''' , R_7'''' , and Q-2 are the same as the above definitions.

118. The compound of Claim 117, wherein X is C.

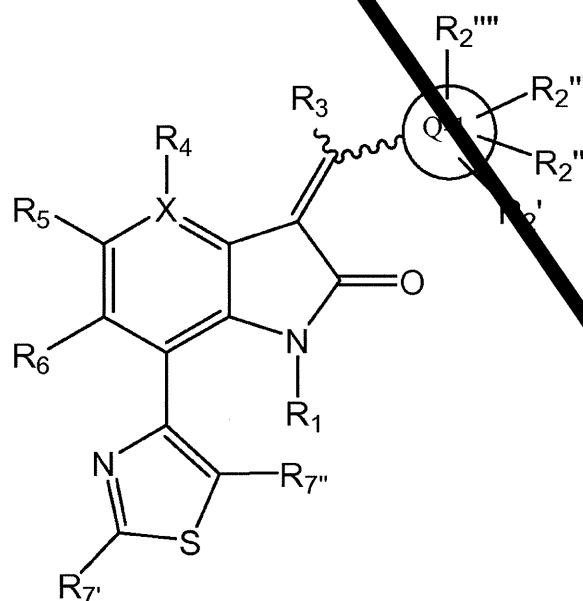
119. The compound of Claim 117, wherein X is N.

120. The compound of any one of Claims 117 to 119, wherein R_2''' is H.

121. The compound of any one of Claims 117 to 120, each of R_2'' and R_2''' is H.

122. The compound of any one of Claims 117 to 120, wherein each of R_2'' and R_2''' is methyl.

123. The compound of Claim 113, wherein the compound has the formula of

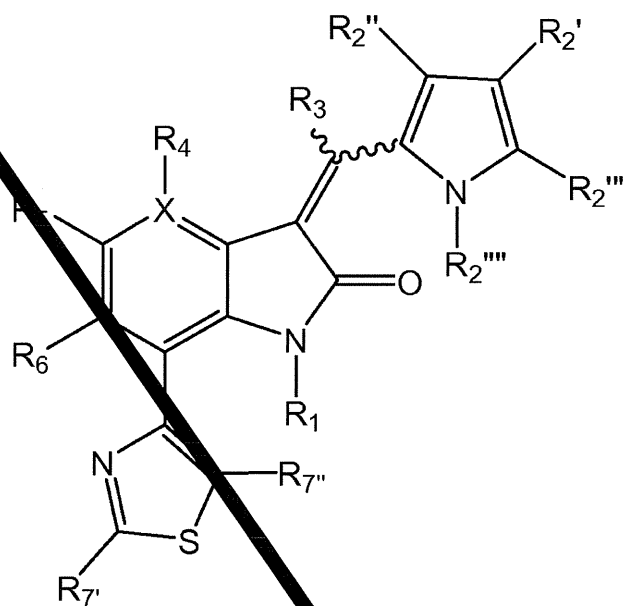


(IV-c)

wherein X is C or N,

R_1 , R_2 , R_2'' , R_2''' , R_2'''' , R_3 , R_4 , R_5 , R_6 , R_7 , R_7'' , and $Q-1$ are the same as the above definitions.

124. The compound of Claim 113, wherein the compound has the formula of



(IV-d)

wherein

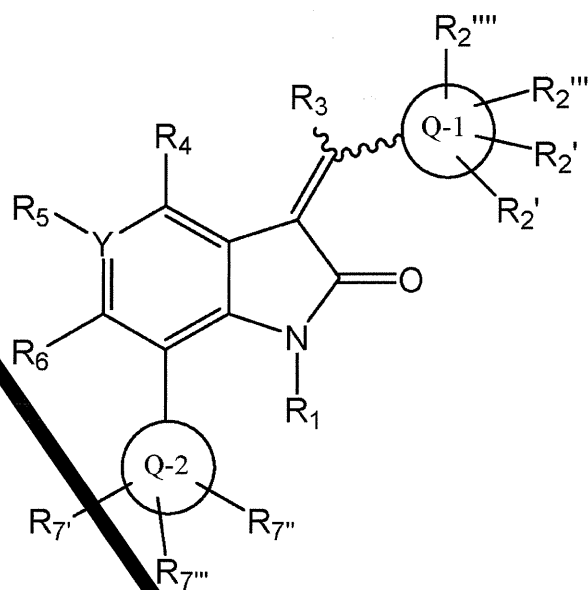
X is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_bC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

R_2'''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$,

R_1 , R_3 , R_4 , R_5 , R_6 , R_7 , and R_7'' are the same as the above definitions.

125. The compound of Claim 113, wherein the compound has the formula of

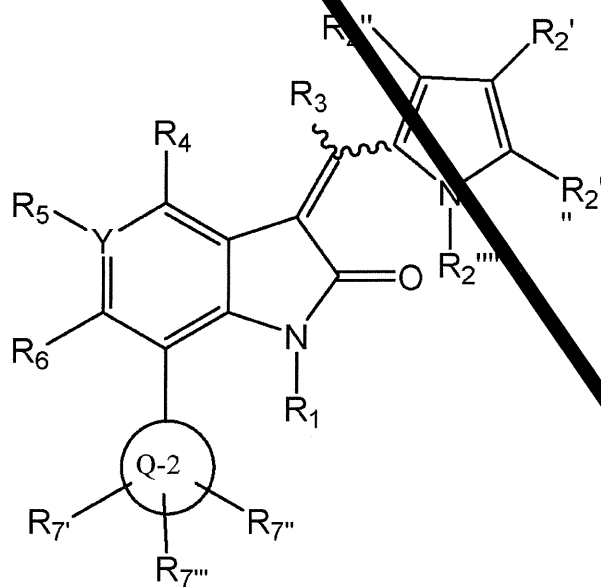


(IV-e)

wherein Y is C or N,

R_1 , R_2 , R_2'' , R_2''' , R_2'''' , R_3 , R_4 , R_5 , R_6 , R_7 , R_7'' , R_7''' , Q-1, and Q-2 are the same as the above definitions.

126. The compound of Claim 113, wherein the compound has the formula of



(IV-f)

wherein

Y is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl,

heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

$R_2^{''''}$ is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$,

R_1 , R_3 , R_4 , R_5 , R_6 , R_7 , R_7' , R_7'' , and $Q-2$ are the same as the above definitions.

127. The compound of Claim 126, wherein Y is C.

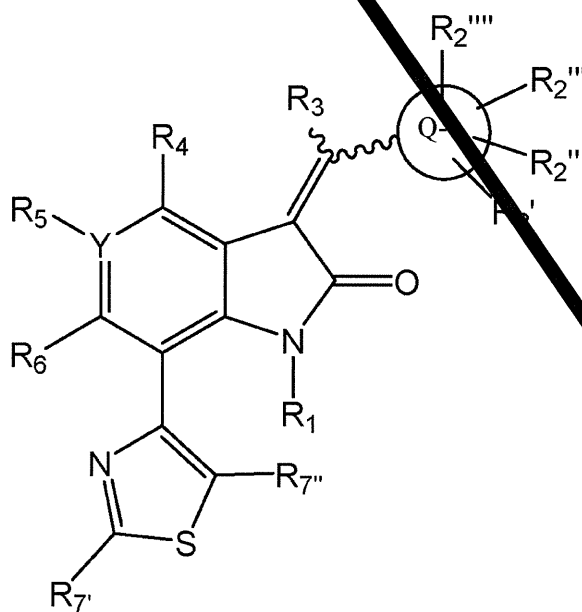
128. The compound of Claim 126, wherein Y is N.

129. The compound of any one of Claims 126 to 128, wherein $R_2^{''''}$ is H.

130. The compound of any one of Claims 126 to 129, wherein each of R_2'' and R_2''' is H.

131. The compound of any one of Claims 126 to 129, wherein each of R_2'' and R_2''' is methyl.

132. The compound of Claim 113, wherein the compound has the formula of

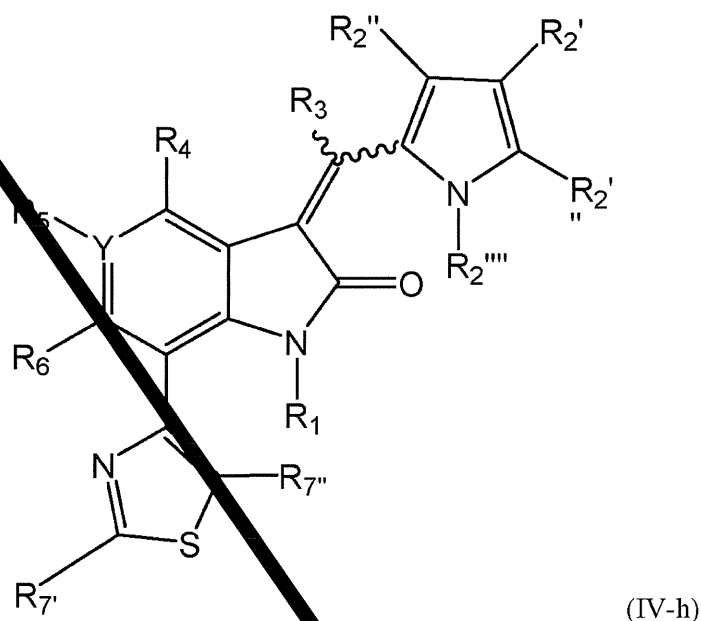


(IV-g)

wherein Y is C or N,

R_1 , R_2 , R_2'' , R_2''' , R_2'''' , R_3 , R_4 , R_5 , R_6 , R_7 , R_7' , and $Q-1$ are the same as the above definitions.

13. The compound of Claim 113, wherein the compound has the formula of



wherein

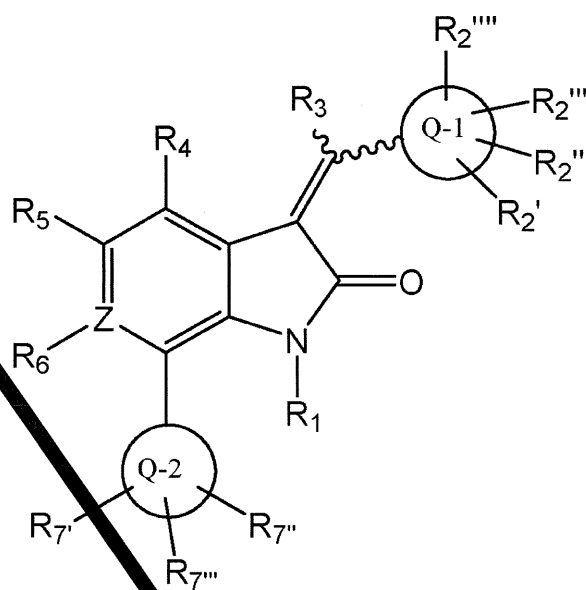
Y is C or N,

R_2 , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_c$, $NR_bP(=O)_2R_c$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_c$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_c$, $NR_bC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_c$, and

R_2'''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$,

R_1 , R_3 , R_4 , R_5 , R_6 , R_7 , and R_7' are the same as the above definitions.

134. The compound of Claim 113, wherein the compound has the formula of

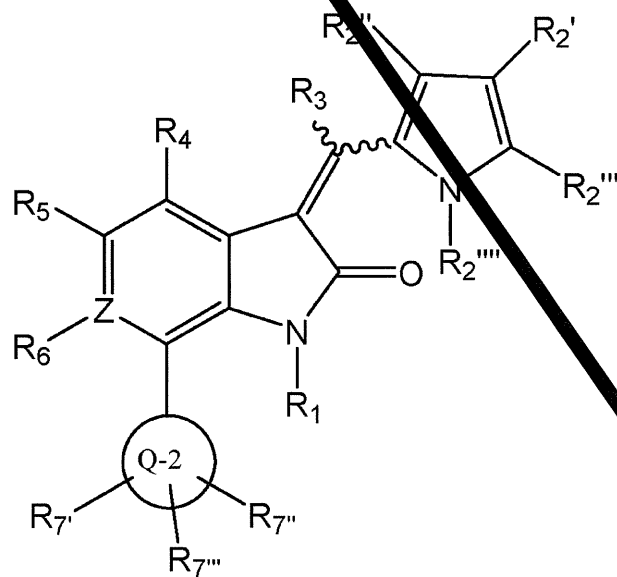


(IV-i)

wherein Z is C or N,

R_1 , R_2 , R_2'' , R_2''' , R_2'''' , R_3 , R_4 , R_5 , R_6 , R_7 , R_7'' , R_7''' , Q-1, and Q-2 are the same as the above definitions.

135. The compound of Claim 113, wherein the compound has the formula:



(IV-j)

wherein

Z is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl,

heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$,

R_1 , R_3 , R_4 , R_5 , R_6 , R_7 , R_7'' , R_7''' , and $Q-2$ are the same as the above definitions.

136. The compound of Claim 135, wherein Z is C.

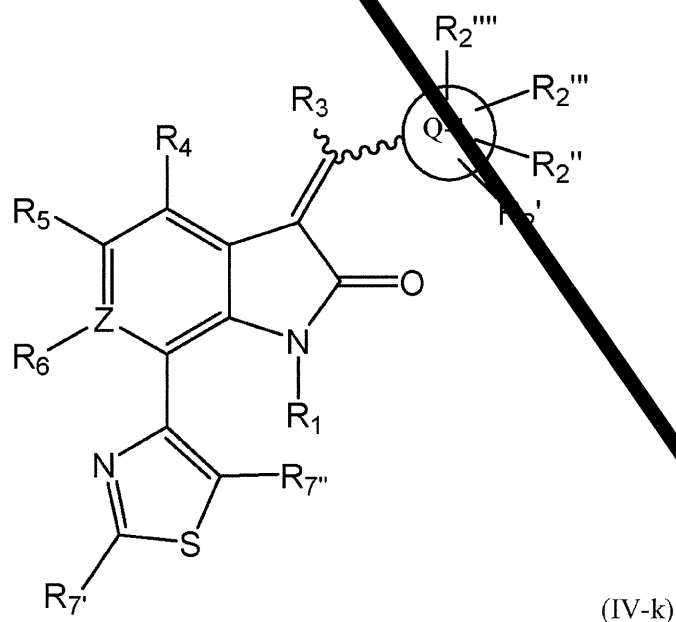
137. The compound of Claim 135, wherein Z is N.

138. The compound of any one of Claims 135 to 137, wherein R_2''' is H.

139. The compound of any one of Claims 135 to 138, wherein each of R_2'' and R_2''' is H.

140. The compound of any one of Claims 135 to 138, wherein each of R_2'' and R_2''' is methyl.

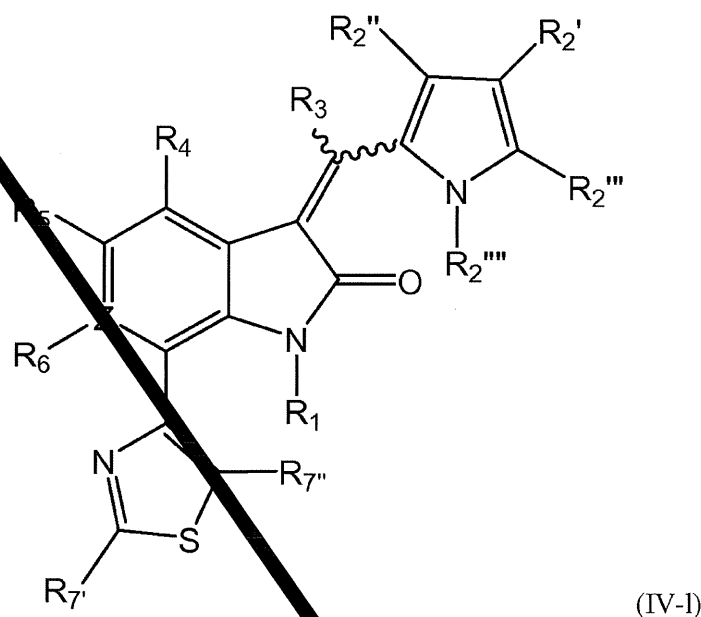
141. The compound of Claim 113, wherein the compound has the formula:



wherein Z is C or N,

R_1 , R_2 , R_2'' , R_2''' , R_2'''' , R_3 , R_4 , R_5 , R_6 , R_7 , R_7'' , and Q-1 are the same as the above definitions.

142. The compound of Claim 113, wherein the compound has the formula:



wherein

Z is C or N,

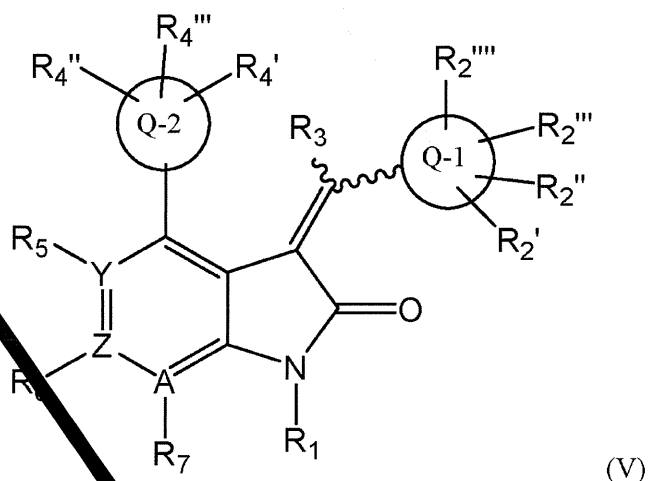
R_2 , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $\text{NR}_b\text{S}(=\text{O})_2\text{R}_e$, $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{C}(=\text{O})\text{OR}_e$, $\text{C}(=\text{O})\text{R}_a$, $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{OC}(=\text{O})\text{R}_a$, $\text{OC}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{OR}_e$, $\text{NR}_b\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_d\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{R}_a$, or $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, and

R_2'''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $\text{S}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{OR}_e$, $\text{C}(=\text{O})\text{OR}_d$, $\text{C}(=\text{O})\text{R}_a$, or $\text{C}(=\text{O})\text{NR}_b\text{R}_c$,

R_1 , R_3 , R_4 , R_5 , R_6 , R_7 , and R_7'' are the same as the above definitions.

143. The compound of Claim 142, wherein each of R_1 , R_2 , R_2'' , R_2''' , R_2'''' , R_3 , R_4 , R_5 , R_6 , R_7 , R_7'' , R_7''' , X, Y, Z, Q-1, and Q-2 can be selected from any of the groups illustrated hereinabove.

144. A compound of Formula V,



or an enantiomer, diastereomer, tautomer, or pharmaceutically acceptable salt or solvate thereof,

wherein

R₁ is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a, SR_a, S(=O)₂R_e, S(=O)₂OR_e, C(=O)OR_a, C(=O)R_a, or C(=O)NR_bR_c;

R₃ is hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, halogen, -OR_a, -C(O)R_a, -C(O)OR_a, -NR_aR_b, or S(O)₂NR_aR_b;

R₅, R₆, and R₇ are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF₃, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a, SR_a, S(=O)R_e, S(=O)₂R_e, P(=O)₂R_e, S(=O)₂OR_e, P(=O)₂OR_e, NR_bR_c, NR_bS(=O)₂R_e, NR_bP(=O)₂R_e, S(=O)₂NR_bR_c, P(=O)₂NR_bR_c, C(=O)OR_e, C(=O)R_a, C(=O)NR_bR_c, OC(=O)R_a, OC(=O)NR_bR_c, NR_bC(=O)OR_e, NR_dC(=O)NR_bR_c, NR_dS(=O)₂NR_bR_c, NR_dP(=O)₂NR_bR_c, NR_bC(=O)R_a, or NR_bP(=O)₂R_e;

Y, Z and A are each independently a carbon or N, with the proviso that the ring in which Y, Z and A exist is aromatic;

Q-1 and Q-2 are each independently is heterocycle or aryl;

R_2 , R_2' , R_2'' and R_2''' are each independently absent, hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_bS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$,
 R_4 , R_4' and R_4'' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, OR_a , SR_a , $C(=O)R_a$, $C(=O)OR_a$, NH_2 , $S(O)_2NH_2$, heterocycle or substituted heterocycle, or aryl or substituted aryl;

wherein

R_a is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl;

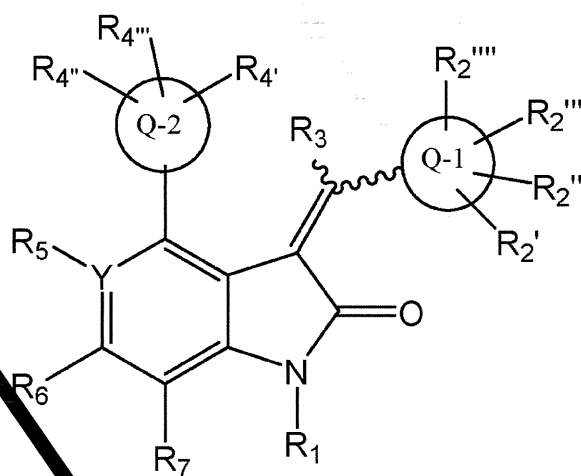
R_b , R_c and R_d are independently hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, or aryl or substituted aryl, or said R_b and R_c together with the N to which they are bonded optionally form a heterocycle or substituted heterocycle; and

R_e is alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl.

145. The compound of Claim 144, wherein each of Y, Z and A is carbon.

146. The compound of Claim 144, wherein one of Y, Z and A is a heteroatom.

147. The compound of Claim 144, wherein the compound has the formula of

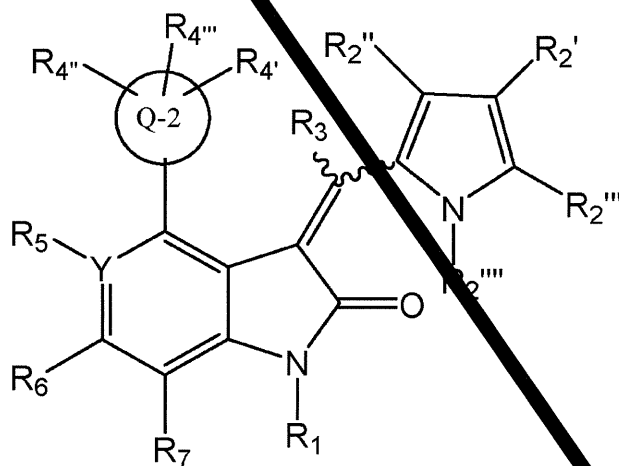


(V-a)

wherein Y is C or N,

R_1 , R_2 , R_2'' , R_2''' , R_3 , R_4 , R_4' , R_4'' , R_4''' , R_5 , R_6 , R_7 , Q-1, and Q-2 are the same as the above definitions.

148. The compound of Claim 147 wherein the compound has the formula of



(V-b)

wherein

Y is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $\text{NR}_b\text{S}(=\text{O})_2\text{R}_e$, $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{C}(=\text{O})\text{OR}_e$, $\text{C}(=\text{O})\text{R}_a$, $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{OC}(=\text{O})\text{R}_a$, $\text{OC}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{C}(=\text{O})\text{OR}_e$, $\text{NR}_d\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_d\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{R}_a$, or $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, and

$R_{2''}$ is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_c$, $S(=O)_2OR_c$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$,

R_1 , R_3 , R_4' , R_4'' , R_4''' , R_5 , R_6 , R_7 , and Q-2 are the same as the above definitions.

149. The compound of Claim 148, wherein Y is C.

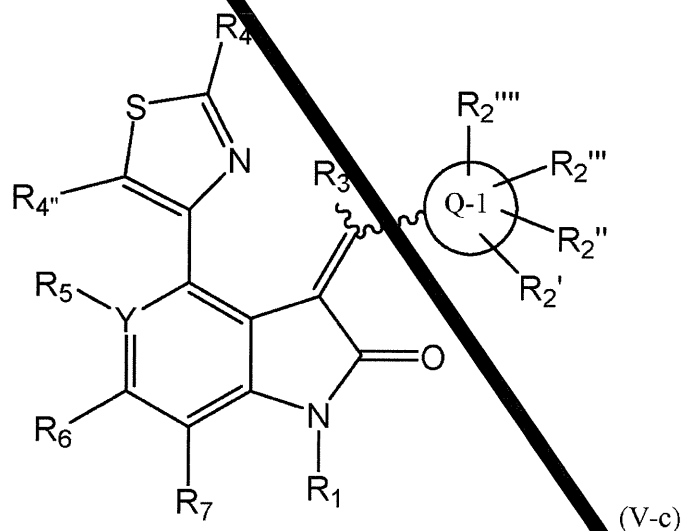
150. The compound of Claim 148, wherein Y is N.

151. The compound of any one of Claims 148 to 150, wherein $R_{2''}$ is H.

152. The compound of any one of Claims 148 to 151, wherein each of $R_{2''}$ and $R_{2'''}$ is H.

153. The compound of any one of Claims 148 to 151, wherein each of $R_{2''}$ and $R_{2'''}$ is methyl.

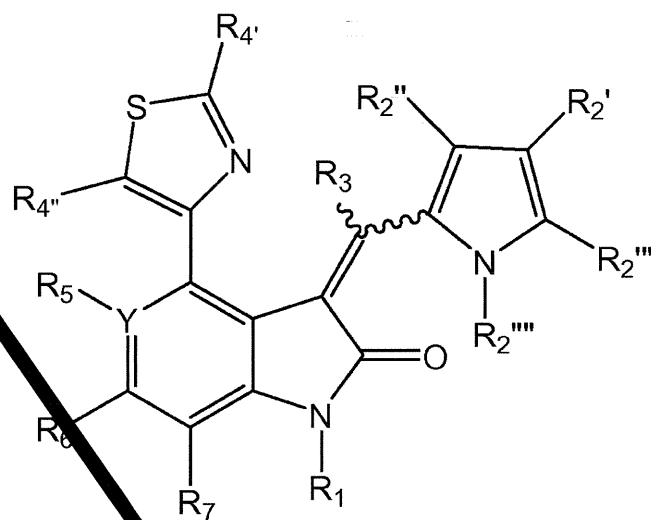
154. The compound of Claim 144, wherein the compound has the formula of



wherein Y is C or N,

R_1 , R_2' , R_2'' , R_2''' , R_2'''' , R_3 , R_4' , R_4'' , R_5 , R_6 , R_7 , and Q-1 are the same as the above definitions.

155. The compound of Claim 144, wherein the compound has the formula of



(V-d)

wherein

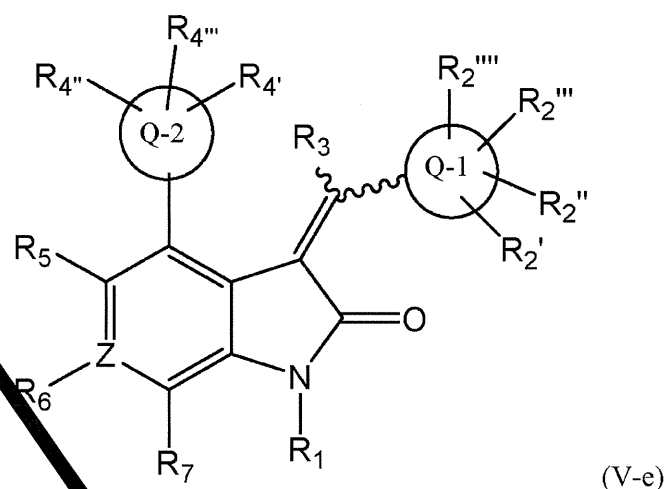
Y is C or N,

R_{2'}, R_{2''}, and R_{2'''} are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF₃, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a, NR_bR_c, NR_bS(=O)₂R_c, NR_bP(=O)₂R_c, S(=O)₂NR_bR_c, P(=O)₂NR_bR_c, C(=O)OR_c, C(=O)R_a, C(=O)NR_bR_c, OC(=O)R_a, OC(=O)NR_bR_c, NR_bC(=O)OR_c, NR_dC(=O)NR_bR_c, NR_dS(=O)₂NR_bR_c, NR_dP(=O)₂NR_bR_c, NR_bC(=O)R_a, or NR_bP(=O)₂R_c, and

R_{2'''} is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a, SR_a, S(=O)₂R_e, S(=O)₂OR_e, C(=O)OR_d, C(=O)R_a, or C(=O)NR_bR_c.

R₁, R₃, R_{4'}, R_{4''}, R₅, R₆, and R₇ are the same as the above definitions.

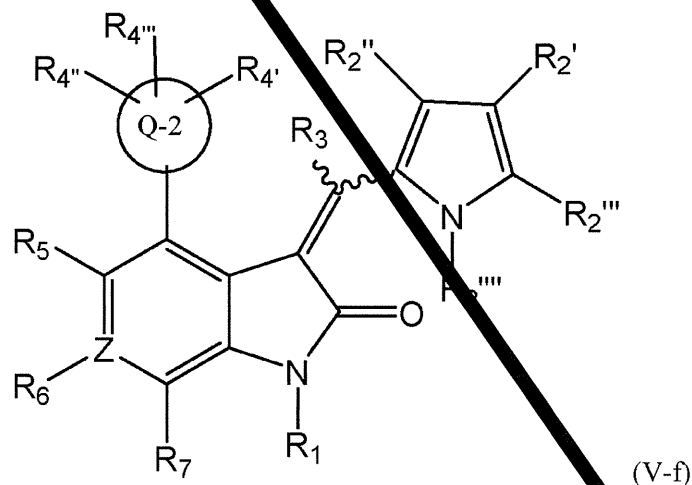
156. The compound of Claim 144, wherein the compound has the formula of



wherein Z is C or N,

R_1 , R_2' , R_2'' , R_2''' , R_3 , R_4' , R_4'' , R_4''' , R_5 , R_6 , R_7 , Q-1, and Q-2 are the same as the above definitions.

157. The compound of Claim 14 wherein the compound has the formula of



wherein

Z is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $\text{NR}_b\text{S}(=\text{O})_2\text{R}_e$, $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{C}(=\text{O})\text{OR}_e$, $\text{C}(=\text{O})\text{R}_a$, $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{OC}(=\text{O})\text{R}_a$, $\text{OC}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{OR}_e$, $\text{NR}_d\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_d\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{R}_a$, or $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, and

$R_{2''''}$ is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_c$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$,

R_1 , R_3 , R_4' , R_4'' , R_4''' , R_5 , R_6 , R_7 , and Q-2 are the same as the above definitions.

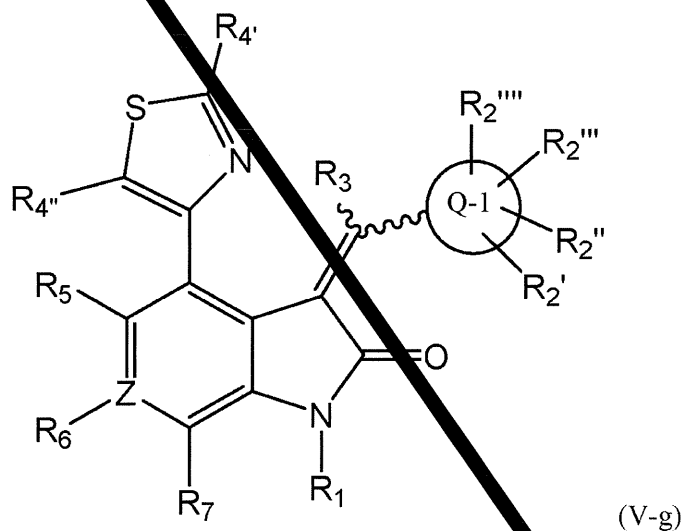
158. The compound of Claim 157, wherein Z is C.

159. The compound of Claim 157, wherein Z is N.

160. The compound of Claim 157 to 159, wherein $R_{2''''}$ is H.

161. The compound of Claim 157 to 160, wherein each of $R_{2''}$ and $R_{2'''}$ is H.

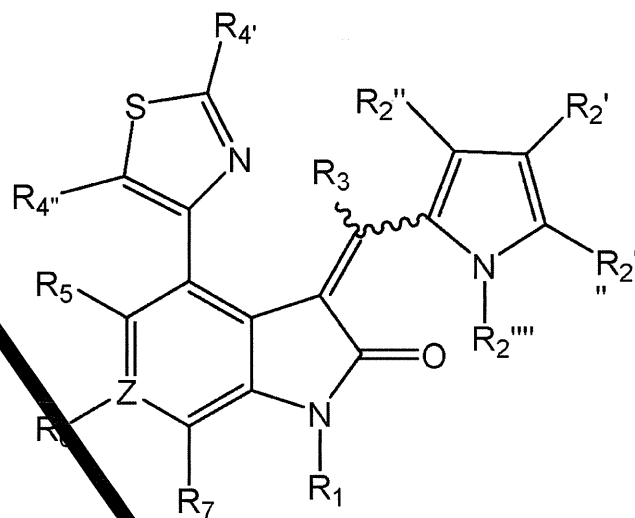
162. The compound of Claim 144, wherein the compound has the formula of



wherein Z is C or N,

R_1 , R_2' , R_2'' , R_2''' , R_2'''' , R_3 , R_4' , R_4'' , R_5 , R_6 , R_7 , and Q-1 are the same as the above definitions.

163. The compound of Claim 144, wherein the compound has the formula of



(V-h)

wherein

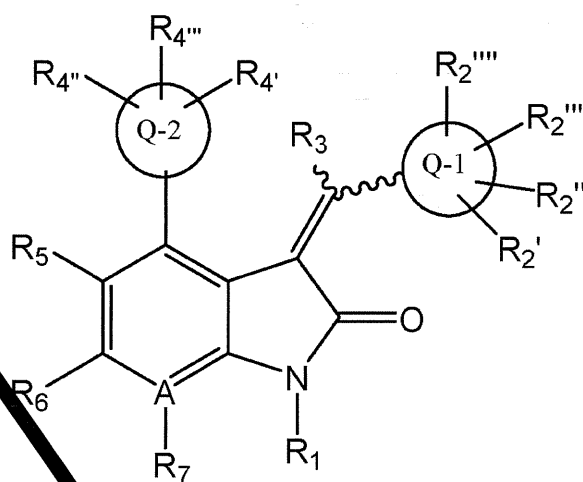
Z is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $\text{NR}_b\text{S}(=\text{O})_2\text{R}_e$, $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{C}(=\text{O})\text{OR}_e$, $\text{C}(=\text{O})\text{R}_a$, $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{OC}(=\text{O})\text{R}_a$, $\text{OC}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{C}(=\text{O})\text{OR}_e$, $\text{NR}_d\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_d\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{R}_a$, or $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $\text{S}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{OR}_e$, $\text{C}(=\text{O})\text{OR}_d$, $\text{C}(=\text{O})\text{R}_a$, or $\text{C}(=\text{O})\text{NR}_b\text{R}_c$.

R_1 , R_3 , R_4' , R_4'' , R_5 , R_6 , and R_7 are the same as the above definitions.

164. The compound of Claim 144, wherein the compound has the formula of

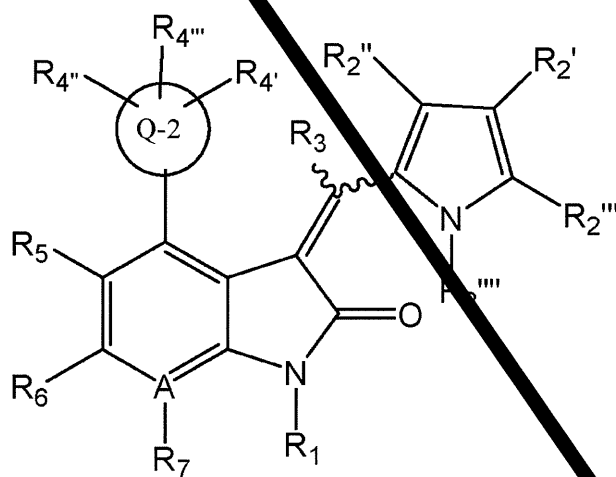


(V-i)

wherein Z is C or N,

R_1 , R_2' , R_2'' , R_2''' , R_3 , R_4' , R_4'' , R_4''' , R_5 , R_6 , R_7 , Q-1, and Q-2 are the same as the above definitions.

165. The compound of Claim 14 wherein the compound has the formula of



(V-j)

wherein

Z is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $\text{NR}_b\text{S}(=\text{O})_2\text{R}_e$, $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{C}(=\text{O})\text{OR}_a$, $\text{C}(=\text{O})\text{R}_a$, $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{OC}(=\text{O})\text{R}_a$, $\text{OC}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{OR}_e$, $\text{NR}_d\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_d\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{R}_a$, or $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, and

$R_{2''''}$ is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_c$, $S(=O)_2OR_c$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$,

R_1 , R_3 , R_4' , R_4'' , R_4''' , R_5 , R_6 , R_7 , and Q-2 are the same as the above definitions.

166. The compound of Claim 165, wherein Z is C.

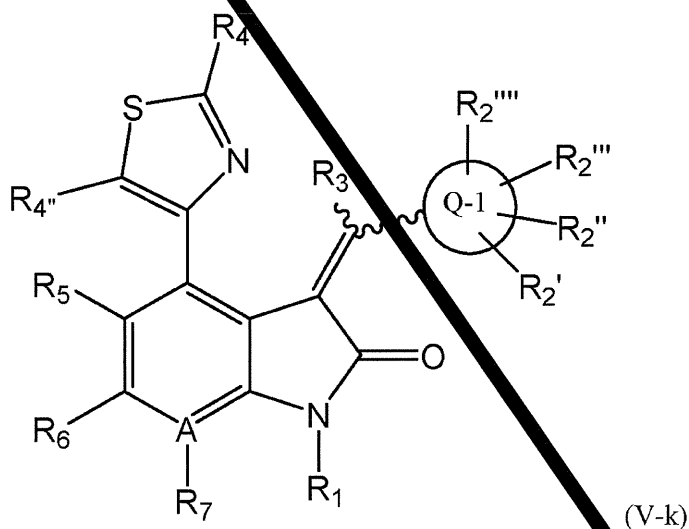
167. The compound of Claim 165, wherein Z is N.

168. The compound of any one of Claims 165 to 167, wherein $R_{2''''}$ is H.

169. The compound of any one of Claims 165 to 167, wherein each of $R_{2''}$ and $R_{2'''}$ is H.

170. The compound of any one of Claims 165 to 167, wherein each of $R_{2''}$ and $R_{2'''}$ is methyl.

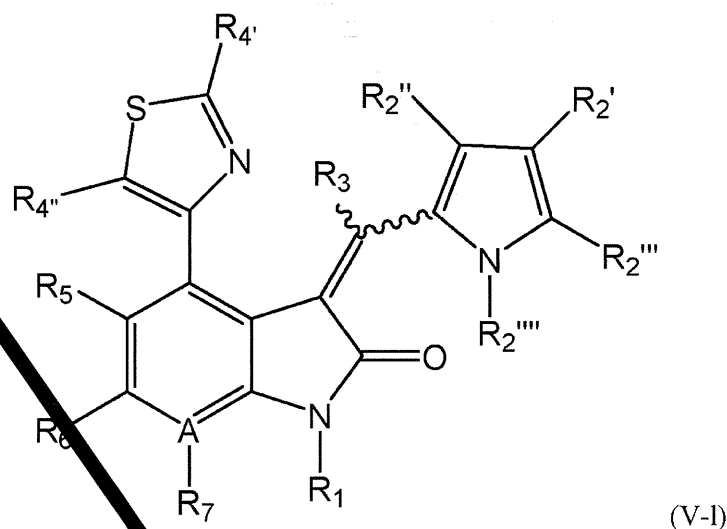
171. The compound of Claim 144, wherein the compound has the formula of



wherein A is C or N,

R_1 , $R_{2'}$, $R_{2''}$, $R_{2'''}$, $R_{2''''}$, R_3 , R_4' , R_4'' , R_5 , R_6 , R_7 , and Q-1 are the same as the above definitions.

172. The compound of Claim 144, wherein the compound has the formula of



wherein

A is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_c$, $NR_bP(=O)_2R_c$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_c$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_c$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_c$, and

R_2'''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_c$, $S(=O)_2OR_c$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$.

R_1 , R_3 , R_4' , R_4'' , R_5 , R_6 , and R_7 are the same as the above definitions.

173. The compound of Claim 172, wherein each of R_1 , R_2' , R_2'' , R_2''' , R_2'''' , R_3 , R_4' , R_4'' , R_4''' , R_5 , R_6 , R_7 , Y, Z, A, Q-1, and Q-2 can be selected from any of the groups illustrated hereinabove.
174. A pharmaceutical composition comprising a compound of any one of Claims 1 to 173, or a pharmaceutically acceptable salt, ester or pro-drug thereof, and pharmaceutically acceptable excipient, carrier, or diluent.
175. A method of treating or preventing cancer, or a related disorder or condition thereof in a mammal, including a human, comprising administering to a subject in need

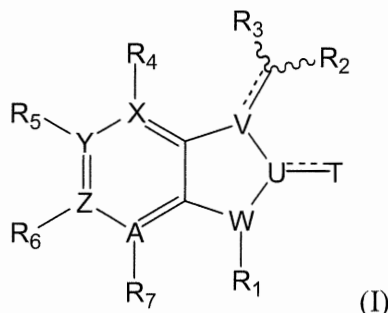
thereof a therapeutically effective amount of a pharmaceutical composition comprising a compound of any one of Claims 1 to 173, or a pharmaceutically acceptable salt, ester or pro-drug thereof, effective in the treatment or prevention of cancer, or a related disorder or condition thereof in a mammal, including a human, and a pharmaceutically acceptable excipient, carrier, or diluent.

176. A method of treating, preventing or ameliorating a protein kinase related disorder in a mammal, comprising administering to the mammal in need thereof a therapeutically effective amount of a pharmaceutical composition comprising a compound of any one of Claims 1 to 173.
177. The method of Claim 176, wherein the protein kinase related disorder is a cancer such as lung cancer, bladder cancer, head and neck cancer, melanoma, ovarian cancer, prostate cancer, breast cancer, small-cell lung cancer, glioma, colorectal cancer, non-small cell lung cancer, genitourinary cancer, pancreatic cancer, thyroid cancer, Hodgkin's lymphoma, non-Hodgkin's lymphoma, gastrointestinal cancer, gastric cancer, hepatoma, gastrointestinal stromal tumor, squamous cell carcinoma, renal cell carcinoma, astrocytoma, Kaposi's sarcoma, chronic myelogenous leukemia, acute myelogenous leukemia, myeloproliferative disorders, and glioblastoma.
178. The method of any one of Claims 174 or 177, wherein the protein kinase is CSCPK.
179. The method of any one of Claims 174 or 177, wherein the protein kinase includes serine-threonine kinases, receptor tyrosine kinases and non-receptor tyrosine kinases.
180. The method of any one of Claims 174 to 178, wherein the protein kinase related disorder includes diabetes, an autoimmune disorder, a hyperproliferation disorder, angiogenesis, an inflammatory disorder, an immunological disorder, a cardiovascular disorder, restenosis, fibrosis, psoriasis, von Heppel-Hindau disease, osteoarthritis, neurodegeneration, infection, and rheumatoid arthritis.
181. A method of inhibiting, reducing, and/or diminishing cancer stem cell survival and/or proliferation, self-renewal in a mammal by inhibiting or decreasing unwanted activity of CSCPKs.

182. A method of inhibiting cancer stem cell niche, or stromal cell signaling by targeting CSCPks.
183. A method of treating cancer, inhibiting, reducing, and/or diminishing cancer stem cell survival and/or proliferation.
184. A method of modulating the catalytic activity of a protein kinase.
185. The method of any one of Claims 181 to 184, comprises contacting said protein kinase with a compound of any one of Claims 1 to 173, or a pharmaceutically-acceptable salt, ester or pro-drug thereof.

What is claimed is:

1. A compound of Formula I,



or an enantiomer, diastereomer, tautomer, or pharmaceutically acceptable salt or solvate thereof, wherein:

R_1 is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

R_2 is monocyclic or bicyclic heterocycle or substituted heterocycle, aryl or substituted aryl;

R_3 is hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, halogen, $-OR_a$, $-C(O)R_a$, $-C(O)OR_a$, $-NR_aR_b$, $S(O)_2NR_aR_b$;

R_4 , R_5 , R_6 , and R_7 are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)R_e$, $S(=O)_2R_e$, $P(=O)_2R_e$, $S(=O)_2OR_e$, $P(=O)_2OR_e$, NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$;

T is O, S or R_a ;

U, V, and W are each independently a carbon, N, O, or S;

X, Y, Z, and A are each independently a carbon or N, with the proviso that the ring in which X, Y, Z, and A exist is aromatic;

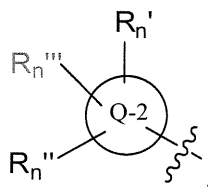
with the provision that

one of R_4 , R_5 , R_6 , and R_7 is substituted heterocycle or substituted aryl, and

R_4 , R_5 , R_6 , or R_7 is absent if X, Y, Z, or A, respectively, is a heteroatom;

wherein

substituted heterocycle and substituted aryl in R_4 , R_5 , R_6 , and R_7 is the following group:



wherein:

Q-2 is heterocycle or aryl;

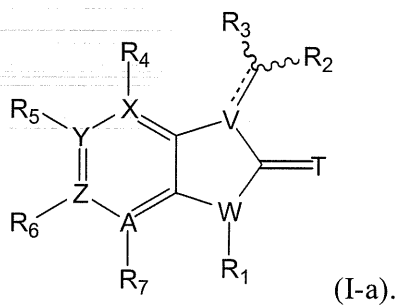
R_n' , R_n'' and R_n''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, OR_a , SR_a , $C(=O)R_a$, $C(=O)OR_a$, NH_2 , $S(O)_2NH_2$, heterocycle or substituted heterocycle, or aryl or substituted aryl;

R_a is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl;

R_b , R_c and R_d are each independently hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, or aryl or substituted aryl, or said R_b and R_c together with the N to which they are bonded optionally form a heterocycle or substituted heterocycle; and

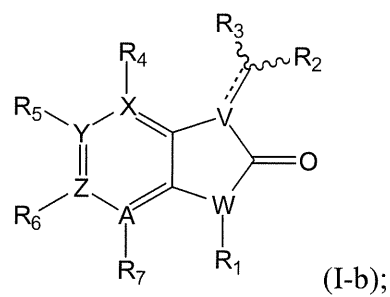
R_e is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl.

2. The compound of Claim 1, wherein T is O or S,

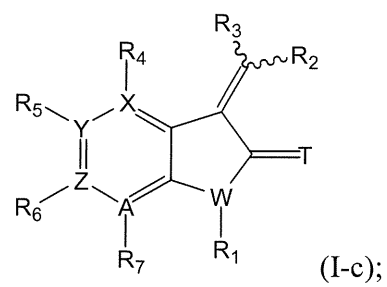


3. The compound of Claim 2,

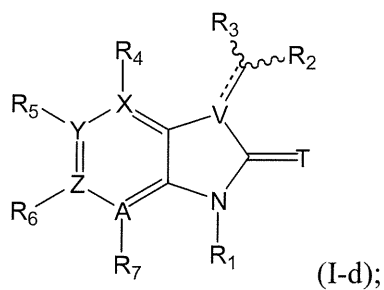
(i) wherein T is O,



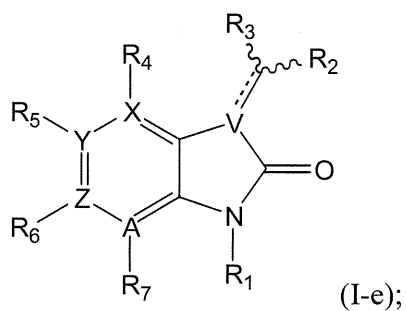
(ii) wherein V is carbon,



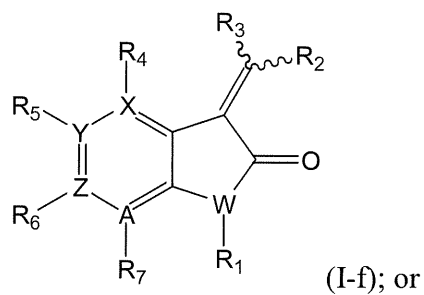
(iii) wherein W is N,



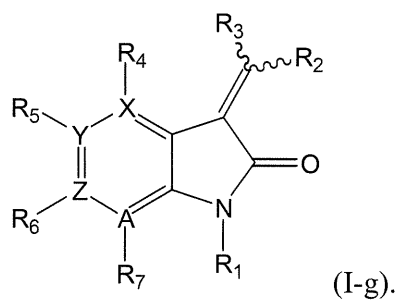
(iv) wherein T is O and W is N,



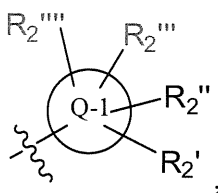
(v) wherein T is O and V is carbon,



(vi) wherein U is carbon, V is carbon, W is N, and T is O,



4. The compound of any one of Claims 1 to 3, wherein R₂ is



wherein

Q-1 is heterocycle or aryl selected from the group consisting of pyrrole, furan, thiophene, pyridine, pyrimidine, pyrazine, pyridazine, imidazole, indole, pyrrolopyridinone, pyridone, pyrrolidine, pyridinone, piperidine, and pyrroloazepinone;

R_2' , R_2'' , R_2''' , and R_2'''' are each independently absent, hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$.

5. The compound of Claim 4, wherein R_2' , R_2'' , R_2''' , and R_2'''' are independently absent, hydrogen, alkyl, substituted alkyl, substituted heterocycle, substituted aryl, $C(=O)OR_e$, or $C(=O)NR_bR_c$,

wherein

R_b and R_c are independently hydrogen, alkyl, substituted alkyl, substituted heterocycle, or said R_b and R_c together with the N to which they are bonded optionally form a heterocycle or substituted heterocycle, and

R_e is hydrogen.

6. The compound of Claim 5, wherein one of R_2' , R_2'' , R_2''' , and R_2'''' is $C(=O)NR_bR_c$,

wherein

R_b is hydrogen, and

R_c is alkyl substituted with $NR_{bn}R_{cn}$ (wherein R_{bn} and R_{cn} are alkyl, or said R_{bn} and R_{cn} together with the N to which they are bonded optionally form a substituted heterocycle (wherein said heterocycle is piperidine, or morpholine)), or R_b and R_c together with the N to which they are bonded optionally form a substituted heterocycle (wherein said heterocycle is piperidine, or morpholine), and

two of R_2' , R_2'' , R_2''' , and R_2'''' are independently alkyl, and the other is hydrogen.

7. The compound of Claim 6, wherein one of R_2' , R_2'' , R_2''' , and R_2'''' is $C(=O)NR_bR_c$,

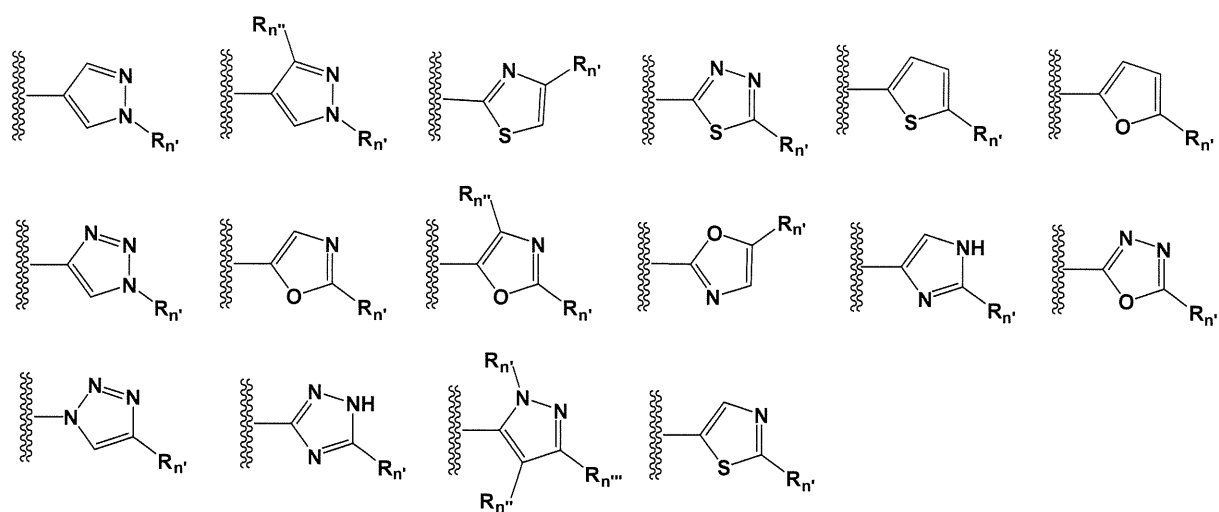
wherein

NR_bR_c is 2-(di-ethyl amino) ethyl, amino, 2-pyrrolidino ethyl amino, 4-methyl piperazinyl, or morpholino.

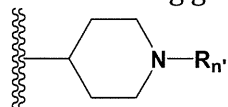
8. The compound of Claim 4, wherein Q-1 is pyrrole, one of R₂', R₂", R₂'', and R₂''' is absent, two of R₂', R₂", R₂'', and R₂''' are alkyl (e.g., methyl), and one of R₂', R₂", R₂'', and R₂''' is C(=O)NR_bR_c.
9. The compound of Claim 8, wherein
R_b is hydrogen, and
R_c is alkyl substituted with NR_{bn}R_{cn}, wherein R_{bn} and R_{cn} are alkyl, or said R_{bn} and R_{cn} together with the N to which they are bonded optionally form a substituted heterocycle, and wherein said heterocycle is piperidine, or morpholine.
10. The compound of Claim 9, wherein NR_bR_c is 2-(di-ethyl amino) ethyl, amino, or 2-pyrrolidino ethyl amino.
11. The compound of Claim 8, wherein R_b and R_c together with the N to which they are bonded optionally form a heterocycle or substituted heterocycle.
12. The compound of Claim 11, wherein NR_bR_c is 4-methyl piperazinyl, or morpholino.
13. The compound of any one of Claims 1 to 12, wherein Q-2 is selected from the group consisting of pyrrole, furan, thiophene, imidazole, pyrazole, oxazole, isoxazole, thiazole, isothiazole, triazole, thiadiazole, oxadiazole, pyrrolidine, piperidine, azepane, tetrahydro furan, oxane, oxepane, indole, indolinone, indazole, benzothiazole, quinoline, quinazoline, quinoxaline, imidazopyridine, imidazopyridazine, pyrazolopyridine, pyrazolopyrimidine, phthalazinone, and phenyl.
14. The compound of Claim 13, wherein R_n is pyrrolidinyl, piperidinyl, azepanyl, tetrahydrofuranyl, oxanyl, oxepanyl, pyranyl, phenyl, thiophenyl, pyrazinyl, pyrimidinyl, pyridazinyl, or pyridyl (said piperidinyl, pyranyl, phenyl, thiophenyl, pyrazinyl, pyrimidinyl, pyridazinyl, and pyridyl are optionally substituted with halogen, cyano, nitro, alkyl or substituted alkyl, OR_a, NR_bR_c, C(=O)OR_e, C(=O)R_a, or C(=O)NR_bR_c (wherein R_a is hydrogen, or alkyl or substituted alkyl, R_b and R_c are independently hydrogen, or alkyl or substituted alkyl, and R_e is alkyl or substituted alkyl (substituted alkyl is optionally substituted with one or more substituent(s) selected from the group consisting of hydroxy, amino, nitro, cyano, halogen, alkoxy, alkylcarbonyl, alkoxycarbonyl, aminocarbonyl, aryl, cycloalkyl, and heterocycle), and

R_n and $R_{n''}$ are independently hydrogen, or alkyl or substituted alkyl (substituted alkyl is optionally substituted with one or more substituent(s) selected from the group consisting of hydroxy, amino, nitro, cyano, halogen, alkoxy, alkylcarbonyl, alkoxy carbonyl, aminocarbonyl, aryl, cycloalkyl, and heterocycle).

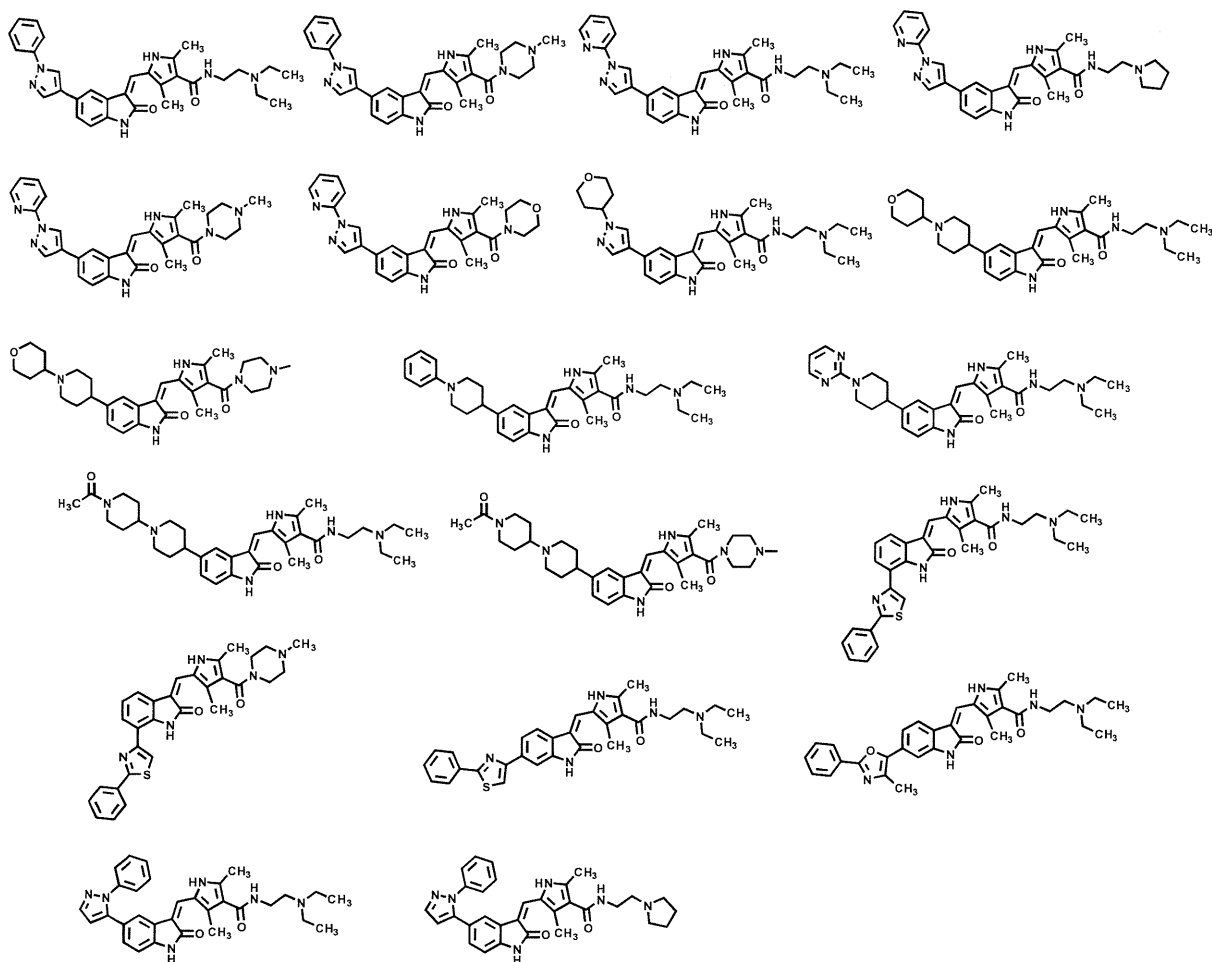
15. The compound of Claim 13, wherein Q-2 is selected from the group consisting of the following group:



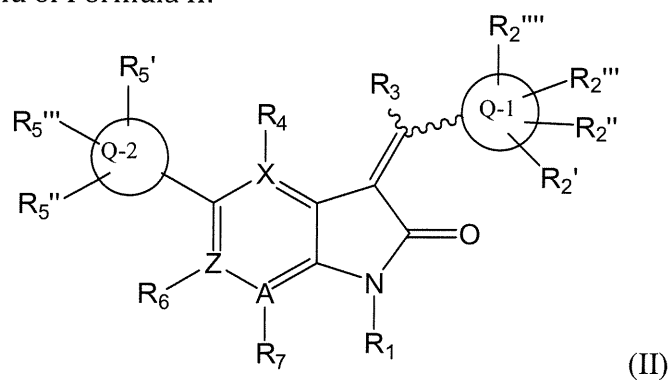
16. The compound of Claim 15, wherein Q-2 is selected from the group consisting of the following group:



17. A compound selected from the group consisting of:



18. A compound of Formula II:



or an enantiomer, diastereomer, tautomer, or pharmaceutically acceptable salt or solvate thereof,
wherein

R_1 is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

R_3 is hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, halogen, $-OR_a$, $-C(O)R_a$, $-C(O)OR_a$, $-NR_aR_b$, $S(O)_2NR_aR_b$;

R_4 , R_6 , and R_7 are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)R_e$, $S(=O)_2R_e$, $P(=O)_2R_e$, $S(=O)_2OR_e$, $P(=O)_2OR_e$, NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$;

X , Z , and A are each independently carbon or N, with the proviso that the ring in which X , Z , and A exist is aromatic;

$Q-1$ and $Q-2$ is independently is heterocycle, or aryl;

R_2' , R_2'' , R_2''' , and R_2'''' are each independently absent, hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$;

R_5' , R_5'' and R_5''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, OR_a , SR_a , $C(=O)R_a$, $C(=O)OR_a$, NH_2 , $S(O)_2NH_2$, heterocycle or substituted heterocycle, or aryl or substituted aryl;

wherein

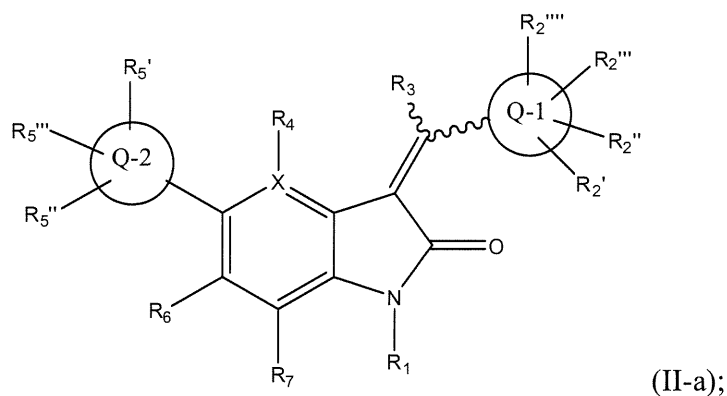
R_a is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl;

R_b, R_c and R_d are independently hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, or aryl or substituted aryl, or said R_b and R_c together with the N to which they are bonded optionally form a heterocycle or substituted heterocycle; and

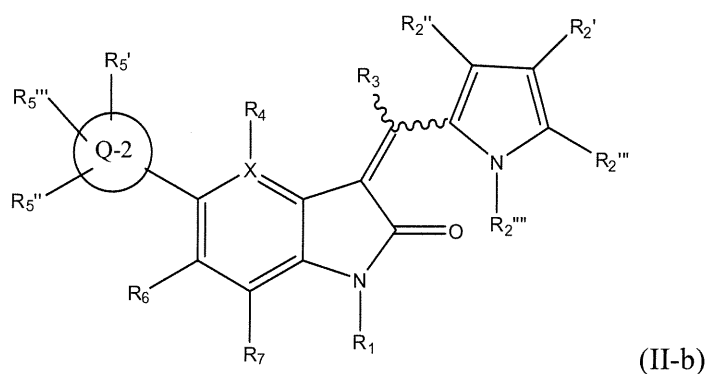
R_e is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl.

19. The compound of Claim 18, wherein the compound has:

(i) the formula,



(ii) the formula,

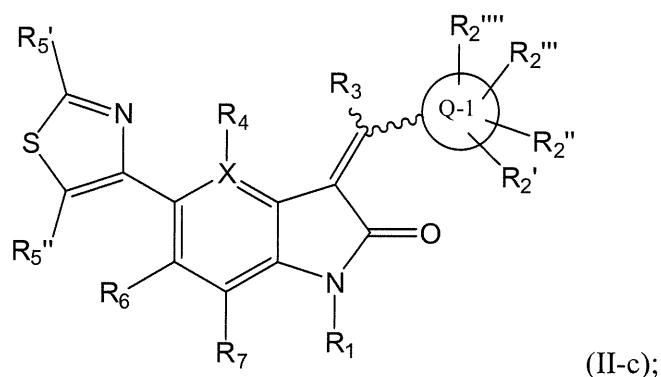


wherein

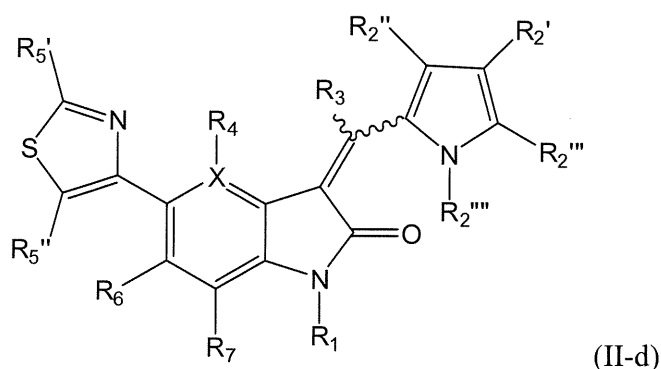
R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(iii) the formula,



(iv) the formula,



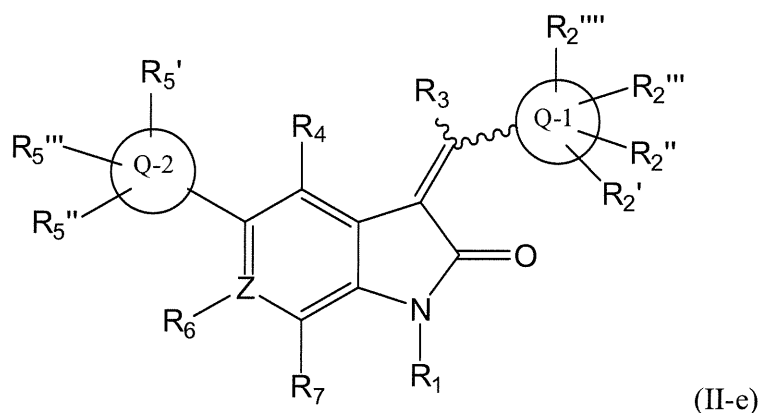
wherein

X is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

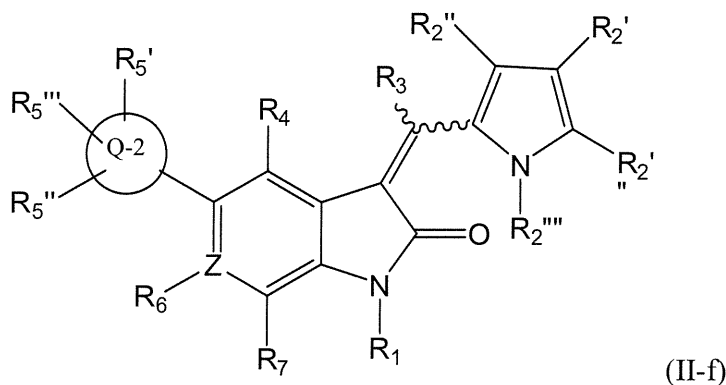
R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(v) the formula,



wherein Z is C or N;

(vi) the formula,



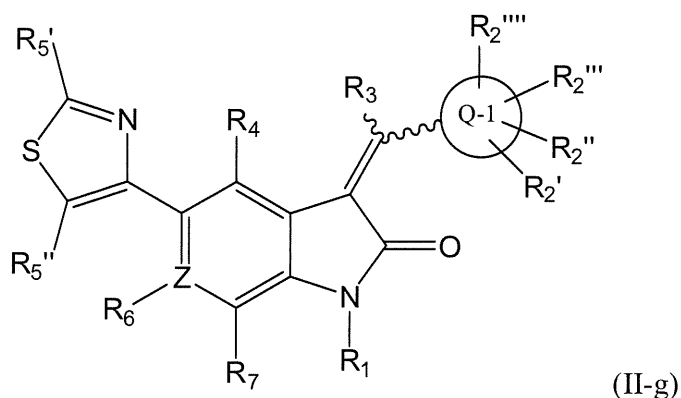
wherein

Z is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

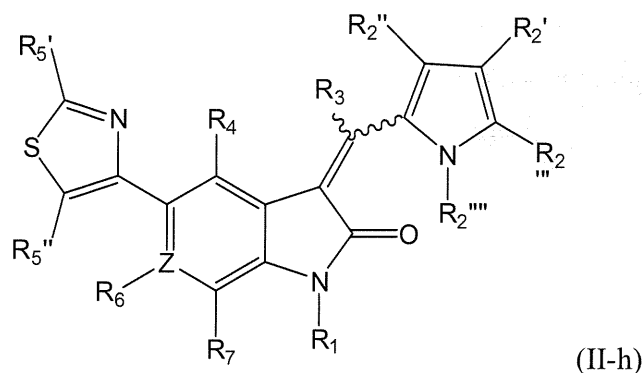
R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(vii) the formula,



wherein Z is C or N;

(viii) the formula,



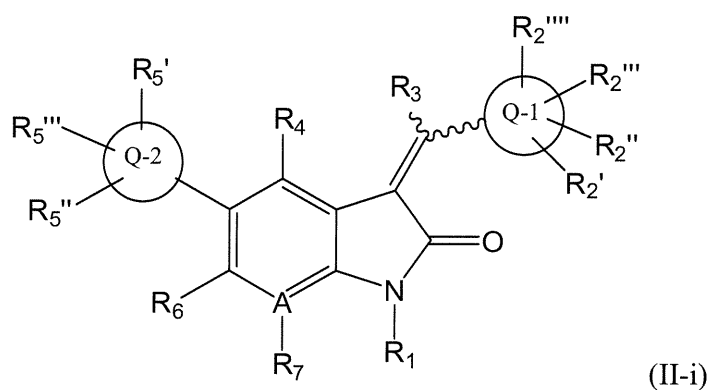
wherein

Z is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

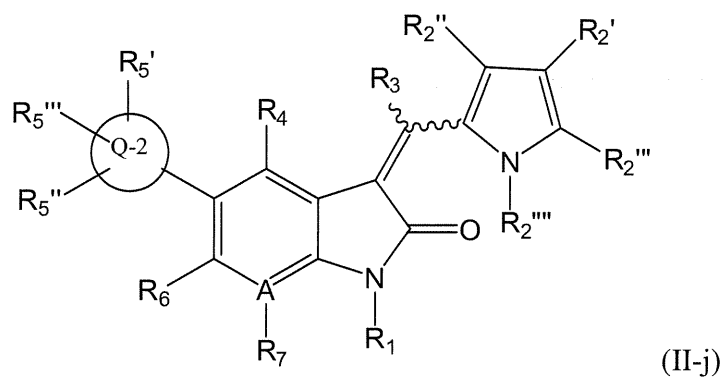
R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(ix) the formula,



wherein A is C or N;

(x) the formula,



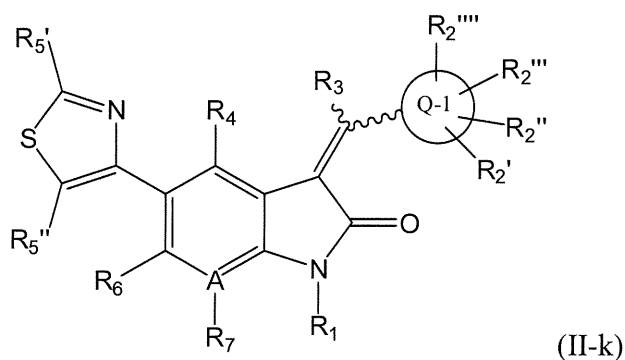
wherein

A is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

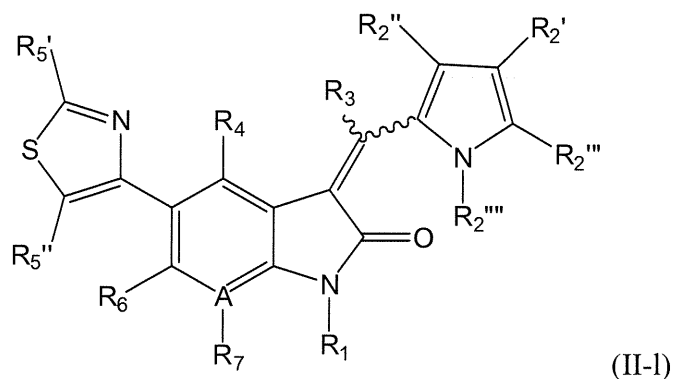
R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(xi) the formula,



wherein A is C or N;

(xii) the formula,



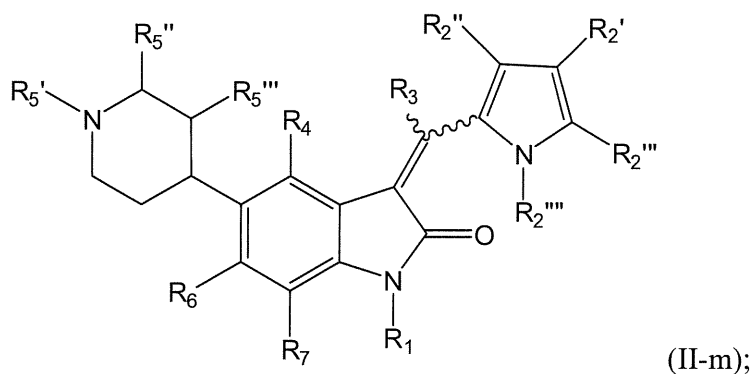
wherein

A is C or N,

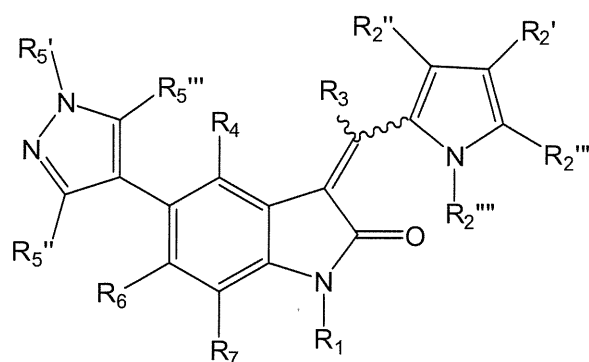
R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(xiii) the formula,

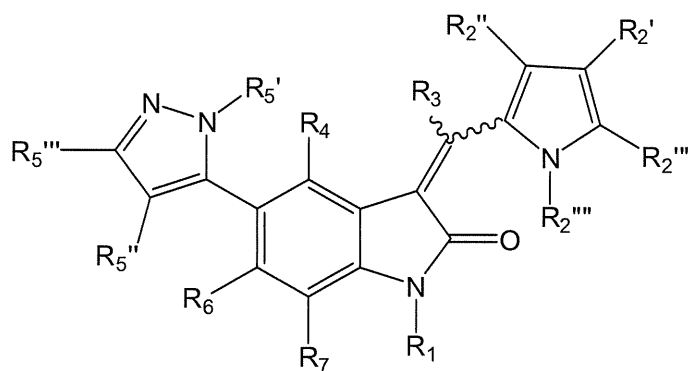


(xiii) the formula,



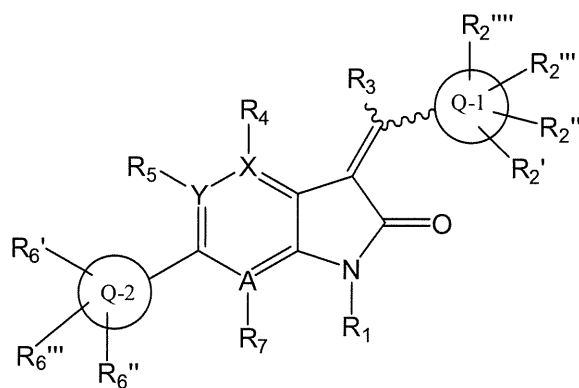
(II-n); or

(xiv) the formula,



(II-o)

20. A compound of Formula III,



(III)

or an enantiomer, diastereomer, tautomer, or pharmaceutically acceptable salt or solvate thereof, wherein:

R₁ is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl,

heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $\text{S(=O)}_2\text{R}_e$, $\text{S(=O)}_2\text{OR}_e$, C(=O)OR_d , C(=O)R_a , or $\text{C(=O)NR}_b\text{R}_c$;

R_3 is hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, halogen, $-\text{OR}_a$, $-\text{C(O)R}_a$, $-\text{C(O)OR}_a$, $-\text{NR}_a\text{R}_b$, or $\text{S(O)}_2\text{NR}_a\text{R}_b$;

R_4 , R_5 , and R_7 are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , S(=O)R_e , $\text{S(=O)}_2\text{R}_e$, $\text{P(=O)}_2\text{R}_e$, $\text{S(=O)}_2\text{OR}_e$, $\text{P(=O)}_2\text{OR}_e$, NR_bR_c , $\text{NR}_b\text{S(=O)}_2\text{R}_e$, $\text{NR}_b\text{P(=O)}_2\text{R}_e$, $\text{S(=O)}_2\text{NR}_b\text{R}_c$, $\text{P(=O)}_2\text{NR}_b\text{R}_c$, C(=O)OR_e , C(=O)R_a , $\text{C(=O)NR}_b\text{R}_c$, OC(=O)R_a , $\text{OC(=O)NR}_b\text{R}_c$, $\text{NR}_b\text{C(=O)OR}_e$, $\text{NR}_d\text{C(=O)NR}_b\text{R}_c$, $\text{NR}_d\text{S(=O)}_2\text{NR}_b\text{R}_c$, $\text{NR}_d\text{P(=O)}_2\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C(=O)R}_a$, or $\text{NR}_b\text{P(=O)}_2\text{R}_e$;

X , Y , and A are each independently carbon or N , with the proviso that the ring in which X , Y , and A exist is aromatic;

Q-1 and Q-2 are each independently is heterocycle or aryl;

R_2' , R_2'' , R_2''' and R_2'''' are each independently absent, hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $\text{NR}_b\text{S(=O)}_2\text{R}_e$, $\text{NR}_b\text{P(=O)}_2\text{R}_e$, $\text{S(=O)}_2\text{NR}_b\text{R}_c$, $\text{P(=O)}_2\text{NR}_b\text{R}_c$, C(=O)OR_e , C(=O)R_a , $\text{C(=O)NR}_b\text{R}_c$, OC(=O)R_a , $\text{OC(=O)NR}_b\text{R}_c$, $\text{NR}_b\text{C(=O)OR}_e$, $\text{NR}_d\text{C(=O)NR}_b\text{R}_c$, $\text{NR}_d\text{S(=O)}_2\text{NR}_b\text{R}_c$, $\text{NR}_d\text{P(=O)}_2\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C(=O)R}_a$, or $\text{NR}_b\text{P(=O)}_2\text{R}_e$;

R_6' , R_6'' and R_6''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, OR_a , SR_a , C(=O)R_a , C(=O)OR_a , NH_2 , $\text{S(O)}_2\text{NH}_2$, heterocycle or substituted heterocycle, or aryl or substituted aryl;

R_a is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl;

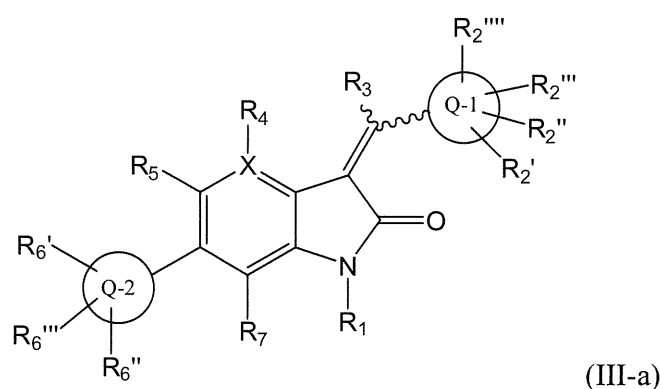
R_b , R_c and R_d are each independently hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, or aryl or substituted aryl,

or said R_b and R_c together with the N to which they are bonded optionally form a heterocycle or substituted heterocycle; and

R_e is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl.

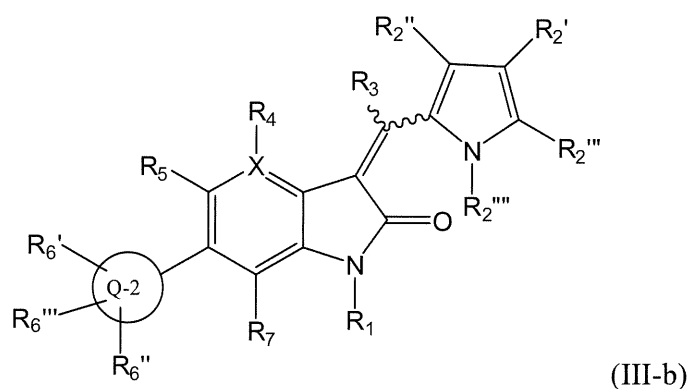
21. The compound of Claim 20, wherein the compound

(i) has the formula of



wherein X is C or N;

(ii) has the formula of



wherein

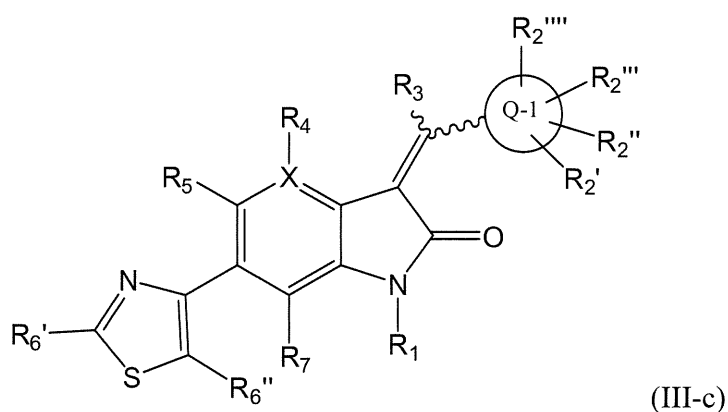
X is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$,

$S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

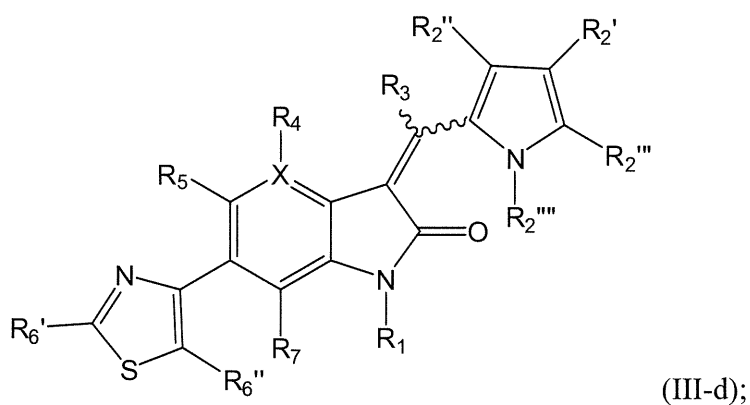
$R_{2''''}$ is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(iii) has the formula of



wherein X is C or N;

(iv) has the formula of



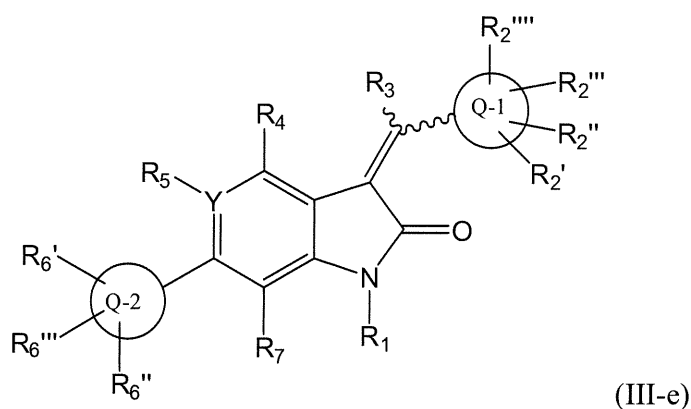
wherein

X is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

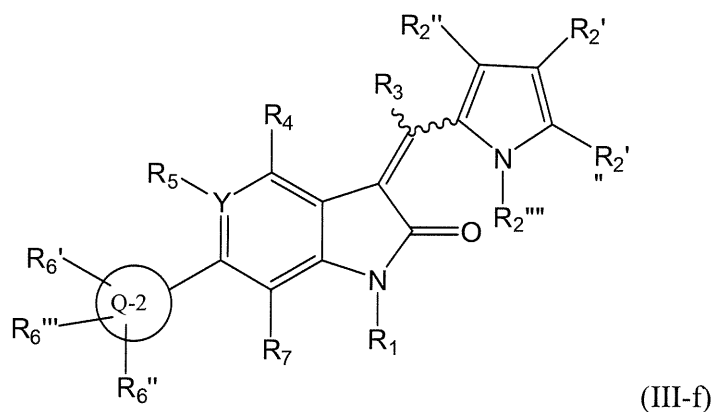
R_2'''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(v) has the formula of



wherein Y is C or N;

(vi) has the formula of



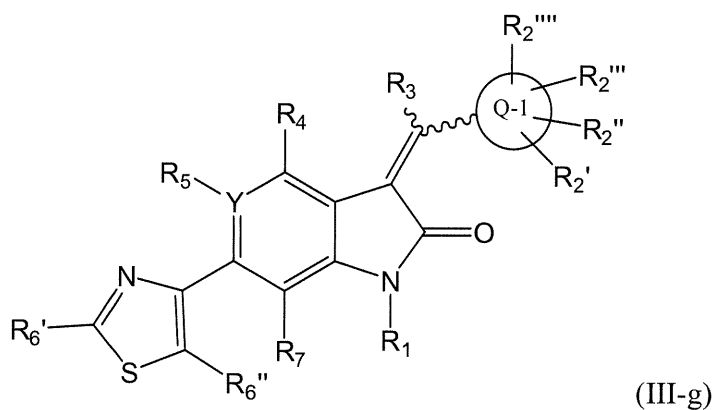
wherein

Y is C or N,

R_2 , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

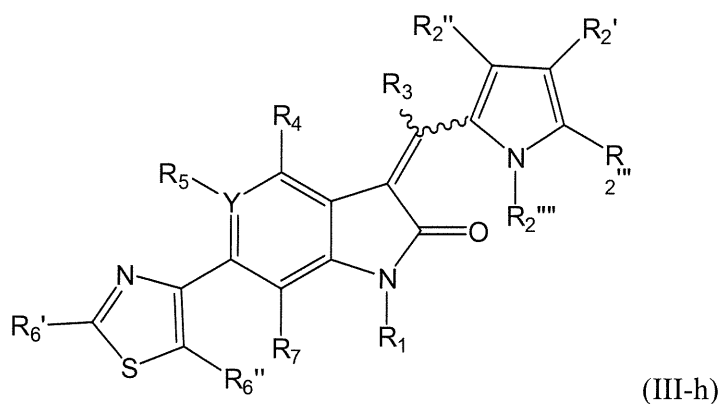
R_2'''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(vii) has the formula of



wherein Y is C or N;

(viii) has the formula of



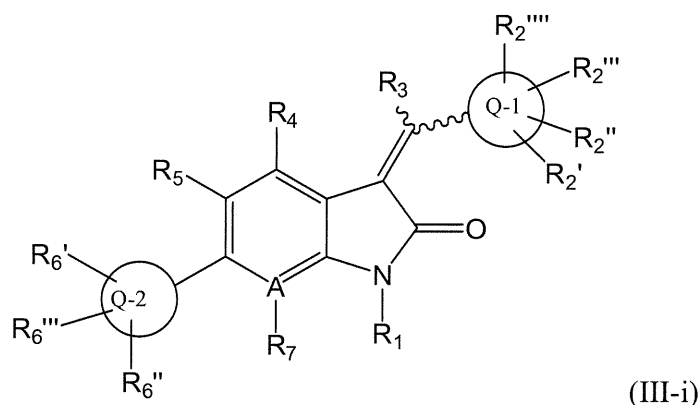
wherein

Y is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

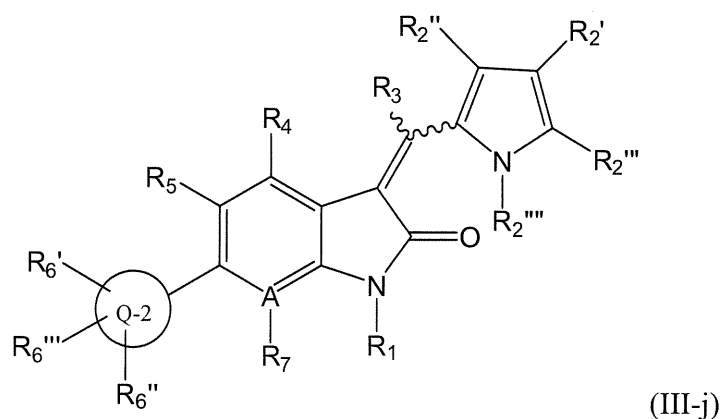
R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(ix) has the formula of



wherein A is C or N;

(x) has the formula of



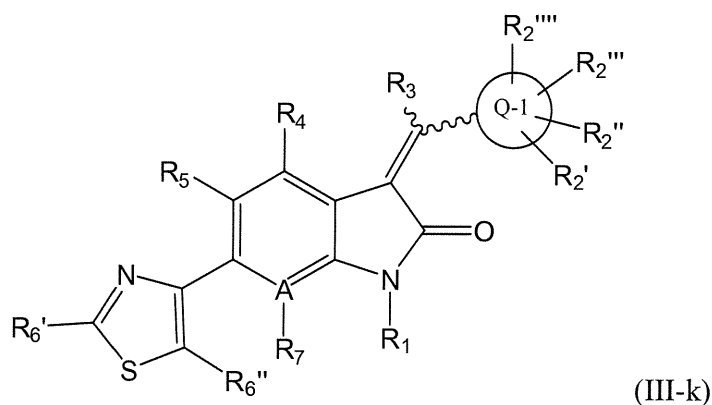
wherein

A is C or N,

R_2 , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

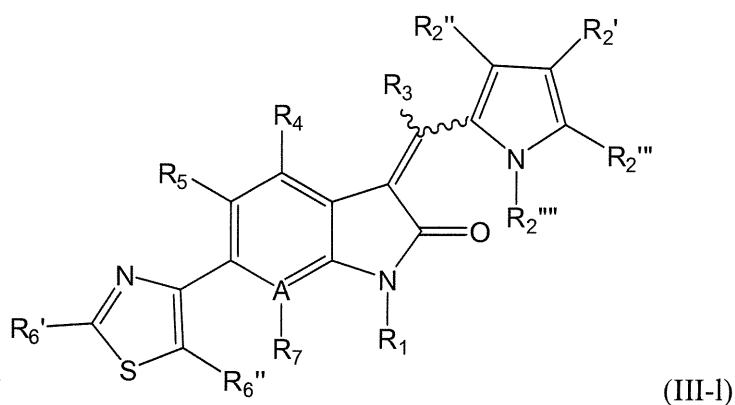
R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(xi) has the formula of



wherein A is C or N; or

(xii) has the formula of



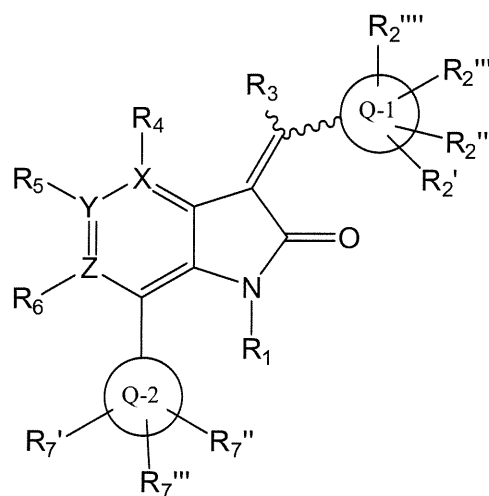
wherein

A is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

R_2'''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$.

22. A compound of Formula IV,



(IV)

or an enantiomer, diastereomer, tautomer, or pharmaceutically acceptable salt or solvate thereof, wherein:

R_1 is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

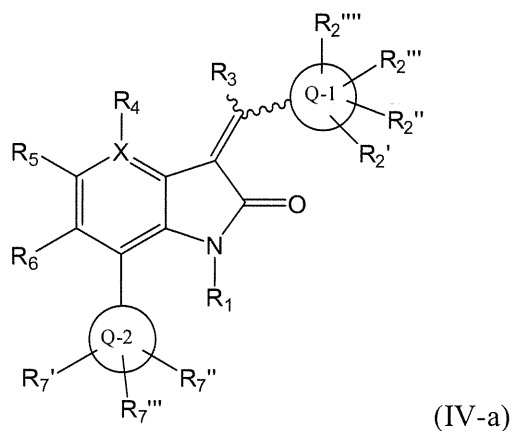
R_3 is hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, halogen, $-OR_a$, $-C(O)R_a$, $-C(O)OR_a$, $-NR_aR_b$, or $S(O)_2NR_aR_b$;

R_4 , R_5 , and R_6 are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)R_e$, $S(=O)_2R_e$, $P(=O)_2R_e$, $S(=O)_2OR_e$, $P(=O)_2OR_e$, NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$;

X , Y , and Z are each independently carbon or N, with the proviso that the ring in which X , Y , and Z exist is aromatic;

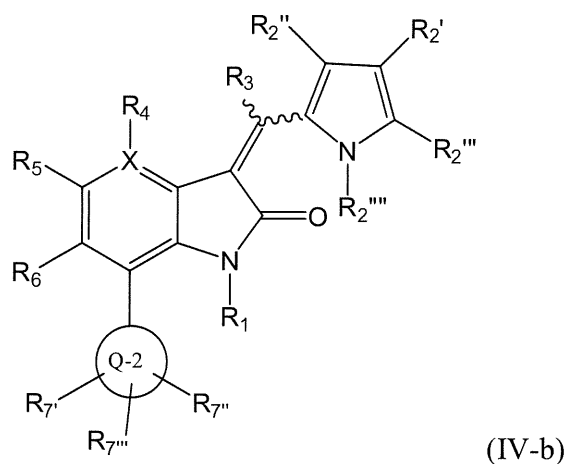
$Q-1$ and $Q-2$ are each independently is heterocycle or aryl;

- R_2' , R_2'' , R_2''' and R_2'''' are each independently absent, hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$,
- R_7 , R_7'' and R_7''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, OR_a , SR_a , $C(=O)R_a$, $C(=O)OR_a$, NH_2 , $S(O)_2NH_2$, heterocycle or substituted heterocycle, or aryl or substituted aryl;
- R_a is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl;
- R_b , R_c and R_d are each independently hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, or aryl or substituted aryl, or said R_b and R_c together with the N to which they are bonded optionally form a heterocycle or substituted heterocycle; and
- R_e is alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl.
23. The compound of Claim 22, wherein the compound
- (i) has the formula:



wherein X is C or N;

(ii) has the formula:



wherein

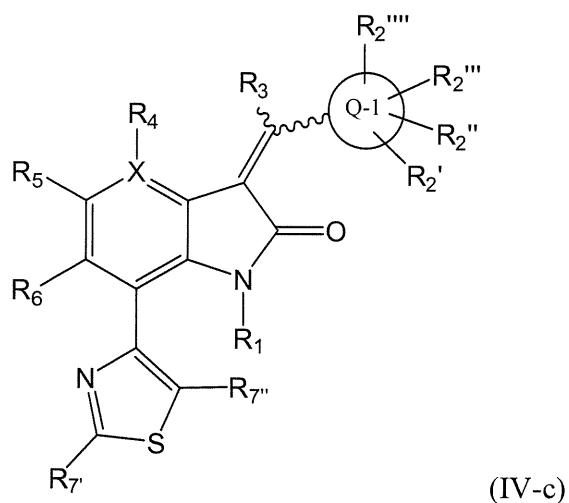
X is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted

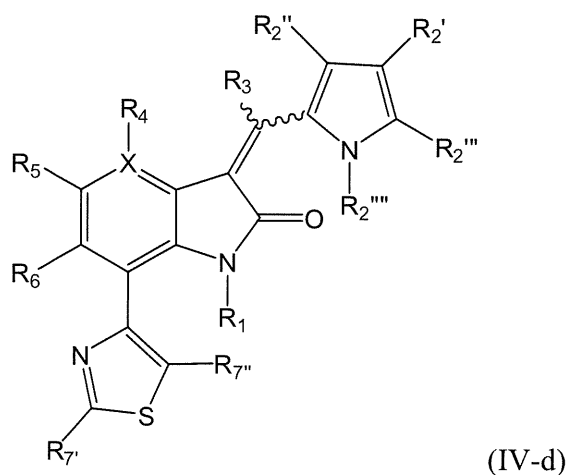
cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(iii) has the formula:



wherein X is C or N;

(iv) has the formula:



wherein

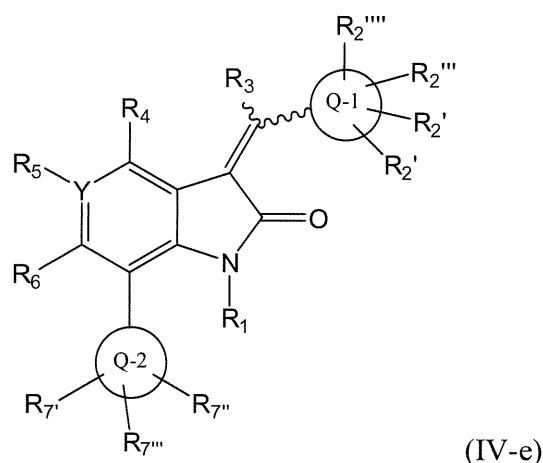
X is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$,

$S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

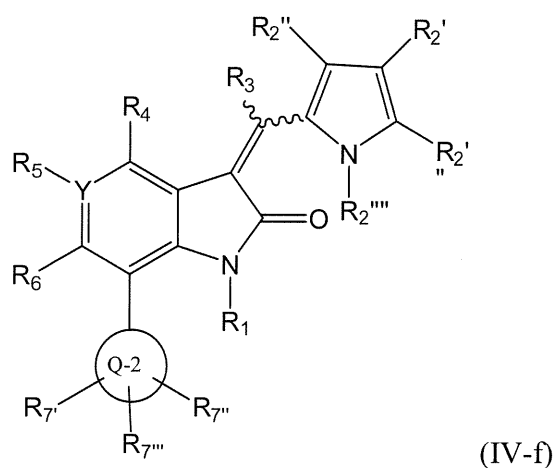
$R_2^{''''}$ is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(v) has the formula:



wherein Y is C or N;

(vi) has the formula:



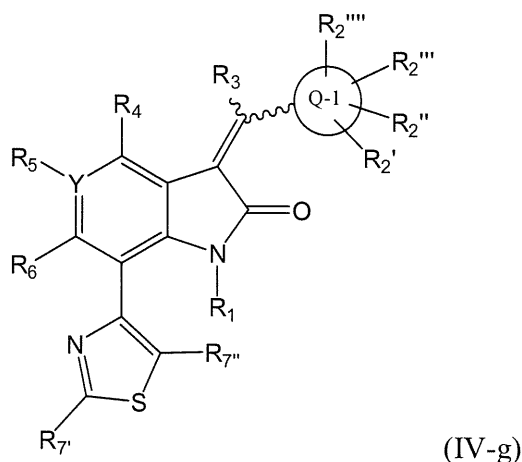
wherein

Y is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

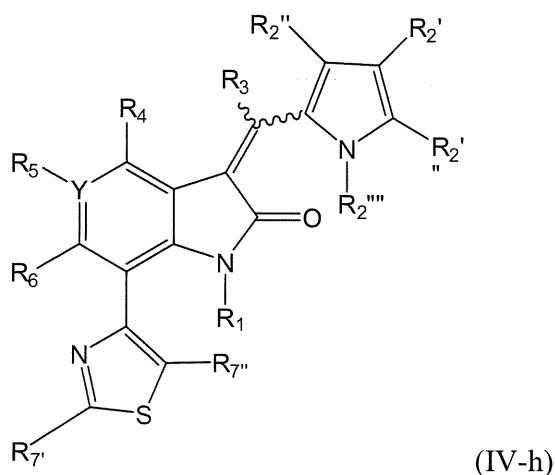
R_2'''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(vii) has the formula:



wherein Y is C or N;

(viii) has the formula:



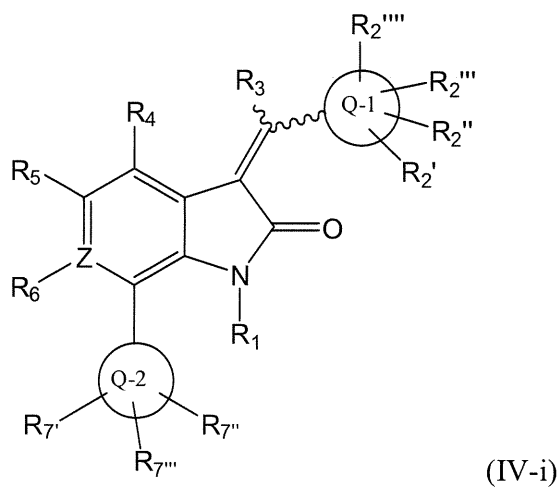
wherein

Y is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

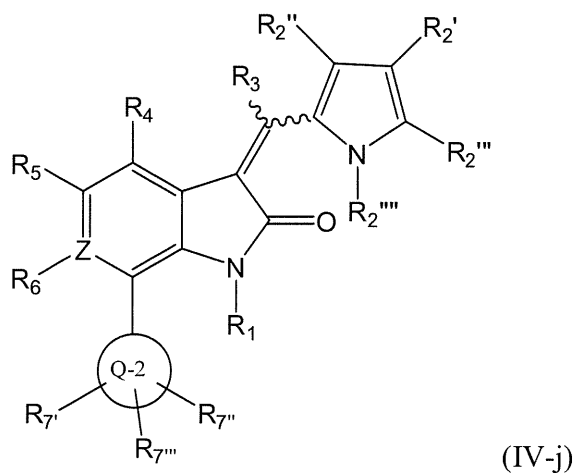
R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(ix) has the formula:



wherein Z is C or N;

(x) has the formula:



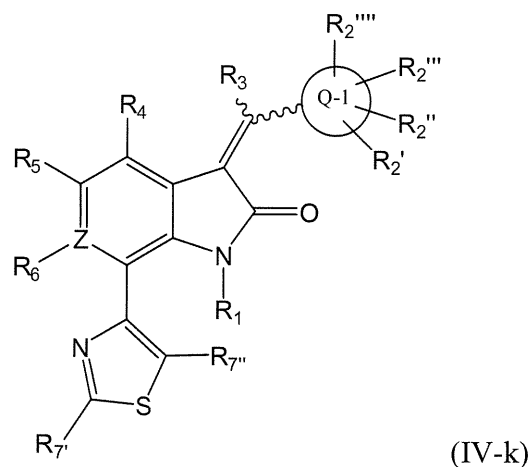
wherein

Z is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

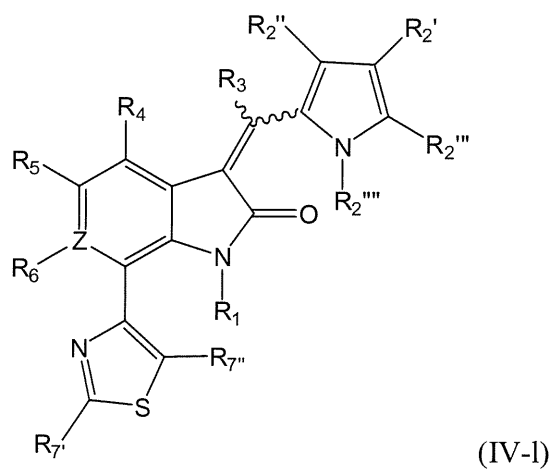
$R_{2''''}$ is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(xi) has the formula:



wherein Z is C or N; or

(xii) has the formula:



wherein

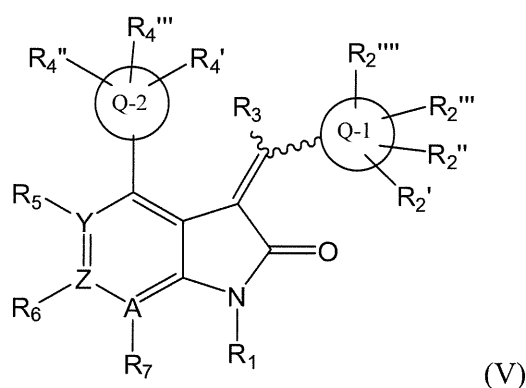
Z is C or N,

$R_{2'}$, $R_{2''}$, and $R_{2''''}$ are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted

heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$.

24. A compound of Formula V,



or an enantiomer, diastereomer, tautomer, or pharmaceutically acceptable salt or solvate thereof, wherein:

R_1 is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

R_3 is hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, halogen, $-OR_a$, $-C(O)R_a$, $-C(O)OR_a$, $-NR_aR_b$, or $S(O)_2NR_aR_b$;

R_5 , R_6 , and R_7 are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)R_e$,

$S(=O)_2R_e$, $P(=O)_2R_e$, $S(=O)_2OR_e$, $P(=O)_2OR_e$, NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$,
 $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$,
 $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$,
 $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$;

Y, Z and A are each independently carbon or N, with the proviso that the ring in which Y, Z and A exist is aromatic;

Q-1 and Q-2 are each independently is heterocycle or aryl;

R_2' , R_2'' , R_2''' and R_2'''' are each independently absent, hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$;

R_4' , R_4'' and R_4''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, OR_a , SR_a , $C(=O)R_a$, $C(=O)OR_a$, NH_2 , $S(O)_2NH_2$, heterocycle or substituted heterocycle, or aryl or substituted aryl;

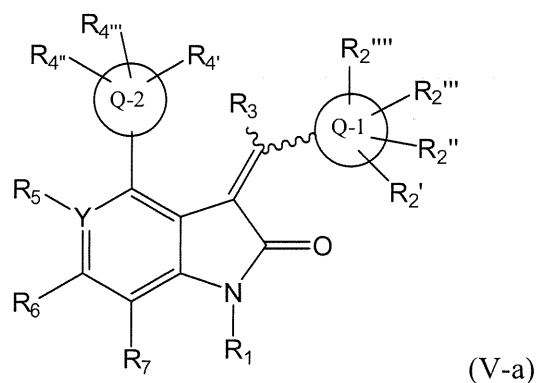
R_a is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl;

R_b , R_c and R_d are each independently hydrogen, alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, or aryl or substituted aryl, or said R_b and R_c together with the N to which they are bonded optionally form a heterocycle or substituted heterocycle; and

R_e is alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, or aryl or substituted aryl.

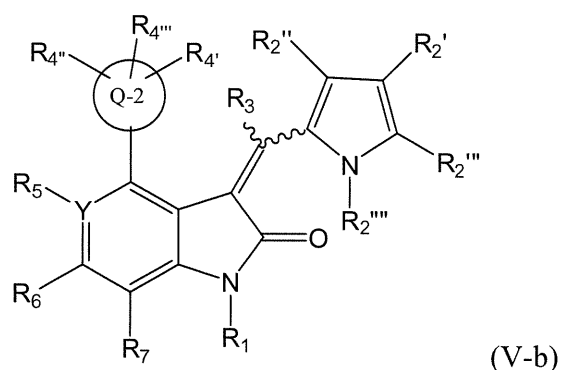
25. The compound of Claim 24, wherein the compound

(i) has the formula of



wherein Y is C or N;

(ii) has the formula of



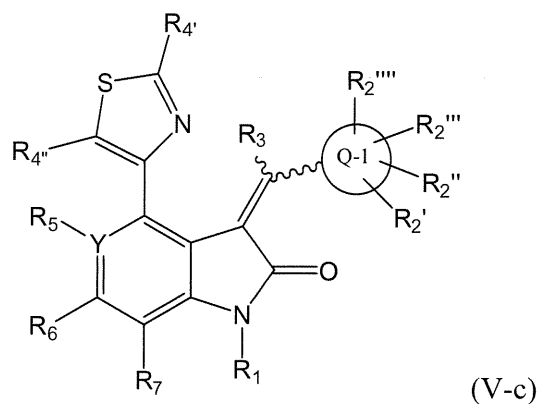
wherein

Y is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

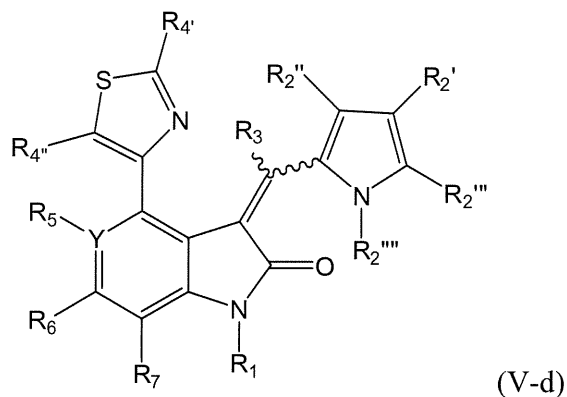
R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(iii) has the formula of



wherein Y is C or N;

(iv) has the formula of



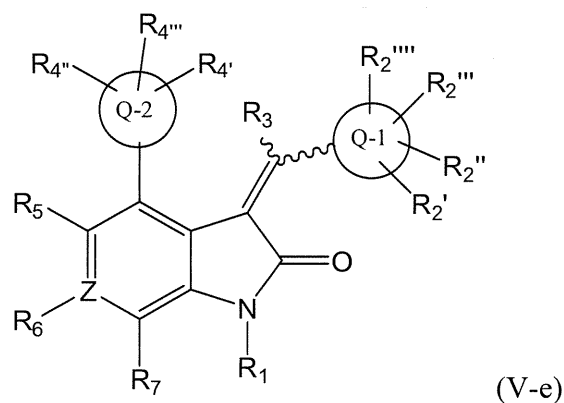
wherein

Y is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $\text{NR}_b\text{S}(=\text{O})_2\text{R}_e$, $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{C}(=\text{O})\text{OR}_e$, $\text{C}(=\text{O})\text{R}_a$, $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{OC}(=\text{O})\text{R}_a$, $\text{OC}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{OR}_e$, $\text{NR}_d\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_d\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{R}_a$, or $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, and

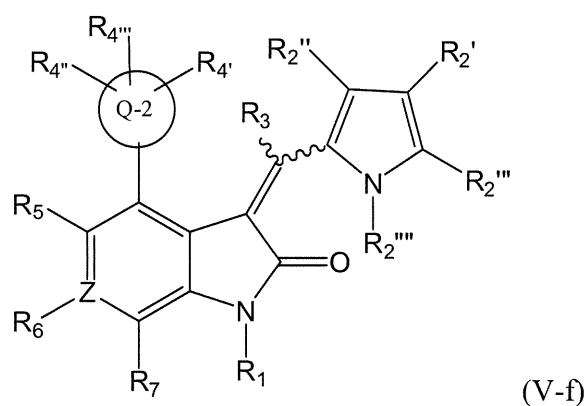
R_2'''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $\text{S}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{OR}_e$, $\text{C}(=\text{O})\text{OR}_d$, $\text{C}(=\text{O})\text{R}_a$, or $\text{C}(=\text{O})\text{NR}_b\text{R}_c$;

(v) has the formula of



wherein Z is C or N;

(vi) has the formula of



wherein

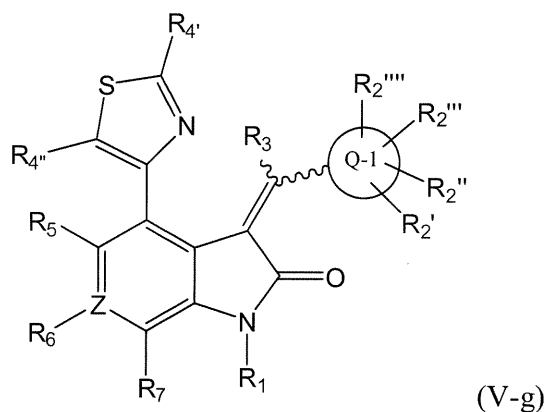
Z is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $\text{NR}_b\text{S}(=\text{O})_2\text{R}_e$, $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{C}(=\text{O})\text{OR}_e$, $\text{C}(=\text{O})\text{R}_a$, $\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{OC}(=\text{O})\text{R}_a$, $\text{OC}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{OR}_e$, $\text{NR}_d\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_d\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{R}_a$, or $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, and

R_2''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted

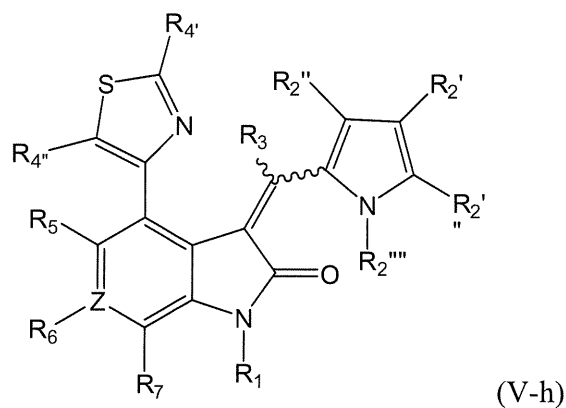
cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(vii) has the formula of



wherein Z is C or N;

(viii) has the formula of



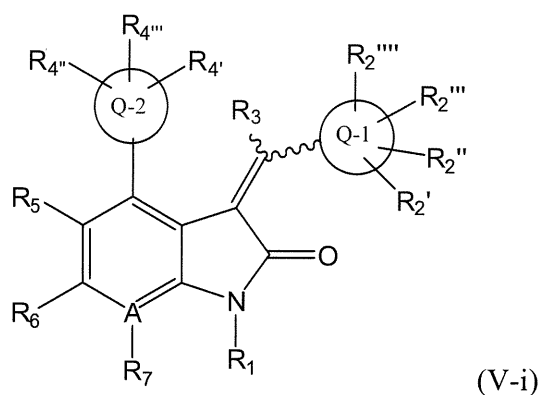
wherein

Z is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

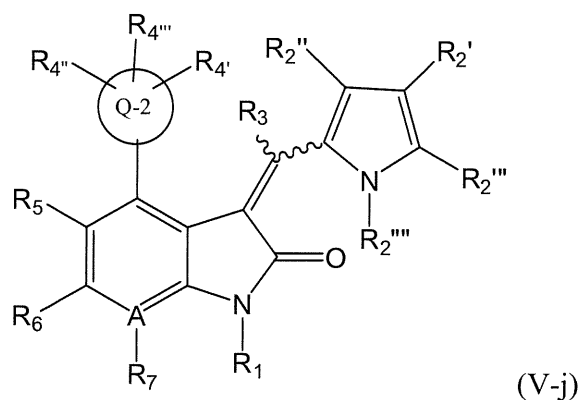
$R_{2''''}$ is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$;

(ix) has the formula of



wherein Z is C or N;

(x) has the formula of



wherein

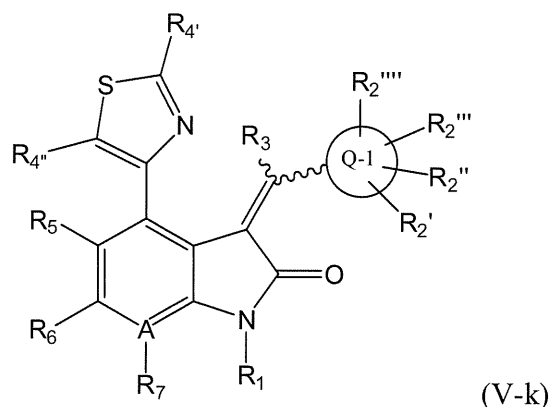
Z is C or N,

$R_{2'}$, $R_{2''}$, and $R_{2''''}$ are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$,

$\text{NR}_b\text{C}(=\text{O})\text{OR}_e$, $\text{NR}_d\text{C}(=\text{O})\text{NR}_b\text{R}_c$, $\text{NR}_d\text{S}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_d\text{P}(=\text{O})_2\text{NR}_b\text{R}_c$, $\text{NR}_b\text{C}(=\text{O})\text{R}_a$, or $\text{NR}_b\text{P}(=\text{O})_2\text{R}_e$, and

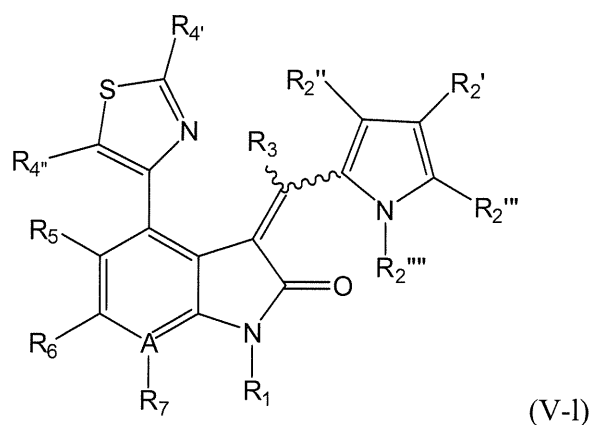
R_2'''' is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $\text{S}(=\text{O})_2\text{R}_e$, $\text{S}(=\text{O})_2\text{OR}_e$, $\text{C}(=\text{O})\text{OR}_d$, $\text{C}(=\text{O})\text{R}_a$, or $\text{C}(=\text{O})\text{NR}_b\text{R}_c$;

(xi) has the formula of



wherein A is C or N; or

(xii) has the formula of



wherein

A is C or N,

R_2' , R_2'' , and R_2''' are each independently hydrogen, halogen, cyano, nitro, trihalomethyl, OCF_3 , alkyl or substituted alkyl, cycloalkyl or substituted cycloalkyl, heterocycle or substituted

heterocycle, aryl or substituted aryl, or OR_a , NR_bR_c , $NR_bS(=O)_2R_e$, $NR_bP(=O)_2R_e$, $S(=O)_2NR_bR_c$, $P(=O)_2NR_bR_c$, $C(=O)OR_e$, $C(=O)R_a$, $C(=O)NR_bR_c$, $OC(=O)R_a$, $OC(=O)NR_bR_c$, $NR_bC(=O)OR_e$, $NR_dC(=O)NR_bR_c$, $NR_dS(=O)_2NR_bR_c$, $NR_dP(=O)_2NR_bR_c$, $NR_bC(=O)R_a$, or $NR_bP(=O)_2R_e$, and

$R_{2, \dots}$ is hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, cycloalkenyl or substituted cycloalkenyl, heterocycle or substituted heterocycle, aryl or substituted aryl, OR_a , SR_a , $S(=O)_2R_e$, $S(=O)_2OR_e$, $C(=O)OR_d$, $C(=O)R_a$, or $C(=O)NR_bR_c$.

26. A pharmaceutical composition comprising a compound of any one of Claims 1-25, or a pharmaceutically acceptable salt, ester or pro-drug thereof, and a pharmaceutically acceptable excipient, carrier, or diluent.

27. The compound of any one of Claims 1-25 for use in the treatment or prevention of cancer, or a related disorder or condition thereof in a mammal.

28. The compound of any one of Claims 1-25 for use in the treatment, prevention, amelioration of a protein kinase related disorder in a mammal.

29. The compound of Claim 28, wherein the protein kinase related disorder is a cancer such as lung cancer, bladder cancer, head and neck cancer, melanoma, ovarian cancer, prostate cancer, breast cancer, small-cell lung cancer, glioma, colorectal cancer, non-small cell lung cancer, genitourinary cancer, pancreatic cancer, thyroid cancer, Hodgkin's lymphoma, non-Hodgkin's lymphoma, gastrointestinal cancer, gastric cancer, hepatoma, gastrointestinal stromal tumor, squamous cell carcinoma, renal cell carcinoma, astrocytoma, Kaposi's sarcoma, chronic myelogenous leukemia, acute myelogenous leukemia, myeloproliferative disorders, and glioblastoma.

30. The compound of any one of Claims 1-25 for use in inhibiting, reducing, and/or diminishing cancer stem cell survival and/or proliferation, self-renewal in a mammal by inhibiting or decreasing unwanted activity of CSCPKs.

31. A method of inhibiting cancer stem cell, or stromal cell signaling by targeting CSCPKs, comprising contacting said CSCPKs with the compound of any one of Claims 1-25, or a pharmaceutically- acceptable salt, ester or pro-drug thereof.
32. The compound of any one of Claims 1-25, or a pharmaceutically- acceptable salt, ester or pro-drug thereof, for use in the treatment of cancer.
33. A method of modulating the catalytic activity of a protein kinase, comprising contacting said protein kinase with the compound of any one of Claims 1-25, or a pharmaceutically- acceptable salt, ester or pro-drug thereof.