[0104] The term "sulfonyl" includes the groups: —$S(O_2)$-(optionally substituted (C_1-C_6)alkyl), —$S(O_2)$-optionally substituted aryl), —$S(O_2)$-optionally substituted heteroaryl), —$S(O_2)$-(optionally substituted heterocycloalkyl), —$S(O_2)$-(optionally substituted alkoxy), —$S(O_2)$-optionally substituted aryloxy), —$S(O_2)$-optionally substituted heteroaryloxy), —$S(O_2)$-(optionally substituted heterocyclyloxy); and —$S(O_2)$-(optionally substituted amino).

[0105] The term "substituted", as used herein, means that any one or more hydrogens on the designated atom or group is replaced with a selection from the indicated group, provided that the designated atom's normal valence is not exceeded. When a substituent is oxo (i.e., =O) then 2 hydrogens on the atom are replaced. Combinations of substituents and/or variables are permissible only if such combinations result in stable compounds or useful synthetic intermediates. A stable compound or stable structure is meant to imply a compound that is sufficiently robust to survive isolation from a reaction mixture, and subsequent formulation as an agent having at least practical utility. Unless otherwise specified, substituents are named into the core structure. For example, it is to be understood that when (cycloalkyl)alkyl is listed as a possible substituent, the point of attachment of this substituent to the core structure is in the alkyl portion.

[0106] The terms "substituted" alkyl, cycloalkyl, aryl, heterocycloalkyl, and heteroaryl, unless otherwise expressly defined, refer respectively to alkyl, cycloalkyl, aryl, heterocycloalkyl, and heteroaryl wherein one or more (such as up to 5, for example, up to 3) hydrogen atoms are replaced by a substituent independently chosen from:

[0107] —R^a, —OR^b, optionally substituted amino (including —NR^cCOR^b, —$NR^cCO_2R^a$, —$NR^cCONR^bR^c$, —$NR^bC(NR^c)NR^bR^c$, —$NR^bC(NCN)NR^bR^c$, and —$NR^cSO_2R^a$), halo, cyano, nitro, oxo (as a substitutent for cycloalkyl, heterocycloalkyl, and heteroaryl), optionally substituted acyl (such as —COR^b), optionally substituted alkoxycarbonyl (such as —CO_2R^b), aminocarbonyl (such as —$CONR^bR^c$), —$OCOR^b$, —OCO_2R^a, —$OCONR^bR^c$, sulfanyl (such as SR^b), sulfinyl (such as —SOR^a), and sulfonyl (such as —SO_2R^a and —$SO_2NR^bR^c$),

[0108] where R^a is chosen from optionally substituted C_1-C_6 alkyl, optionally substituted cycloalkyl, optionally substituted heterocycloalkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted aryl, and optionally substituted heteroaryl;

[0109] R^b is chosen from hydrogen, optionally substituted C_1-C_6 alkyl, optionally substituted cycloalkyl, optionally substituted heterocycloalkyl, optionally substituted aryl, and optionally substituted heteroaryl; and

[0110] R^c is independently chosen from hydrogen and optionally substituted C_1-C_4 alkyl; or

[0111] R^b and R^c, and the nitrogen to which they are attached, form an optionally substituted heterocycloalkyl group; and

[0112] where each optionally substituted group is unsubstituted or independently substituted with one or more, such as one, two, or three, substituents independently selected from C_1-C_4 alkyl, aryl, heteroaryl, aryl-C_1-C_4 alkyl-, heteroaryl-C_1-C_4 alkyl-, C_1-C_4 haloalkyl, —OC_1-C_4 alkyl, —OC_1-C_4 alkylphenyl, —C_1-C_4 alkyl-OH, —OC_1-C_4 haloalkyl, halo, —OH, —NH_2, —C_1-C_4 alkyl-NH_2, —N(C_1-C_4 alkyl)(C_1-C_4 alkyl), —NH(C_1-C_4 alkyl), —N(C_1-C_4 alkyl)(C_1-C_4 alkylphenyl), —NH(C_1-C_4 allylphenyl), cyano, nitro, oxo (as a substitutent for cycloalkyl, heterocycloalkyl, or heteroaryl), —CO_2H, —C(O)OC_1-C_4 alkyl, —CON(C_1-C_4 alkyl)(C_1-C_4 alkyl), —CONH(C_1-C_4 alkyl), —$CONH_2$, —NHC(O)(C_1-C_4 alkyl), —NHC(O)(phenyl), —N(C_1-C_4 alkyl)C(O)(C_1-C_4 alkyl), —N(C_1-C_4 alkyl)C(O)(phenyl), —C(O)C_1-C_4 alkyl, —C(O)C_1-C_4 alkylphenyl, —C(O)C_1-C_4 haloalkyl, —OC(O)C_1-C_4 alkyl, —SO_2(C_1-C_4 alkyl), —SO_2(phenyl), —SO_2(C_1-C_4 haloalkyl), —SO_2NH_2, —SO_2NH(C_1-C_4 alkyl), —SO_2NH(phenyl), —$NHSO_2$(C_1-C_4 alkyl), —$NHSO_2$(phenyl), and —$NHSO_2$(C_1-C_4 haloalkyl).

[0113] The term "substituted acyl" refers to the groups (substituted alkyl)-C(O)—; (substituted cycloalkyl)-C(O)—; (substituted aryl)-C(O)—; (substituted heteroaryl)-C(O)—; and (substituted heterocycloalkyl)-C(O)—, wherein the group is attached to the parent structure through the carbonyl functionality and wherein substituted alkyl, cycloalkyl, aryl, heteroaryl, and heterocycloalkyl, refer respectively to alkyl, cycloalkyl, aryl, heteroaryl, and heterocycloalkyl wherein one or more (such as up to 5, for example, up to 3) hydrogen atoms are replaced by a substituent independently chosen from:

[0114] —R^a, —OR^b, optionally substituted amino (including —NR^cCOR^b, —$NR^cCO_2R^a$, —$NR^cCONR^bR^c$, —$NR^bC(NR^c)NR^bR^c$, —$NR^bC(NCN)NR^bR^c$, and —$NR^cSO_2R^a$), halo, cyano, nitro, oxo (as a substitutent for cycloalkyl, heterocycloalkyl, and heteroaryl), optionally substituted acyl (such as —COR^b), optionally substituted alkoxycarbonyl (such as —CO_2R^b), aminocarbonyl (such as —$CONR^bR^c$), —$OCOR^b$, —OCO_2R^a, —$OCONR^bR^c$, sulfanyl (such as SR^b), sulfinyl (such as —SOR^a), and sulfonyl (such as —SO_2R^a and —$SO_2NR^bR^c$),

[0115] where R^a is chosen from optionally substituted C_1-C_6 alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted aryl, and optionally substituted heteroaryl;

[0116] R^b is chosen from H, optionally substituted C_1-C_6 alkyl, optionally substituted cycloalkyl, optionally substituted heterocycloalkyl, optionally substituted aryl, and optionally substituted heteroaryl; and

[0117] R^c is independently chosen from hydrogen and optionally substituted C_1-C_4 alkyl; or

[0118] R^b and R^c, and the nitrogen to which they are attached, form an optionally substituted heterocycloalkyl group; and

[0119] where each optionally substituted group is unsubstituted or independently substituted with one or more, such as one, two, or three, substituents independently selected from C_1-C_4 alkyl, aryl, heteroaryl, aryl-C_1-C_4 alkyl-, heteroaryl-C_1-C_4 alkyl-, C_1-C_4 haloalkyl, —OC_1-C_4 alkyl, —OC_1-C_4 alkylphenyl, —C_1-C_4 alkyl-OH, —OC_1-C_4 haloalkyl, halo, —OH, —NH_2, —C_1-C_4 alkyl-NH_2, —N(C_1-C_4 alkyl)(C_1-C_4 alkyl), —NH(C_1-C_4 alkyl), —N(C_1-C_4 alkyl)(C_1-C_4 alkylphenyl), —NH(C_1-C_4 alkylphenyl), cyano, nitro, oxo (as a substitutent for cycloalkyl, heterocycloalkyl, or heteroaryl), —CO_2H, —C(O)OC_1-C_4 alkyl, —CON(C_1-C_4 alkyl)(C_1-C_4 alkyl), —CONH(C_1-C_4 alkyl), —$CONH_2$, —NHC(O)(C_1-C_4 alkyl), —NHC(O)(phenyl), —N(C_1-C_4 alkyl)C(O)(C_1-C_4 alkyl), —N(C_1-C_4 alkyl)C(O)(phenyl), —C(O)C_1-C_4 alkyl, —C(O)C_1-C_4 alkylphenyl, —C(O)C_1-C_4 haloalkyl, —OC(O)C_1-C_4 alkyl, —SO_2(C_1-C_4 alkyl), —SO_2(phenyl), —SO_2(C_1-C_4 haloalkyl), —SO_2NH_2, —SO_2NH(C_1-C_4 alkyl), —SO_2NH(phenyl), —$NHSO_2$(C_1-C_4 alkyl), —$NHSO_2$(phenyl), and —$NHSO_2$(C_1-C_4 haloalkyl).