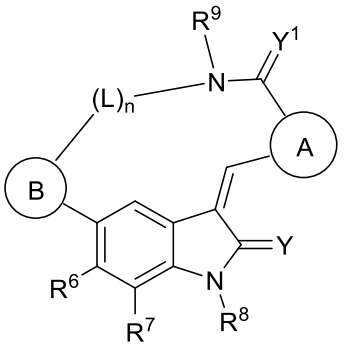
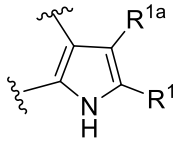
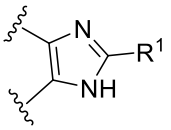
WHAT IS CLAIMED IS:

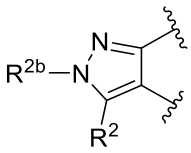
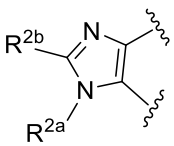
1. A compound of the formula I, or a pharmaceutically acceptable salt thereof,



I

wherein

A is  or ;

B is  or ;

each L is independently $-C(R^3)(R^4)-$, $-C(O)-$, $-O-$, $-N(R^5)-$, $-S-$, $-S(O)-$ or $-S(O)_2-$, provided that $(L)_n$ does not comprise a –O-O-, a –O-S-, a -S-S-, or a –O-$N(R^5)$- bond, and $(L)_n$-$N(R^9)$- does not comprise a –O-$N(R^9)$- or a –S-$N(R^9)$- bond;

Y and Y^1 are each independently O or S;

each of R^1, R^{1a}, and R^2 is independently H, deuterium, halogen, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_6 cycloalkyl, 4- to 8-membered heterocycloalkyl, C_6-C_{10} aryl, 5- to 10-membered heteroaryl, $-OR^a$, $-OC(O)R^a$, $-OC(O)NR^aR^b$, $-OS(O)R^a$, $-OS(O)_2R^a$, $-SR^a$, $-S(O)R^a$, $-S(O)_2R^a$, $-S(O)NR^aR^b$, $-S(O)_2NR^aR^b$, $-OS(O)NR^aR^b$, $-OS(O)_2NR^aR^b$, $-NR^aR^b$, $-NR^aC(O)R^b$, $-NR^aC(O)OR^b$, $-NR^aC(O)NR^aR^b$, $-NR^aS(O)R^b$, $-NR^aS(O)_2R^b$, $-NR^aS(O)NR^aR^b$, $-NR^aS(O)_2NR^aR^b$, $-C(O)R^a$, $-C(O)OR^a$, $-C(O)NR^aR^b$, $-PR^aR^b$, $-P(O)R^aR^b$, $-P(O)_2R^aR^b$, $-P(O)NR^aR^b$, $-P(O)_2NR^aR^b$, $-P(O)OR^a$, $-P(O)_2OR^a$, -CN, or $-NO_2$, wherein each hydrogen atom in C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_6 cycloalkyl, 4- to 8-membered heterocycloalkyl, C_6-C_{10} aryl, or 5- to 10-membered heteroaryl, is independently optionally substituted by deuterium, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, $-OR^e$, $-OC(O)R^e$, $-OC(O)NR^eR^f$, $-OS(O)R^e$, $-OS(O)_2R^e$, $-OS(O)NR^eR^f$, $-OS(O)_2NR^eR^f$, $-SR^e$, $-S(O)R^e$, $-S(O)_2R^e$, $-S(O)NR^eR^f$, $-S(O)_2NR^eR^f$, $-NR^eR^f$, $-NR^eC(O)R^f$, $-NR^eC(O)OR^f$, $-NR^eC(O)NR^eR^f$, $-NR^eS(O)R^f$, $-NR^eS(O)_2R^f$, $-NR^eS(O)NR^eR^f$, $-NR^eS(O)_2NR^eR^f$, $-C(O)R^e$, $-C(O)OR^e$,

-C(O)NR^{e}R^f, -PR^{e}R^f, -P(O)R^{e}R^f, -P(O)$_2$R^{e}R^f, -P(O)NR^{e}R^f, -P(O)$_2$NR^{e}R^f, -P(O)OR^e, -P(O)$_2$OR^e, -CN, or -NO$_2$;

each of R^{2a}, R^5, R^8, and R^9 is independently H, deuterium, C$_1$-C$_6$ alkyl, C$_2$-C$_6$ alkenyl, C$_2$-C$_6$ alkynyl, C$_3$-C$_6$ cycloalkyl, 4- to 8-membered heterocycloalkyl, C$_6$-C$_{10}$ aryl, or 5- to 10-membered heteroaryl, wherein each hydrogen atom in C$_1$-C$_6$ alkyl, C$_2$-C$_6$ alkenyl, C$_2$-C$_6$ alkynyl, C$_3$-C$_6$ cycloalkyl, 4- to 8-membered heterocycloalkyl, C$_6$-C$_{10}$ aryl, or 5- to 10-membered heteroaryl is independently optionally substituted by deuterium, halogen, C$_1$-C$_6$ alkyl, C$_1$-C$_6$ haloalkyl, -OR^e, -OC(O)R^e, -OC(O)NR^{e}R^f, -OS(O)R^e, -OS(O)$_2$R^e, -OS(O)NR^{e}R^f, -OS(O)$_2$NR^{e}R^f, -SR^e, -S(O)R^e, -S(O)$_2$R^e, -S(O)NR^{e}R^f, -S(O)$_2$NR^{e}R^f, -NR^{e}R^f, -NR^{e}C(O)R^f, -NR^{e}C(O)OR^f, -NR^{e}C(O)NR^{e}R^f, -NR^{e}S(O)R^f, -NR^{e}S(O)$_2$R^f, -NR^{e}S(O)NR^{e}R^f, -NR^{e}S(O)$_2$NR^{e}R^f, -C(O)R^e, -C(O)OR^e, -C(O)NR^{e}R^f, -PR^{e}R^f, -P(O)R^{e}R^f, -P(O)$_2$R^{e}R^f, -P(O)NR^{e}R^f, -P(O)$_2$NR^{e}R^f, -P(O)OR^e, -P(O)$_2$OR^e, -CN, or -NO$_2$;

R^{2b} is C$_1$-C$_4$ alkyl, C$_2$-C$_4$ alkenyl, C$_2$-C$_4$ alkynyl, C$_3$-C$_4$ cycloalkyl, or 3- to 4-membered heterocycloalkyl, wherein each hydrogen atom in C$_1$-C$_4$ alkyl, C$_2$-C$_4$ alkenyl, C$_2$-C$_4$ alkynyl, C$_3$-C$_4$ cycloalkyl, and 3- to 4-membered heterocycloalkyl is independently optionally substituted by deuterium, halogen, -O(H or C$_1$-C$_2$ alkyl), -OC(O)C$_1$-C$_2$ alkyl, -OC(O)N(H or C$_1$-C$_2$ alkyl)$_2$, -OS(O)C$_1$-C$_2$ alkyl, -OS(O)$_2$C$_1$-C$_2$ alkyl, -OS(O)N(H or C$_1$-C$_2$ alkyl)$_2$, -OS(O)$_2$N(H or C$_1$-C$_2$ alkyl)$_2$, -S(H or C$_1$-C$_2$ alkyl), -S(O)C$_1$-C$_2$ alkyl, -S(O)$_2$C$_1$-C$_2$ alkyl, -S(O)N(H or C$_1$-C$_2$ alkyl)$_2$, -S(O)$_2$N(H or C$_1$-C$_2$ alkyl)$_2$, -N(H or C$_1$-C$_2$ alkyl)$_2$, -N(H or C$_1$-C$_2$ alkyl)C(O)C$_1$-C$_2$ alkyl, -N(H or C$_1$-C$_2$ alkyl)C(O)O(H or C$_1$-C$_2$ alkyl), -N(H or C$_1$-C$_2$ alkyl)C(O)N(H or C$_1$-C$_2$ alkyl)$_2$, -N(H or C$_1$-C$_2$ alkyl)S(O)C$_1$-C$_2$ alkyl, -N(H or C$_1$-C$_2$ alkyl)S(O)$_2$C$_1$-C$_2$ alkyl, -N(H or C$_1$-C$_2$ alkyl)S(O)N(H or C$_1$-C$_2$ alkyl)$_2$, -N(H or C$_1$-C$_2$ alkyl)S(O)$_2$N(H or C$_1$-C$_2$ alkyl)$_2$, -C(O)C$_1$-C$_2$ alkyl, -C(O)O(H or C$_1$-C$_2$ alkyl), -C(O)N(H or C$_1$-C$_2$ alkyl)$_2$, -P(H or C$_1$-C$_2$ alkyl)$_2$, -P(O)(H or C$_1$-C$_2$ alkyl)$_2$, -P(O)$_2$(H or C$_1$-C$_2$ alkyl)$_2$, -P(O)N(H or C$_1$-C$_2$ alkyl)$_2$, -P(O)$_2$N(H or C$_1$-C$_2$ alkyl)$_2$, -P(O)O(H or C$_1$-C$_2$ alkyl), -P(O)$_2$O(H or C$_1$-C$_2$ alkyl), -CN, or -NO$_2$;

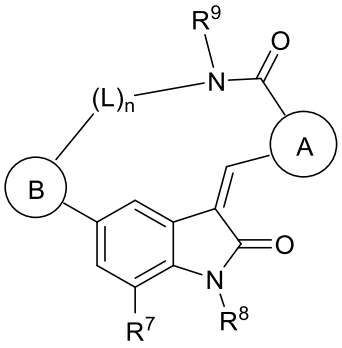
each R^3 and R^4 is independently H, deuterium, halogen, C$_1$-C$_6$ alkyl, C$_2$-C$_6$ alkenyl, C$_2$-C$_6$ alkynyl, C$_3$-C$_6$ cycloalkyl, 4- to 8-membered heterocycloalkyl, C$_6$-C$_{10}$ aryl, 5- to 10-membered heteroaryl, -OR^c, -OC(O)R^c, -OC(O)NR^{c}R^d, -OS(O)R^c, -OS(O)$_2$R^c, -OS(O)NR^{c}R^d, -OS(O)$_2$NR^{c}R^d, -SR^c, -S(O)R^c, -S(O)$_2$R^c, -S(O)NR^{c}R^d, -S(O)$_2$NR^{c}R^d, -NR^{c}R^d, -NR^{c}C(O)R^d, -N(C(O)R^c)(C(O)R^d), -NR^{c}C(O)OR^d, -NR^{c}C(O)NR^{c}R^d, -NR^{c}S(O)R^d, -NR^{c}S(O)$_2$R^d, -NR^{c}S(O)NR^{c}R^d, -NR^{c}S(O)$_2$NR^{c}R^d, -C(O)R^c, -C(O)OR^c, -C(O)NR^{c}R^d, -PR^{c}R^d, -P(O)R^{c}R^d, -P(O)$_2$R^{c}R^d, -P(O)NR^{c}R^d, -P(O)$_2$NR^{c}R^d, -P(O)OR^c, -P(O)$_2$OR^c, -CN, -NO$_2$, or two of R^3, R^4, and R^5 taken together with the atoms to which they are attached form a C$_3$-C$_6$ cycloalkyl or a 4- to 8-membered heterocycloalkyl,

wherein each hydrogen atom in C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_6 cycloalkyl, 4- to 8-membered heterocycloalkyl, C_6-C_{10} aryl, or 5- to 10-membered heteroaryl is independently optionally substituted by deuterium, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, $-OR^e$, $-OC(O)R^e$, $-OC(O)NR^eR^f$, $-OS(O)R^e$, $-OS(O)_2R^e$, $-OS(O)NR^eR^f$, $-OS(O)_2NR^eR^f$, $-SR^e$, $-S(O)R^e$, $-S(O)_2R^e$, $-S(O)NR^eR^f$, $-S(O)_2NR^eR^f$, $-NR^eR^f$, $-NR^eC(O)R^f$, $-NR^eC(O)OR^f$, $-NR^eC(O)NR^eR^f$, $-NR^eS(O)R^f$, $-NR^eS(O)_2R^f$, $-NR^eS(O)NR^eR^f$, $-NR^eS(O)_2NR^eR^f$, $-C(O)R^e$, $-C(O)OR^e$, $-C(O)NR^eR^f$, $-PR^eR^f$, $-P(O)R^eR^f$, $-P(O)_2R^eR^f$, $-P(O)NR^eR^f$, $-P(O)_2NR^eR^f$, $-P(O)OR^e$, $-P(O)_2OR^e$, -CN, or $-NO_2$;

each of R^6 and R^7 is independently H, deuterium, halogen, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_6 cycloalkyl, 4- to 8-membered heterocycloalkyl, C_6-C_{10} aryl, 5- to 10-membered heteroaryl, $-OR^a$, $-OC(O)R^a$, $-OC(O)NR^aR^b$, $-OS(O)R^a$, $-OS(O)_2R^a$, $-SR^a$, $-S(O)R^a$, $-S(O)_2R^a$, $-S(O)NR^aR^b$, $-S(O)_2NR^aR^b$, $-OS(O)NR^aR^b$, $-OS(O)_2NR^aR^b$, $-NR^aR^b$, $-NR^aC(O)R^b$, $-NR^aC(O)OR^b$, $-NR^aC(O)NR^aR^b$, $-NR^aS(O)R^b$, $-NR^aS(O)_2R^b$, $-NR^aS(O)NR^aR^b$, $-NR^aS(O)_2NR^aR^b$, $-C(O)R^a$, $-C(O)OR^a$, $-C(O)NR^aR^b$, $-PR^aR^b$, $-P(O)R^aR^b$, $-P(O)_2R^aR^b$, $-P(O)NR^aR^b$, $-P(O)_2NR^aR^b$, $-P(O)OR^a$, $-P(O)_2OR^a$, -CN, or $-NO_2$; or R^6 and R^7 taken together with the carbons to which they are attached form a C_4-C_6 cycloalkyl, a 4- to 7-membered heterocycloalkyl, or a C_6-C_{10} aryl, wherein each hydrogen atom in C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_6 cycloalkyl, C_4-C_6 cycloalkyl, 4- to 8-membered heterocycloalkyl, C_6-C_{10} aryl, 5- to 10-membered heteroaryl, or 4- to 7-membered heterocycloalkyl is independently optionally substituted by deuterium, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, $-OR^e$, $-OC(O)R^e$, $-OC(O)NR^eR^f$, $-OS(O)R^e$, $-OS(O)_2R^e$, $-OS(O)NR^eR^f$, $-OS(O)_2NR^eR^f$, $-SR^e$, $-S(O)R^e$, $-S(O)_2R^e$, $-S(O)NR^eR^f$, $-S(O)_2NR^eR^f$, $-NR^eR^f$, $-NR^eC(O)R^f$, $-NR^eC(O)OR^f$, $-NR^eC(O)NR^eR^f$, $-NR^eS(O)R^f$, $-NR^eS(O)_2R^f$, $-NR^eS(O)NR^eR^f$, $-NR^eS(O)_2NR^eR^f$, $-C(O)R^e$, $-C(O)OR^e$, $-C(O)NR^eR^f$, $-PR^eR^f$, $-P(O)R^eR^f$, $-P(O)_2R^eR^f$, $-P(O)NR^eR^f$, $-P(O)_2NR^eR^f$, $-P(O)OR^e$, $-P(O)_2OR^e$, -CN, or $-NO_2$;

each R^a, R^b, R^c, R^d, R^e, and R^f is independently selected from the group consisting of H, deuterium, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_6 cycloalkyl, 4- to 8-membered heterocycloalkyl, C_6-C_{10} aryl, C_1-C_6 alkyl-C_6-C_{10} aryl, and 5- to 10-membered heteroaryl; and n is 2, 3, 4, 5, 6, 7, or 8.

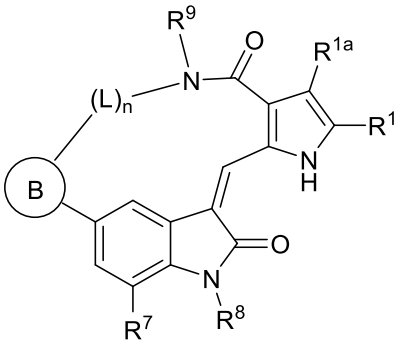
2. The compound of claim 1 having the formula II



II

or a pharmaceutically acceptable salt thereof.

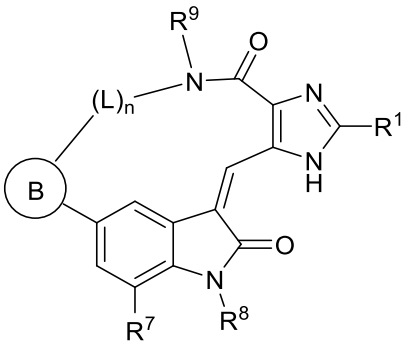
3. The compound of claim 1 having the formula III



III

or a pharmaceutically acceptable salt thereof.

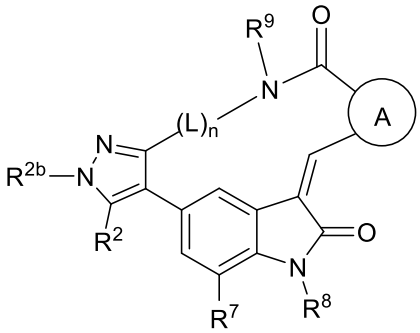
4. The compound of claim 1 or 2, having the formula IV



IV

or a pharmaceutically acceptable salt thereof.

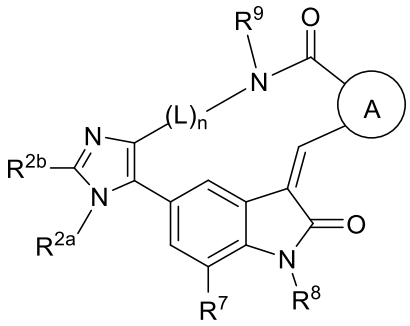
5. The compound of claim 1 or 2, having the formula V



V

or a pharmaceutically acceptable salt thereof.

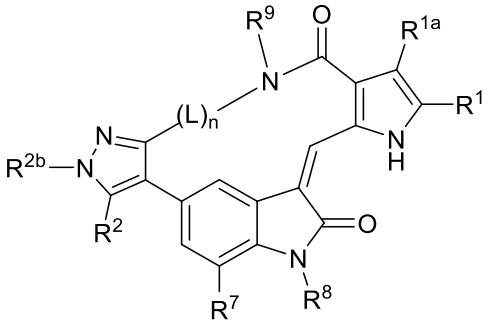
6. The compound of claim 1 or 2, having the formula VI



VI

or a pharmaceutically acceptable salt thereof.

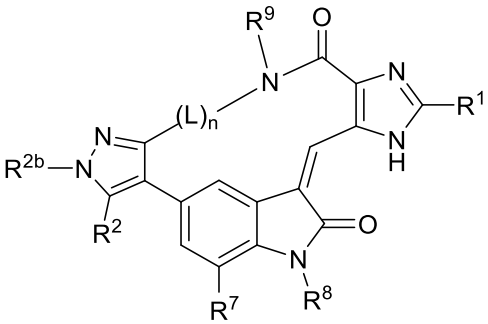
7. The compound of any one of claims 1 to 3, having the formula VII



VII

or a pharmaceutically acceptable salt thereof.

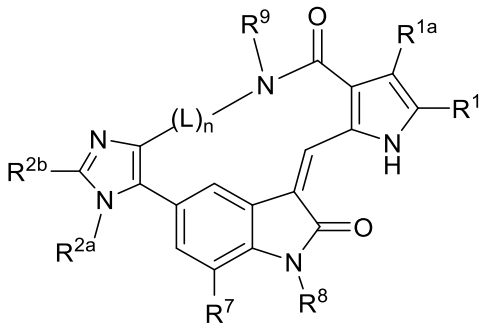
8. The compound of claim 1 or 2, having the formula VIII



VIII

or a pharmaceutically acceptable salt thereof.

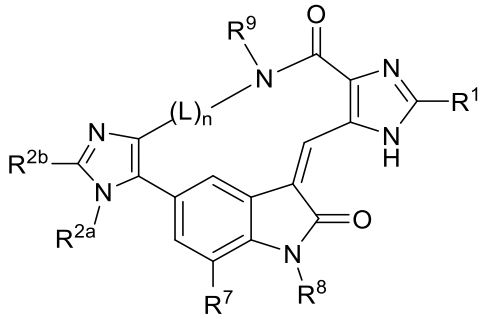
9. The compound of any one of claims 1 to 3, having the formula IX



IX

or a pharmaceutically acceptable salt thereof.

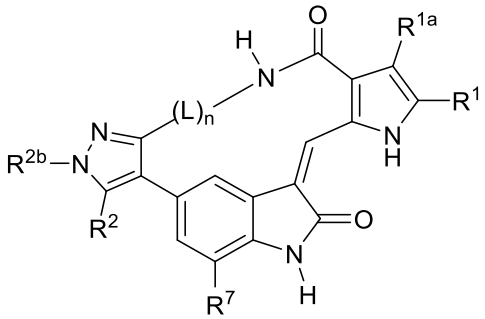
10. The compound of claim 1 or 2, having the formula X



X

or a pharmaceutically acceptable salt thereof.

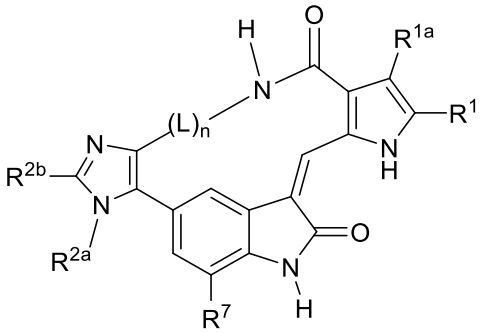
11. The compound of any one of claims 1 to 3, having the formula XI



XI

or a pharmaceutically acceptable salt thereof.

12. The compound of any one of claims 1 to 3, having the formula XII



XII

or a pharmaceutically acceptable salt thereof.

13. The compound of any one of the preceding claims, or a pharmaceutically acceptable salt thereof, wherein R^1, when present, is H, -CN or C_1-C_6 alkyl, wherein each hydrogen atom in C_1-C_6 alkyl is independently optionally substituted by deuterium, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, $-OR^e$, $-OC(O)R^e$, $-OC(O)NR^eR^f$, $-OS(O)R^e$, $-OS(O)_2R^e$, $-OS(O)NR^eR^f$, $-OS(O)_2NR^eR^f$, $-SR^e$, $-S(O)R^e$, $-S(O)_2R^e$, $-S(O)NR^eR^f$, $-S(O)_2NR^eR^f$, $-NR^eR^f$, $-NR^eC(O)R^f$, $-NR^eC(O)OR^f$, $-NR^eC(O)NR^eR^f$, $-NR^eS(O)R^f$, $-NR^eS(O)_2R^f$, $-NR^eS(O)NR^eR^f$, $-NR^eS(O)_2NR^eR^f$, $-C(O)R^e$, $-C(O)OR^e$, $-C(O)NR^eR^f$, $-PR^eR^f$, $-P(O)R^eR^f$, $-P(O)_2R^eR^f$, $-P(O)NR^eR^f$, $-P(O)_2NR^eR^f$, $-P(O)OR^e$, $-P(O)_2OR^e$, -CN, or $-NO_2$, or or R^1 is H, -CN or methyl.

14. The compound of any one of claims 1 to 3, 5 to 7, 9, 11, 12, or 13, or a pharmaceutically acceptable salt thereof, wherein R^{1a}, when present, is H, -CN or C_1-C_6 alkyl, wherein each hydrogen atom in C_1-C_6 alkyl is independently optionally substituted by deuterium, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, $-OR^e$, $-OC(O)R^e$, $-OC(O)NR^eR^f$, $-OS(O)R^e$, $-OS(O)_2R^e$, $-OS(O)NR^eR^f$, $-OS(O)_2NR^eR^f$, $-SR^e$, $-S(O)R^e$, $-S(O)_2R^e$, $-S(O)NR^eR^f$, $-S(O)_2NR^eR^f$, $-NR^eR^f$, $-NR^eC(O)R^f$, $-NR^eC(O)OR^f$, $-NR^eC(O)NR^eR^f$, $-NR^eS(O)R^f$, $-NR^eS(O)_2R^f$, $-NR^eS(O)NR^eR^f$, $-NR^eS(O)_2NR^eR^f$, $-C(O)R^e$, $-C(O)OR^e$, $-C(O)NR^eR^f$, $-PR^eR^f$, $-P(O)R^eR^f$, $-P(O)_2R^eR^f$, $-P(O)NR^eR^f$, $-P(O)_2NR^eR^f$, $-P(O)OR^e$, $-P(O)_2OR^e$, -CN, or $-NO_2$, or R^{1a} is H, -CN or methyl.

15. The compound of any one of claims 1 to 5, 7, 8, 11, 13, or 14, or a pharmaceutically acceptable salt thereof, wherein R^2, when present, is H, deuterium, halogen, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_6 cycloalkyl, 4- to 8-membered heterocycloalkyl, C_6-C_{10} aryl, 5- to 10-membered heteroaryl, $-OC(O)R^a$, $-OC(O)NR^aR^b$, $-OS(O)R^a$, $-OS(O)_2R^a$, $-SR^a$, $-S(O)R^a$, $-S(O)_2R^a$, $-S(O)NR^aR^b$, $-S(O)_2NR^aR^b$, $-OS(O)NR^aR^b$, $-OS(O)_2NR^aR^b$, $-NR^aR^b$, $-NR^aC(O)R^b$, $-NR^aC(O)OR^b$, $-NR^aC(O)NR^aR^b$, $-NR^aS(O)R^b$, $-NR^aS(O)_2R^b$, $-NR^aS(O)NR^aR^b$, $-NR^aS(O)_2NR^aR^b$, $-C(O)R^a$, $-C(O)OR^a$, $-C(O)NR^aR^b$, $-PR^aR^b$, $-P(O)R^aR^b$, $-P(O)_2R^aR^b$, $-P(O)NR^aR^b$, $-P(O)_2NR^aR^b$, $-P(O)OR^a$, $-P(O)_2OR^a$, -CN, or $-NO_2$, wherein each hydrogen atom in C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_6 cycloalkyl, 4- to 8-membered heterocycloalkyl, C_6-C_{10} aryl, or 5- to 10-membered heteroaryl, is independently optionally

substituted by deuterium, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, -OR^e, -$OC(O)R^e$, -$OC(O)NR^eR^f$, -$OS(O)R^e$, -$OS(O)_2R^e$, -$OS(O)NR^eR^f$, -$OS(O)_2NR^eR^f$, -SR^e, -$S(O)R^e$, -$S(O)_2R^e$, -$S(O)NR^eR^f$, -$S(O)_2NR^eR^f$, -NR^eR^f, -$NR^eC(O)R^f$, -$NR^eC(O)OR^f$, -$NR^eC(O)NR^eR^f$, -$NR^eS(O)R^f$, -$NR^eS(O)_2R^f$, -$NR^eS(O)NR^eR^f$, -$NR^eS(O)_2NR^eR^f$, -$C(O)R^e$, -$C(O)OR^e$, -$C(O)NR^eR^f$, -PR^eR^f, -$P(O)R^eR^f$, -$P(O)_2R^eR^f$, -$P(O)NR^eR^f$, -$P(O)_2NR^eR^f$, -$P(O)OR^e$, -$P(O)_2OR^e$, -CN, or -NO_2; or R^2, when present, is H, -CN, or C_1-C_6 alkyl, wherein each hydrogen atom in C_1-C_6 alkyl is independently optionally substituted by deuterium, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, -OR^e, -$OC(O)R^e$, -$OC(O)NR^eR^f$, -$OS(O)R^e$, -$OS(O)_2R^e$, -$OS(O)NR^eR^f$, -$OS(O)_2NR^eR^f$, -SR^e, -$S(O)R^e$, -$S(O)_2R^e$, -$S(O)NR^eR^f$, -$S(O)_2NR^eR^f$, -NR^eR^f, -$NR^eC(O)R^f$, -$NR^eC(O)OR^f$, -$NR^eC(O)NR^eR^f$, -$NR^eS(O)R^f$, -$NR^eS(O)_2R^f$, -$NR^eS(O)NR^eR^f$, -$NR^eS(O)_2NR^eR^f$, -$C(O)R^e$, -$C(O)OR^e$, -$C(O)NR^eR^f$, -PR^eR^f, -$P(O)R^eR^f$, -$P(O)_2R^eR^f$, -$P(O)NR^eR^f$, -$P(O)_2NR^eR^f$, -$P(O)OR^e$, -$P(O)_2OR^e$, -CN, or -NO_2; or R^2, when present, is H, -CN, or methyl.

16. The compound of any one of the claims 1 to 4, 6, 9, 10, or 12 to 15, or a pharmaceutically acceptable salt thereof, wherein R^{2a}, when present, is H or C_1-C_6 alkyl, wherein each hydrogen atom in C_1-C_6 alkyl is independently optionally substituted by deuterium, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, -OR^e, -$OC(O)R^e$, -$OC(O)NR^eR^f$, -$OS(O)R^e$, -$OS(O)_2R^e$, -$OS(O)NR^eR^f$, -$OS(O)_2NR^eR^f$, -SR^e, -$S(O)R^e$, -$S(O)_2R^e$, -$S(O)NR^eR^f$, -$S(O)_2NR^eR^f$, -NR^eR^f, -$NR^eC(O)R^f$, -$NR^eC(O)OR^f$, -$NR^eC(O)NR^eR^f$, -$NR^eS(O)R^f$, -$NR^eS(O)_2R^f$, -$NR^eS(O)NR^eR^f$, -$NR^eS(O)_2NR^eR^f$, -$C(O)R^e$, -$C(O)OR^e$, -$C(O)NR^eR^f$, -PR^eR^f, -$P(O)R^eR^f$, -$P(O)_2R^eR^f$, -$P(O)NR^eR^f$, -$P(O)_2NR^eR^f$, -$P(O)OR^e$, -$P(O)_2OR^e$, -CN, or -NO_2; or R^{2a}, when present, is H or methyl.

17. The compound of any one of the preceding claims, or a pharmaceutically acceptable salt thereof, wherein R^{2b}, when present, is C_1-C_4 alkyl or C_3-C_4 cycloalkyl, wherein each hydrogen atom in C_1-C_6 alkyl and C_3-C_4 cycloalkyl is independently optionally substituted by deuterium or halogen; or R^{2b} is methyl, ethyl, isopropyl, or cyclopropyl.

18. The compound of any one of the preceding claims, or a pharmaceutically acceptable salt thereof, wherein n is 3.

19. The compound of any one of claims 1 to 17, or a pharmaceutically acceptable salt thereof, wherein n is 4.

20. The compound of any one of claims 1 to 17, or a pharmaceutically acceptable salt thereof, wherein n is 5.

21. The compound of any one of claims 1 to 17, or a pharmaceutically acceptable salt thereof, wherein n is 6.

22. The compound of any one of the preceding claims, or a pharmaceutically acceptable salt thereof, wherein each L is independently selected from the group consisting of -C(O)-, -O-, -CH_2-, -C(H)(CH_3)-, -C(H)(OH)-, -C(H)(C(O)OR^c)-, -C(H)(C(O)NR^cR^d)-, -NH-, and -NCH_3-; or each L is independently selected from the group consisting of -C(O)-, -O-, -CH_2-, -C(H)(CH_3)-, -C(H)(OH)-, -C(H)(C(O)OR^c)-, and -C(H)(C(O)NR^cR^d)-.

23. The compound of any one of claims 1 or 13 to 22, or a pharmaceutically acceptable salt thereof, wherein Y is O.

24. The compound of any one of claims 1 or 13 to 23, or a pharmaceutically acceptable salt thereof, wherein Y^1 is O.

25. The compound of any one of claims 1 or 13 to 25, or a pharmaceutically acceptable salt thereof, wherein R^6, when present, is independently H, deuterium, fluoro, chloro, -CN, or methyl.

26. The compound of any one of the preceding claims, or a pharmaceutically acceptable salt thereof, wherein R^7 is independently H, deuterium, fluoro, chloro, -CN, or methyl.

27. The compound of any one of claims 1 to 10 or 13 to 26, or a pharmaceutically acceptable salt thereof, wherein R^8 is H or methyl.

28. The compound of any one of claims 1 to 10 or 13 to 27, or a pharmaceutically acceptable salt thereof, wherein R^9 is H or methyl.

29. The compound of any one of the preceding claims, or a pharmaceutically acceptable salt thereof, wherein –$(L)_n$- is -$(CH_2)_2$-, -$(CH_2)_3$-, -$(CH_2)_4$-, -$(CH_2)_5$-, -$(CH_2)_6$-, -C(O)NH-$(CH_2)_2O(CH_2)_2$-, -C(O)N(CH_3)-$(CH_2)_2O(CH_2)_2$-, -NHC(O)$CH_2O(CH_2)_2$-, -N(CH_3)-C(O)$CH_2O(CH_2)_2$-, -$CH_2O(CH_2)_2$-, -$CH_2O(CH_2)_3$-, -$CH_2O(C(CH_3)H)_2$-, -$(CH_2)_2O(CH_2)_2$-, -$CH_2OCH_2(C(CH_3)H)$-, -$(CH_2)_2OCH_2(C(CH_3)H)$-, -$(CH_2)_2S(CH_2)_2$-, -$O(CH_2)_2S(CH_2)_2$-, -$(CH_2)_2SO_2(CH_2)_2$-, -$O(CH_2)_2SO_2(CH_2)_2$-, -$(CH_2)_2SO(CH_2)_2$-, -$O(CH_2)_2SO(CH_2)_2$-, -$(CH_2)_2O(C(H)(C(O)N(H)(CH_3))-CH_2$-, -$(CH_2)_2O(C(H)(C(O)N(CH_3)_2)-CH_2$-, -$(CH_2)_2O(C(H)(C(O)OCH_3)-CH_2$-, -$(CH_2)_3O(CH_2)_2$-, -$(CH_2)_2O(CH_2)_3$-, -$CH_2CH(CH_3)-O(CH_2)_2$-, -CH($CH_3$)-$CH_2O(CH_2)_2$-, -$O(CH_2)_2$-, -O-$(CH_2)_3$-, -O-$(CH_2)_4$-, -O-$(CH_2)_2CH(CH_3)$--$OCH_2O(CH_2)_2$-, -O-$CH_2CH(OH)CH_2$-, -O-$(CH_2)_2O(CH_2)_2$-, -O-$CH_2CH(CH_3)-O(CH_2)_2$-, -O-CH($CH_3$)-$CH_2O(CH_2)_2$-, -O-$(CH_2)_2NH-(CH_2)_2$-, -O-$CH_2CH(CH_3)$-NH-$(CH_2)_2$-, -O-CH($CH_3$)-$CH_2NH-(CH_2)_2$-, -$CH_2NH-(CH_2)_2$-, -$(CH_2)_2NH-(CH_2)_2$-, -$CH_2CH(CH_3)$-NH-$(CH_2)_2$-, -CH($CH_3$)-$CH_2NH-(CH_2)_2$-, -O-$(CH_2)_2N(CH_3)-(CH_2)_2$-, -O-$CH_2CH(CH_3)$-N($CH_3$)-$(CH_2)_2$-, -O-CH($CH_3$)-$CH_2N(CH_3)-(CH_2)_2$-, -$CH_2N(CH_3)-(CH_2)_2$-, -$CH_2N(CH_2CH_3)-(CH_2)_2$-, -$CH_2N((CH_2)_2CH_3)-(CH_2)_2$-, -$CH_2N(CH(CH_3)_2)-(CH_2)_2$-, -$(CH_2)_2N(CH_3)-(CH_2)_2$-, -$CH_2CH(CH_3)$-N($CH_3$)-$(CH_2)_2$-, or -O-CH($CH_3$)-$CH_2N(CH_3)$-

$(CH_2)_2$-; or -O$(CH_2)_2$-, -O$(CH_2)_3$-, -O$(CH_2)_4$-, -$CH_2OCH_2(C(CH_3)H)$-, -$CH_2O(CH_2)_2$-, or -$CH_2O(CH_2)_3$-; or -O$(CH_2)_3$-, -$CH_2OCH_2(C(CH_3)H)$-, or -$CH_2O(CH_2)_2$-.

30. The compound of claim 1, or a pharmaceutically acceptable salt thereof, selected from the group consisting of [3a(4)*Z*]-6,9,15,16-tetramethyl-9,10,11,12-tetrahydro-15*H*-1,17-(ethanediylidene)pyrazolo[4,3-*n*]dipyrrolo[3,2-*g*:3',4'-*j*][1,5]oxazacyclopentadecine-3,8(2*H*,5*H*)-dione;

[3a(4)*Z*]-6,9,15,16-tetramethyl-10,11,13,15-tetrahydro-2*H*-1,17-(ethanediylidene)pyrazolo[4,3-*m*]dipyrrolo[3,2-*f*:3',4'-*i*][1,4]oxazacyclopentadecine-3,8(5*H*,9*H*)-dione;

[3a(4)*Z*,10*R*]-20-chloro-6,10,15-trimethyl-10,11,13,15-tetrahydro-2*H*-1,17-(ethanediylidene)pyrazolo[4,3-*m*]dipyrrolo[3,2-*f*:3',4'-*i*][1,4]oxazacyclopentadecine-3,8(5*H*,9*H*)-dione;

[3a(4)*Z*,10*R*]-20-chloro-10,15-dimethyl-10,11,13,15-tetrahydro-2*H*-1,17-(ethanediylidene)pyrazolo[4,3-*m*]dipyrrolo[3,2-*f*:3',4'-*i*][1,4]oxazacyclopentadecine-3,8(5*H*,9*H*)-dione;

[3a(4)*Z*,10*R*]-20-chloro-6,9,10,15-tetramethyl-10,11,13,15-tetrahydro-2*H*-1,17-(ethanediylidene)pyrazolo[4,3-*m*]dipyrrolo[3,2-*f*:3',4'-*i*][1,4]oxazacyclopentadecine-3,8(5*H*,9*H*)-dione;

[3a(4)*Z*,10*S*]-20-chloro-6,9,10,15-tetramethyl-10,11,13,15-tetrahydro-2*H*-1,17-(ethanediylidene)pyrazolo[4,3-*m*]dipyrrolo[3,2-*f*:3',4'-*i*][1,4]oxazacyclopentadecine-3,8(5*H*,9*H*)-dione;

[3a(4)*Z*]-20-chloro-6,9,15-trimethyl-10,11,13,15-tetrahydro-2*H*-1,17-(ethanediylidene)pyrazolo[4,3-*m*]dipyrrolo[3,2-*f*:3',4'-*i*][1,4]oxazacyclopentadecine-3,8(5*H*,9*H*)-dione;

[3a(4)*Z*,10*R*]-20-chloro-6,9,10,15-tetramethyl-10,11,13,15-tetrahydro-2*H*-1,17-(ethanediylidene)imidazo[4,5-*f*]pyrazolo[4,3-*m*]pyrrolo[3,4-*i*][1,4]oxazacyclopentadecine-3,8(5*H*,9*H*)-dione;

[3a(4)*Z*,10*R*]-20-chloro-6,9,10,15-tetramethyl-10,11,13,16-tetrahydro-2*H*-1,17-(ethanediylidene)imidazo[4,5-*m*]dipyrrolo[3,2-*f*:3',4'-*i*][1,4]oxazacyclopentadecine-3,8(5*H*,9*H*)-dione;

[3a(4)*Z*,10*R*]-6,9,10,15-tetramethyl-3,8-dioxo-3,5,8,9,10,11,13,15-octahydro-2*H*-1,17-(ethanediylidene)pyrazolo[4,3-*m*]dipyrrolo[3,2-*f*:3',4'-*i*][1,4]oxazacyclopentadecine-20-carbonitrile;

[3a(4)*Z*,10*R*]-20-fluoro-6,9,10,15,16-pentamethyl-10,11,13,15-tetrahydro-2*H*-1,17-ethenopyrazolo[4,3-*m*]dipyrrolo[3,2-*f*:3',4'-*i*][1,4]oxazacyclopentadecine-3,8(5*H*,9*H*)-dione;

[3a(4)*Z*,10*R*]-20-chloro-6,9,10,15,16-pentamethyl-10,11,13,15-tetrahydro-2*H*-1,17-ethenopyrazolo[4,3-*m*]dipyrrolo[3,2-*f*:3',4'-*i*][1,4]oxazacyclopentadecine-3,8(5*H*,9*H*)-dione; and

[3a(4)*Z*,10*R*]-20-fluoro-6,9,10,15-tetramethyl-10,11,13,15-tetrahydro-2*H*-1,17-ethenopyrazolo[4,3-*m*]dipyrrolo[3,2-*f*:3',4'-*i*][1,4]oxazacyclopentadecine-3,8(5*H*,9*H*)-dione.

31. A pharmaceutical composition comprising at least one compound of any one of claims 1 to 30, or a pharmaceutically acceptable salt thereof, and optionally one or more pharmaceutically acceptable excipients.

32. A method of treating disease, such as autoimmune disease, comprising administering to a subject in need of such treatment an effective amount of a compound of any one of claims 1 to 30, or a pharmaceutically acceptable salt thereof.

33. A compound of any one of claims 1 to 30, or a pharmaceutically acceptable salt thereof, for use in a method of treating an autoimmune disease in a subject.

34. A compound of any one of claims 1 to 30, or a pharmaceutically acceptable salt thereof, for treating an autoimmune disease in a subject.

35. Use of a compound of any one of claims 1 to 30, or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for treating an autoimmune disease in a subject.