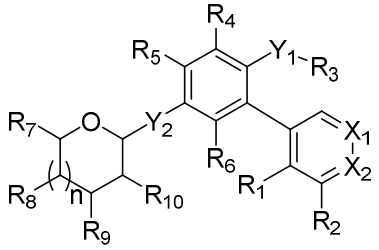
Summary

The present disclosure provides biaryl Hsp90 inhibitors with modified ether groups with therapeutic properties, pharmaceutical compositions thereof, methods for their manufacture, and methods for their use.

In one aspect, the present disclosure refers to a compound of the formula:



(I)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 is carboxy or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{19} is carboxy or $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted

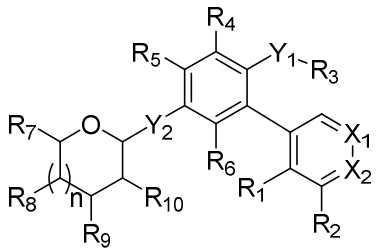
R_{19}' is hydrogen, carboxy or $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$;

R_{20}, R_{21}, and R_{22} are each independently halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups, or a protected hydroxy group;

or a pharmaceutically acceptable salt of any of the above formulas.

In some examples, the compounds are further defined as:



(I)

wherein:

n is 0, 1, or 2;

Y_1 is $-alkanediyl_{(C\leq6)}-$, $-C(O)-alkanediyl_{(C\leq6)}-$, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

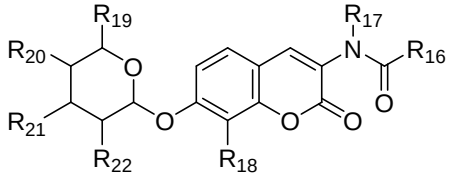
R_1 is hydrogen, amino, halo, hydroxy, carboxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $amido_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylsulfonyl_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $amido_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylthio_{(C\leq6)}$, $alkylsulfonyl_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are $alkanediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups;

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(V)

wherein:

R_{16} is alkyl$_{(C\leq12)}$, cycloalkyl$_{(C\leq12)}$, aryl$_{(C\leq18)}$, heteroaryl$_{(C\leq18)}$, or a substituted version thereof;

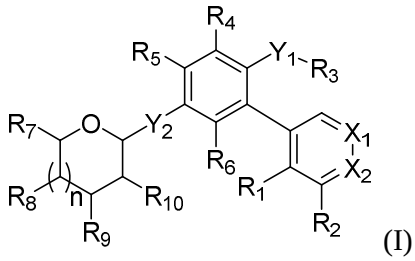
R_{17} and R_{18} are each independently hydrogen, alkyl$_{(C\leq8)}$, or substituted alkyl$_{(C\leq8)}$;

R_{19} is alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, or a substituted version of any of these groups

R_{20}, R_{21}, and R_{22} are each independently hydroxy, alkoxy$_{(C\leq12)}$, substituted alkoxy$_{(C\leq12)}$, or a protected hydroxy group;

or a pharmaceutically acceptable salt of any of the above formulas.

In some examples, the compounds are further defined as:



(I)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

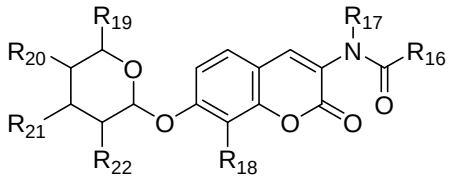
R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$,

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(V)

wherein:

R_{16} is alkyl$_{(C\leq12)}$, cycloalkyl$_{(C\leq12)}$, aryl$_{(C\leq18)}$, heteroaryl$_{(C\leq18)}$, or a substituted version thereof;

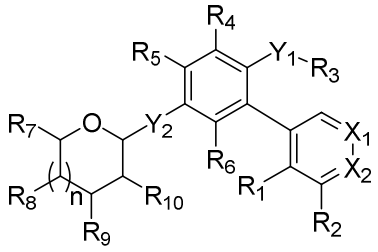
R_{17} and R_{18} are each independently hydrogen, alkyl$_{(C\leq8)}$, or substituted alkyl$_{(C\leq8)}$;

R_{19} is alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, or a substituted version of any of these groups

R_{20}, R_{21}, and R_{22} are each independently hydroxy, alkoxy$_{(C\leq12)}$, substituted alkoxy$_{(C\leq12)}$, or a protected hydroxy group;

or a pharmaceutically acceptable salt of any of the above formulas.

In some examples, the compounds are further defined as:



(I),

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

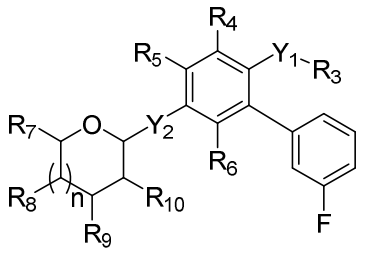
R_{15} is hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylamino_{(C\leq6)}$, $-alkanediyl_{(C\leq6)}-heterocycloalkyl_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are $alkanediyl_{(C\leq6)}$, $alkenediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are $alkanediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(VI),

wherein:

n is 0, 1, or 2;

Y_1 is $-alkanediyl_{(C\leq6)}-$, $-C(O)-alkanediyl_{(C\leq6)}-$, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, $alkyl_{(C\leq6)}$, substituted $alkyl_{(C\leq6)}$, $acyl_{(C\leq6)}$, or substituted $acyl_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, $alkyl_{(C\leq6)}$, or substituted $alkyl_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, $alkyl_{(C\leq6)}$, substituted $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, substituted $alkoxy_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, or substituted $acyloxy_{(C\leq6)}$;

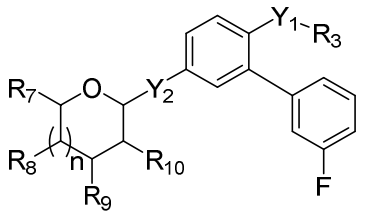
R_7 is carboxy or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$; and

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds further defined as:



(VII),

wherein:

n is 0, 1, or 2;

Y_1 is $-alkanediyl_{(C\leq6)}-$, $-C(O)-alkanediyl_{(C\leq6)}-$, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, $alkyl_{(C\leq6)}$, substituted $alkyl_{(C\leq6)}$, $acyl_{(C\leq6)}$, or substituted $acyl_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, $alkyl_{(C\leq6)}$, or substituted $alkyl_{(C\leq6)}$;

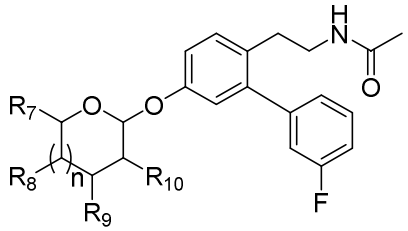
R_7 is carboxy or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$; and

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(VIII),

wherein:

n is 0, 1, or 2;

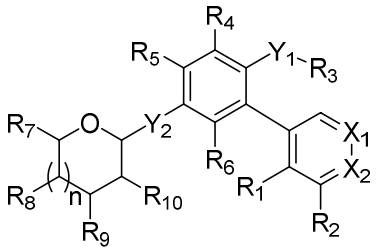
R_7 is carboxy or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$; and

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In other examples, the compounds are further defined as:



(I)

wherein:

n is 0, 1, or 2;

Y_1 is $-alkanediyl_{(C\leq6)}-$, $-C(O)-alkanediyl_{(C\leq6)}-$, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $amido_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylsulfonyl_{(C\leq6)}$, or a substituted version of any of these groups;

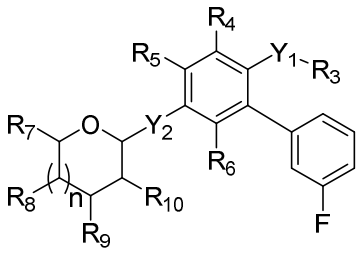
R_2 is hydrogen, amino, halo, hydroxy, carboxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $amido_{(C\leq6)}$,

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(VI)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 is hydrogen, carboxy or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

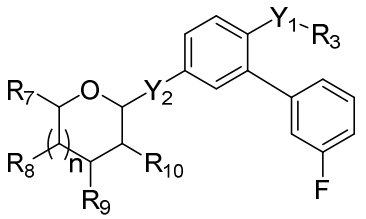
R_{13} is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$;

R_8 and R_9 are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

R_{10} is amino or alkylamino$_{(C\leq6)}$, dialkylamino$_{(C\leq12)}$, amido$_{(C\leq12)}$, or a substituted version of any of these three groups;

or a pharmaceutically acceptable salt thereof.

In some examples, the compounds are further defined as:



(VII)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_7 is hydrogen, carboxy or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

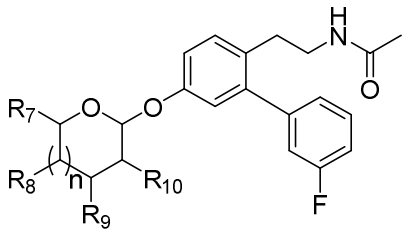
R_{13} is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$;

R_8 and R_9 are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

R_{10} is amino or alkylamino$_{(C\leq6)}$, dialkylamino$_{(C\leq12)}$, amido$_{(C\leq12)}$, or a substituted version of any of these three groups;

or a pharmaceutically acceptable salt thereof.

In some examples, the compounds are further defined as:



(VIII)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_7 is hydrogen, carboxy or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

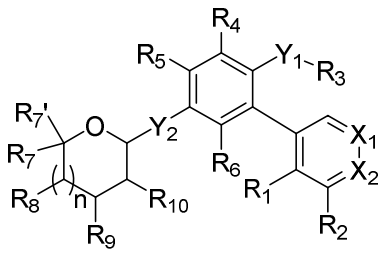
R_{13} is alkyl$_{(C\leq 12)}$, substituted alkyl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, or substituted aralkyl$_{(C\leq 12)}$;

R_8 and R_9 are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, aralkyl$_{(C\leq 12)}$, aralkoxy$_{(C\leq 12)}$, or a substituted version of any of these groups;

R_{10} is amino or alkylamino$_{(C\leq 6)}$, dialkylamino$_{(C\leq 12)}$, amido$_{(C\leq 12)}$, or a substituted version of any of these three groups;

or a pharmaceutically acceptable salt thereof.

In other examples, the compounds are further defined as:



(II),

wherein:

n is 0, 1, or 2;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylamino_{(C\leq6)}$, −$alkanediyl_{(C\leq6)}$−$heterocycloalkyl_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are $alkanediyl_{(C\leq6)}$, $alkenediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups; and

X_2 is CR_{15} or N, wherein:

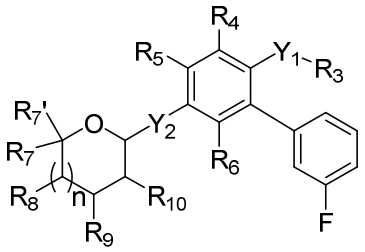
R_{15} is hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylamino_{(C\leq6)}$, −$alkanediyl_{(C\leq6)}$−$heterocycloalkyl_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are $alkanediyl_{(C\leq6)}$, $alkenediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are $alkanediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(IX),

wherein:

n is 0, 1, or 2;

Y_1 is −$alkanediyl_{(C\leq6)}$−, −C(O)−$alkanediyl_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, $alkyl_{(C\leq6)}$, substituted $alkyl_{(C\leq6)}$, $acyl_{(C\leq6)}$, or substituted $acyl_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, $alkyl_{(C\leq6)}$, or substituted $alkyl_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 is carboxy or alkyl$_{(C3\text{-}8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$;

R_7' is hydrogen, carboxy, or alkyl$_{(C3\text{-}8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

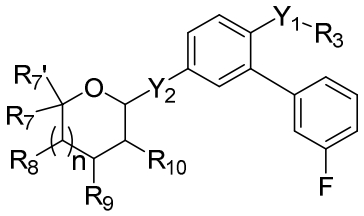
R_{13} is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$; or

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups; and

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(X),

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_7 is carboxy or $alkyl_{(C3-8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$;

R_7' is hydrogen, carboxy, or $alkyl_{(C3-8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

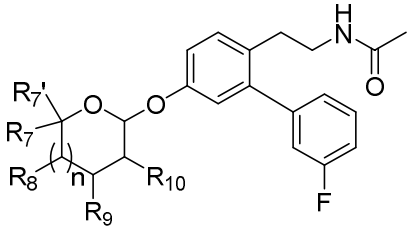
R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$; or

R_7 and R_7' are taken together and are $-alkanediyl_{(C\leq7)}-$, $-alkenediyl_{(C\leq7)}-$, or a substituted version of either of these groups; and

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XI),

wherein:

n is 0, 1, or 2;

R_7 is carboxy or $alkyl_{(C3-8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$;

R_7' is hydrogen, carboxy, or $alkyl_{(C3-8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

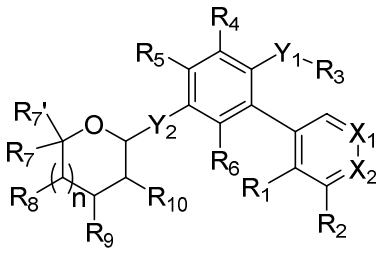
R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$; or

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of any of these groups; and

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In other examples, the compounds are further defined as:



(II)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2 or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

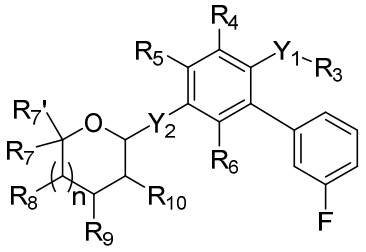
R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

In other examples, the compounds are further defined as:



(XII),

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2 or S;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, substituted alkoxy$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, or substituted acyloxy$_{(C\leq 6)}$;

R_7 and R_7' are each independently hydrogen, carboxy, or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

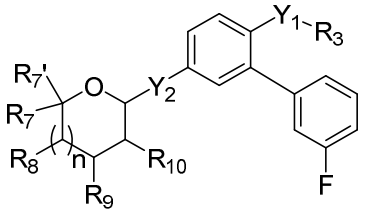
R_{13} is alkyl$_{(C\leq 12)}$, substituted alkyl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, or substituted aralkyl$_{(C\leq 12)}$;

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq 7)}$−, −alkenediyl$_{(C\leq 7)}$−, or a substituted version of either of these groups; and

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, aralkyl$_{(C\leq 12)}$, aralkoxy$_{(C\leq 12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XIII),

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2 or S;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_7 and R_7' are each independently hydrogen, carboxy, or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

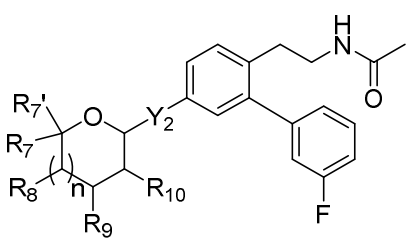
R_{13} is alkyl$_{(C\leq 12)}$, substituted alkyl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, or substituted aralkyl$_{(C\leq 12)}$;

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq 7)}$−, −alkenediyl$_{(C\leq 7)}$−, or a substituted version of any of these groups; and

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, aralkyl$_{(C\leq 12)}$, aralkoxy$_{(C\leq 12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XIV),

wherein:

n is 0, 1, or 2;

Y_2 is CH_2 or S;

R_7 and R_7' are each independently hydrogen, carboxy, or $alkyl_{(C\leq 8)}$, $alkenyl_{(C\leq 8)}$, $alkynyl_{(C\leq 8)}$, $cycloalkyl_{(C\leq 8)}$, $heterocycloalkyl_{(C\leq 8)}$, $aryl_{(C\leq 12)}$, $heteroaryl_{(C\leq 12)}$, $aralkyl_{(C\leq 12)}$, $heteroaralkyl_{(C\leq 12)}$, $-alkanediyl_{(C\leq 6)}-OR_{13}$, or a substituted version of any of these groups wherein:

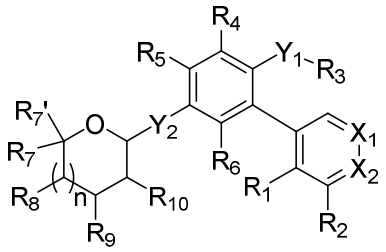
R_{13} is $alkyl_{(C\leq 12)}$, substituted $alkyl_{(C\leq 12)}$, $aralkyl_{(C\leq 12)}$, or substituted $aralkyl_{(C\leq 12)}$;

R_7 and R_7' are taken together and are $-alkanediyl_{(C\leq 7)}-$, $-alkenediyl_{(C\leq 7)}-$, or a substituted version of either of these groups; and

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or $alkyl_{(C\leq 6)}$, $alkoxy_{(C\leq 6)}$, $acyl_{(C\leq 6)}$, $acyloxy_{(C\leq 6)}$, $aralkyl_{(C\leq 12)}$, $aralkoxy_{(C\leq 12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In other examples, the compounds are further defined as:



(II),

wherein:

n is 0, 1, or 2;

Y_1 is substituted $-alkanediyl_{(C\leq 6)}-$, $-C(O)-alkanediyl_{(C\leq 6)}-$, or substituted $-C(O)-alkanediyl_{(C\leq 6)}-$;

Y_2 is CH_2, O, or S;

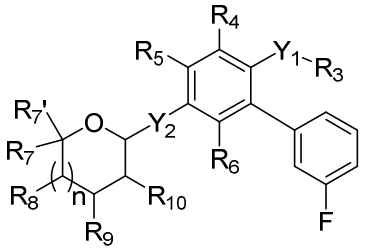
R_1 is hydrogen, amino, halo, hydroxy, carboxy, or $alkyl_{(C\leq 6)}$, $alkenyl_{(C\leq 6)}$, $alkynyl_{(C\leq 6)}$, $cycloalkyl_{(C\leq 8)}$, $heterocycloalkyl_{(C\leq 8)}$, $amido_{(C\leq 6)}$, $alkoxy_{(C\leq 6)}$, $alkylsulfonyl_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or $alkyl_{(C\leq 6)}$, $alkenyl_{(C\leq 6)}$, $alkynyl_{(C\leq 6)}$, $cycloalkyl_{(C\leq 8)}$, $heterocycloalkyl_{(C\leq 8)}$, $aryl_{(C\leq 12)}$, $aralkyl_{(C\leq 12)}$, $amido_{(C\leq 6)}$, $alkoxy_{(C\leq 6)}$, $alkylthio_{(C\leq 6)}$, $alkylsulfonyl_{(C\leq 6)}$, or a substituted version of any of these groups;

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XV),

wherein:

n is 0, 1, or 2;

Y_1 is substituted −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or substituted −C(O)−alkanediyl$_{(C\leq6)}$−;

Y_2 is CH_2, O, or S;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 and R_7' are each independently hydrogen, carboxy or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

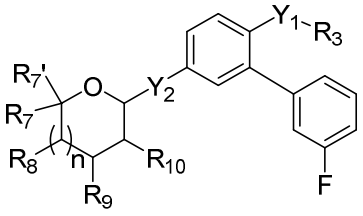
R_{13} is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$; or

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups; and

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XVI),

wherein:

n is 0, 1, or 2;

Y_1 is substituted −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or substituted −C(O)−alkanediyl$_{(C\leq6)}$−;

Y_2 is CH_2, O, or S;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_7 and R_7' are each independently hydrogen, carboxy or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

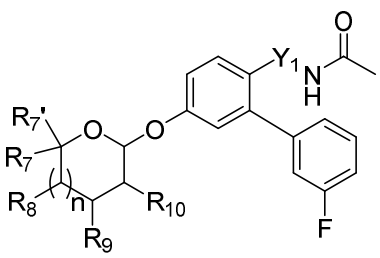
R_{13} is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$; or

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups; and

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XVII),

wherein:

n is 0, 1, or 2;

Y_1 is substituted −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or substituted −C(O)−alkanediyl$_{(C\leq6)}$−;

R_7 and R_7' are each independently hydrogen, carboxy or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

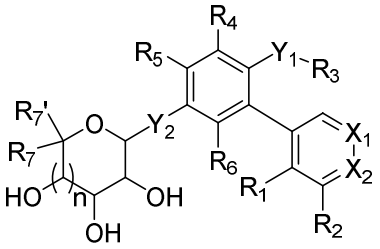
R_{13} is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$; or

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups; and

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In other examples, the compounds are further defined as:



(III),

wherein:

n is 1 or 2;

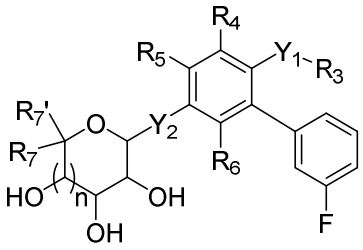
Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

In some examples, the compounds are further defined as:



(XVIII),

wherein:

n is 1 or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, substituted alkoxy$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, or substituted acyloxy$_{(C\leq 6)}$; and

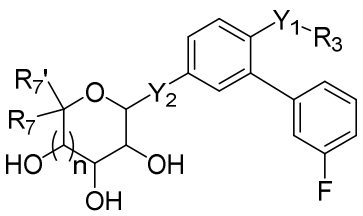
R_7 and R_7' are each independently hydrogen, carboxy, or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is alkyl$_{(C\leq 12)}$, substituted alkyl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, or substituted aralkyl$_{(C\leq 12)}$; or

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq 7)}$−, −alkenediyl$_{(C\leq 7)}$−, or a substituted version of either of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XIX),

wherein:

n is 1 or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$; and

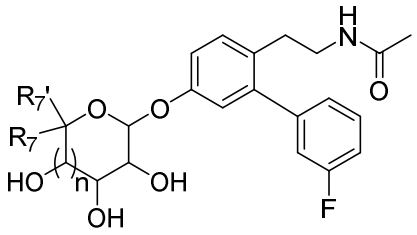
R_7 and R_7' are each independently hydrogen, carboxy, or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is alkyl$_{(C\leq 12)}$, substituted alkyl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, or substituted aralkyl$_{(C\leq 12)}$; or

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq 7)}$−, −alkenediyl$_{(C\leq 7)}$−, or a substituted version of either of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds further defined as:



(XX),

wherein:

n is 1 or 2; and

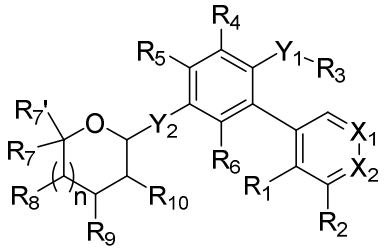
R_7 and R_7' are each independently hydrogen, carboxy, or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is alkyl$_{(C\leq 12)}$, substituted alkyl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, or substituted aralkyl$_{(C\leq 12)}$; or

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq 7)}$−, −alkenediyl$_{(C\leq 7)}$−, or a substituted version of either of these groups;

or a pharmaceutically acceptable salt of the formula.

In other examples, the compounds are further defined as:



(II),

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

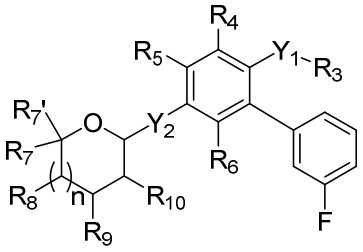
R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 is carboxy or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$;

In some examples, the compounds are further defined as:



(XXI),

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 is carboxy or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$;

R_7' is hydrogen, carboxy, or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$; or

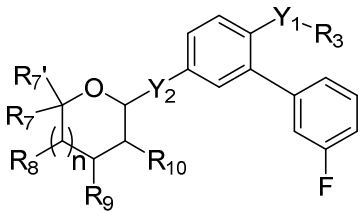
R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups;

R_8 is alkoxy$_{(C3\text{-}6)}$, acyloxy$_{(C\leq6)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups; and

R_9 and R_{10} are each independently halo or hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XXII),

wherein:

n is 0, 1, or 2;

Y_1 is $-alkanediyl_{(C\leq6)}-$, $-C(O)-alkanediyl_{(C\leq6)}-$, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, $alkyl_{(C\leq6)}$, substituted $alkyl_{(C\leq6)}$, $acyl_{(C\leq6)}$, or substituted $acyl_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, $alkyl_{(C\leq6)}$, or substituted $alkyl_{(C\leq6)}$;

R_7 is carboxy or $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$;

R_7' is hydrogen, carboxy, or $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$; or

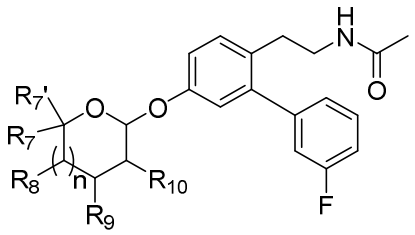
R_7 and R_7' are taken together and are $-alkanediyl_{(C\leq7)}-$, $-alkenediyl_{(C\leq7)}-$, or a substituted version of either of these groups;

R_8 is $alkoxy_{(C3\text{-}6)}$, $acyloxy_{(C\leq6)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups; and

R_9 and R_{10} are each independently halo or hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XXIII),

wherein:

n is 0, 1, or 2;

R_7 is carboxy or $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$;

R_7' is hydrogen, carboxy, or $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$; or

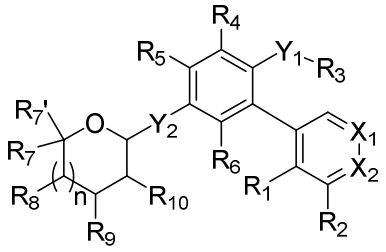
R_7 and R_7' are taken together and are $-alkanediyl_{(C\leq7)}-$, $-alkenediyl_{(C\leq7)}-$, or a substituted version of either of these groups;

R_8 is $alkoxy_{(C3\text{-}6)}$, $acyloxy_{(C\leq6)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups; and

R_9 and R_{10} are each independently halo or hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In other examples, the compounds are further defined as:



(II),

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 and R_7' are each independently hydrogen, carboxy or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$;

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups;

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylamino_{(C\leq6)}$, $-alkanediyl_{(C\leq6)}-heterocycloalkyl_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are $alkanediyl_{(C\leq6)}$, $alkenediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups; and

X_2 is CR_{15} or N, wherein:

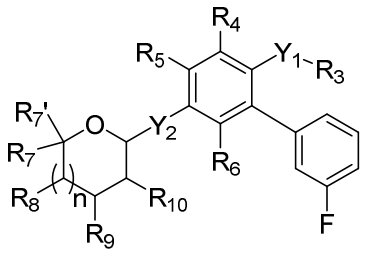
R_{15} is hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylamino_{(C\leq6)}$, $-alkanediyl_{(C\leq6)}-heterocycloalkyl_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are $alkanediyl_{(C\leq6)}$, $alkenediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are $alkanediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XXIV),

wherein:

n is 0, 1, or 2;

Y_1 is $-alkanediyl_{(C\leq6)}-$, $-C(O)-alkanediyl_{(C\leq6)}-$, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, $alkyl_{(C\leq6)}$, substituted $alkyl_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, $alkyl_{(C\leq6)}$, or substituted $alkyl_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, $alkyl_{(C\leq6)}$, substituted $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, substituted $alkoxy_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, or substituted $acyloxy_{(C\leq6)}$;

R_7 and R_7' are each independently hydrogen, carboxy or $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

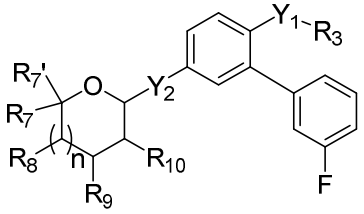
R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$;

R_7 and R_7' are taken together and are $-alkanediyl_{(C\leq7)}-$, $-alkenediyl_{(C\leq7)}-$, or a substituted version of either of these groups; and

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XXV),

wherein:

n is 0, 1, or 2;

Y_1 is $-alkanediyl_{(C\leq6)}-$, $-C(O)-alkanediyl_{(C\leq6)}-$, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_3 is $-NR_{11}R_{11}'$ or $-C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, $alkyl_{(C\leq6)}$, substituted $alkyl_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, $alkyl_{(C\leq6)}$, or substituted $alkyl_{(C\leq6)}$;

R_7 and R_7' are each independently hydrogen, carboxy or $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$,

aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR$_{13}$, or a substituted version of any of these groups wherein:

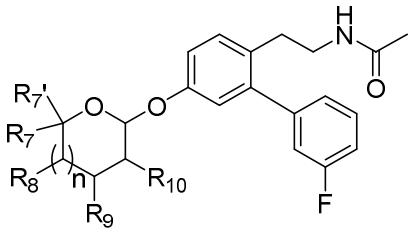
R$_{13}$ is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$;

R$_7$ and R$_7$′ are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups; and

R$_8$, R$_9$, and R$_{10}$ are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XXVI),

wherein:

n is 0, 1, or 2;

R$_7$ and R$_7$′ are each independently hydrogen, carboxy or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR$_{13}$, or a substituted version of any of these groups wherein:

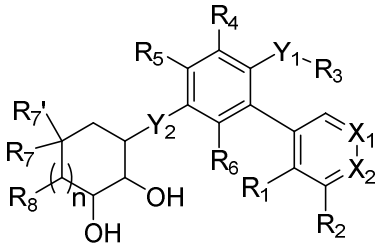
R$_{13}$ is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$;

R$_7$ and R$_7$′ are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups; and

R$_8$, R$_9$, and R$_{10}$ are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In other examples, the compounds are further defined as:



(IV)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 is carboxy or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$;

$R_{7'}$ is hydrogen, carboxy or $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$;

R_7 and $R_{7'}$ are taken together and are $-alkanediyl_{(C\leq7)}-$, $-alkenediyl_{(C\leq7)}-$, or a substituted version of either of these groups;

R_8 is halo or hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylamino_{(C\leq6)}$, $-alkanediyl_{(C\leq6)}-heterocycloalkyl_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are $alkanediyl_{(C\leq6)}$, $alkenediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups; and

X_2 is CR_{15} or N, wherein:

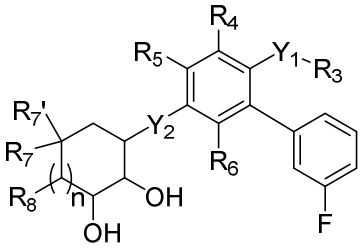
R_{15} is hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylamino_{(C\leq6)}$, $-alkanediyl_{(C\leq6)}-heterocycloalkyl_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are $alkanediyl_{(C\leq6)}$, $alkenediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are $alkanediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XXVII),

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 is carboxy or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$;

R_7' is hydrogen, carboxy or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

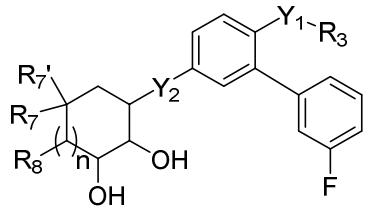
R_{13} is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$;

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups; and

R_8 is halo or hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XXVIII),

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_7 is carboxy or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is alkyl$_{(C\leq 12)}$, substituted alkyl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, or substituted aralkyl$_{(C\leq 12)}$;

R_7' is hydrogen, carboxy or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

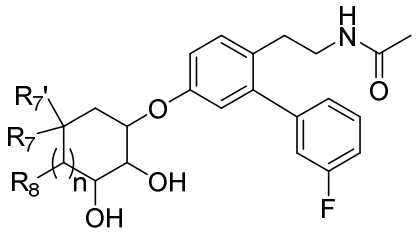
R_{13} is alkyl$_{(C\leq 12)}$, substituted alkyl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, or substituted aralkyl$_{(C\leq 12)}$;

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq 7)}$−, −alkenediyl$_{(C\leq 7)}$−, or a substituted version of either of these groups; and

R_8 is halo or hydroxy, or alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, aralkyl$_{(C\leq 12)}$, aralkoxy$_{(C\leq 12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XXIX),

wherein:

n is 0, 1, or 2;

R_7 is carboxy or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$;

R_7' is hydrogen, carboxy or $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

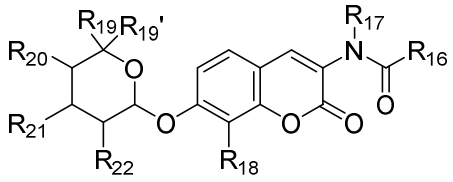
R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$;

R_7 and R_7' are taken together and are $-alkanediyl_{(C\leq7)}-$, $-alkenediyl_{(C\leq7)}-$, or a substituted version of either of these groups; and

R_8 is halo or hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

In other examples, the compounds are further defined as:



(V),

wherein:

R_{16} is $alkyl_{(C\leq12)}$, $cycloalkyl_{(C\leq12)}$, $aryl_{(C\leq18)}$, $heteroaryl_{(C\leq18)}$, or a substituted version thereof;

R_{17} and R_{18} are each independently hydrogen, $alkyl_{(C\leq8)}$, or substituted $alkyl_{(C\leq8)}$;

R_{19} is carboxy or $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted

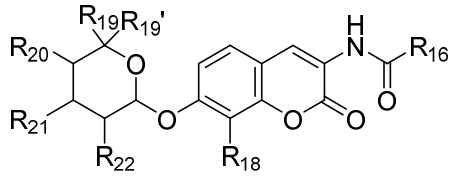
R_{19}' is hydrogen, carboxy or $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$;

R_{20}, R_{21}, and R_{22} are each independently halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups, or a protected hydroxy group;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XXX),

wherein:

R_{16} is $alkyl_{(C\leq12)}$, $cycloalkyl_{(C\leq12)}$, $aryl_{(C\leq18)}$, $heteroaryl_{(C\leq18)}$, or a substituted version thereof;

R_{18} is hydrogen, $alkyl_{(C\leq8)}$, or substituted $alkyl_{(C\leq8)}$;

R_{19} is carboxy or $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted

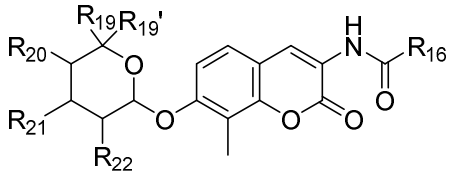
R_{19}' is hydrogen, carboxy or $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$;

R_{20}, R_{21}, and R_{22} are each independently halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups, or a protected hydroxy group;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XXXI),

wherein:

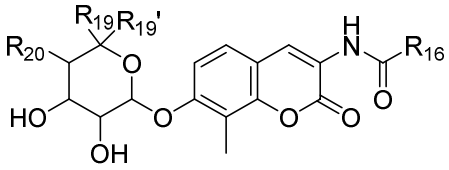
R_{16} is $alkyl_{(C\leq12)}$, $cycloalkyl_{(C\leq12)}$, $aryl_{(C\leq18)}$, $heteroaryl_{(C\leq18)}$, or a substituted version thereof;

R_{19} is $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, or a substituted version of any of these groups

R_{20}, R_{21}, and R_{22} are each independently hydroxy, $alkoxy_{(C\leq12)}$, substituted $alkoxy_{(C\leq12)}$, or a protected hydroxy group;

or a pharmaceutically acceptable salt of the formula.

In some examples, the compounds are further defined as:



(XXXII),

wherein:

R_{16} is $alkyl_{(C\leq12)}$, $cycloalkyl_{(C\leq12)}$, $aryl_{(C\leq18)}$, $heteroaryl_{(C\leq18)}$, or a substituted version thereof;

R_{19} is carboxy or $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted

R_{19}' is hydrogen, carboxy or $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$;

R_{20} is halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups, or a protected hydroxy group;

or a pharmaceutically acceptable salt of the formula.

In some examples, R_1 is hydrogen. In some examples, R_2 is halo such as fluoro. In some examples, X_1 is CR_{14}. In some examples, R_{14} is hydrogen. In some examples, X_2 is CR_{15}. In some examples, R_{15} is hydrogen.

In some examples, Y_1 is $-alkanediyl_{(C\leq6)}-$ or substituted $-alkanediyl_{(C\leq6)}-$. In some examples, Y_1 is $-alkanediyl_{(C\leq6)}-$ such as $-CH_2CH_2-$. In other examples, Y_1 is substituted $-alkanediyl_{(C\leq6)}-$ such as $-CF_2CH_2-$ or $-CH(OH)CH_2-$. In some examples, R_3 is $-NR_{11}R_{11}'$. In some examples, R_{11} is hydrogen. In other examples, R_{11} is $alkyl_{(C\leq6)}$ or substituted $alkyl_{(C\leq6)}$. In some examples, R_{11} is $alkyl_{(C\leq6)}$ such as methyl. In other examples, R_{11} is $acyl_{(C\leq6)}$ or substituted $acyl_{(C\leq6)}$. In some examples, R_{11} is $acyl_{(C\leq6)}$ such as acetyl. In some examples, R_{11}' is hydrogen. In other examples, R_{11}' is $alkyl_{(C\leq6)}$ or substituted $alkyl_{(C\leq6)}$. In some examples, R_{11}' is $alkyl_{(C\leq6)}$ such as methyl.

In other examples, R_3 is $-C(O)NR_{12}R_{12}'$. In some examples, R_{12} is hydrogen. In some examples, R_{12}' is hydrogen.

In some examples, R_4 is hydrogen. In other examples, R_4 is hydroxy. In some examples, R_5 is hydrogen. In other examples, R_5 is hydroxy. In some examples, R_6 is hydrogen. In other examples, R_6 is hydroxy. In some examples, Y_2 is O. In other examples, Y_2 is S. In other examples, Y_2 is CH_2. In some examples, n is 1 or 2. In other examples, n is 0 or 1. In some examples, n is 1. In other examples, n is 0.

In some examples, R_9 is hydroxy. In other examples, R_9 is hydrogen. In some examples, R_{10} is hydroxy. In other examples, R_{10} is hydrogen. In other examples, R_{10} is amino. In other examples, R_{10} is amido$_{(C\leq12)}$ or substituted amido$_{(C\leq12)}$. In some examples, R_{10} is amido$_{(C\leq12)}$ such as $-NHC(O)CH_3$.

In some examples, R_8 is hydroxy. In other examples, R_8 is alkyl$_{(C\leq6)}$ or substituted alkyl$_{(C\leq6)}$. In some examples, R_8 is alkyl$_{(C\leq6)}$ such as methyl. In other examples, R_8 is alkoxy$_{(C\leq6)}$ or substituted alkoxy$_{(C\leq6)}$. In some examples, R_8 is alkoxy$_{(C\leq6)}$ such as methoxy or isopropoxy. In other examples, R_8 is substituted alkoxy$_{(C\leq6)}$ such as difluoromethoxy. In other examples, R_8 is aralkoxy$_{(C\leq6)}$ or substituted aralkoxy$_{(C\leq6)}$. In some examples, R_8 is aralkoxy$_{(C\leq6)}$ such as benzyloxy.

In some examples, R_7 is hydrogen. In other examples, R_7 is carboxy. In other examples, R_7 is alkyl$_{(C\leq6)}$ or substituted alkyl$_{(C\leq6)}$. In some examples, R_7 is alkyl$_{(C\leq6)}$ such as methyl, propyl, or isobutyl. In other examples, R_7 is substituted alkyl$_{(C\leq6)}$ such as hydroxymethyl, fluoromethyl, hydoxyethyl, or fluoroisopropyl. In other examples, R_7 is alkenyl$_{(C\leq8)}$ or substituted alkenyl$_{(C\leq8)}$. In some examples, R_7 is alkenyl$_{(C\leq8)}$ such as allyl. In other examples, R_7 is aryl$_{(C\leq8)}$ or substituted aryl$_{(C\leq8)}$. In some examples, R_7 is aryl$_{(C\leq8)}$ such as phenyl. In other examples, R_7 is $-$alkanediyl$_{(C\leq6)}-OR_{13}$. In some examples, R_{13} is aralkyl$_{(C\leq8)}$ such as benzyl.

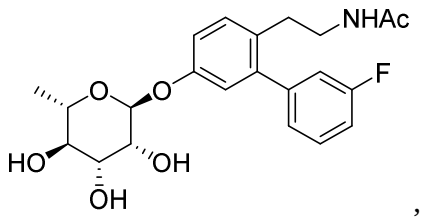
In some examples, R_7' is hydrogen. In other examples, R_7' is alkyl$_{(C\leq8)}$ or substituted alkyl$_{(C\leq8)}$. In some examples, R_7' is alkyl$_{(C\leq8)}$ such as methyl, propyl, or isobutyl. In other examples, R_7' is alkenyl$_{(C\leq8)}$ or substituted alkenyl$_{(C\leq8)}$. In some examples, R_7' is alkenyl$_{(C\leq8)}$ such as allyl. In other examples, R_7' is aryl$_{(C\leq8)}$ or substituted aryl$_{(C\leq8)}$. In some examples, R_7' is aryl$_{(C\leq8)}$ such as phenyl. In other examples, R_7 and R_7' are taken together and are $-$alkanediyl$_{(C\leq7)}-$, $-$alkenediyl$_{(C\leq7)}-$, or a

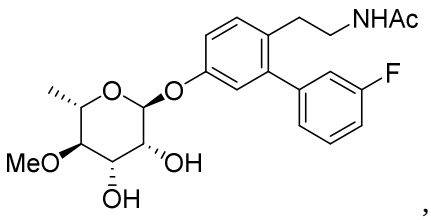
substituted version of either of these groups. In some examples, R_7 and R_7' are taken together and are $-CH_2CH_2CH_2CH_2-$ and form a cyclopentyl ring. In other examples, R_7 and R_7' are taken together and are $-\text{alkanediyl}_{(C\leq 7)}-$, $-\text{alkenediyl}_{(C\leq 7)}-$, or a substituted version of either of these groups. In some examples,R_7 and R_7' are taken together and are $-CH_2CH=CHCH_2-$ and form a cyclopentenyl ring.

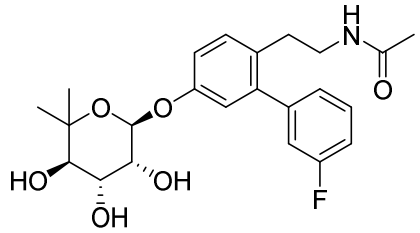
In some examples, R_{16} is $\text{alkyl}_{(C\leq 12)}$ or substituted $\text{alkyl}_{(C\leq 12)}$. In some examples, R_{16} is $\text{alkyl}_{(C\leq 8)}$ such as methyl. In some examples, R_{17} is hydrogen. In some examples, R_{18} is $\text{alkyl}_{(C\leq 12)}$ or substituted $\text{alkyl}_{(C\leq 12)}$. In some examples, R_{18} is $\text{alkyl}_{(C\leq 8)}$ such as methyl. In some examples, R_{19} is $\text{alkyl}_{(C\leq 12)}$ or substituted $\text{alkyl}_{(C\leq 12)}$. In some examples, R_{19} is $\text{alkyl}_{(C\leq 8)}$ such as methyl. In some examples, R_{19}' is hydrogen.

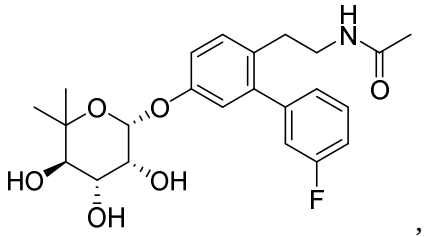
In some examples, R_{20} is hydroxy. In other examples, R_{20} is $\text{alkoxy}_{(C\leq 12)}$ or substituted $\text{alkoxy}_{(C\leq 12)}$. In some examples, R_{20} is $\text{alkoxy}_{(C\leq 8)}$ such as methoxy. In some examples, R_{21} is hydroxy. In some examples, R_{22} is hydroxy.

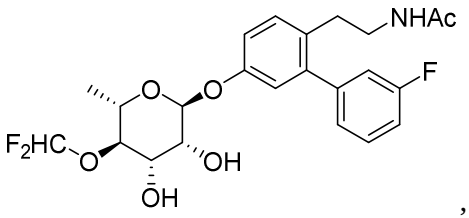
In some examples, the compounds are further defined as:

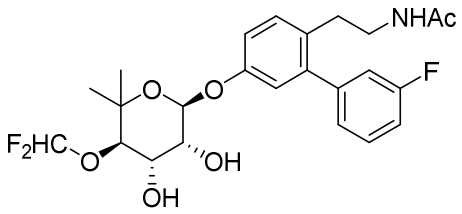


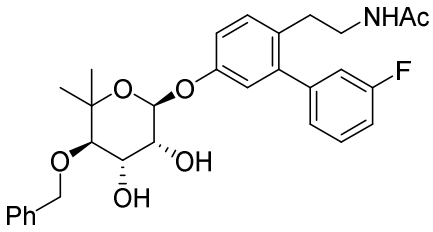
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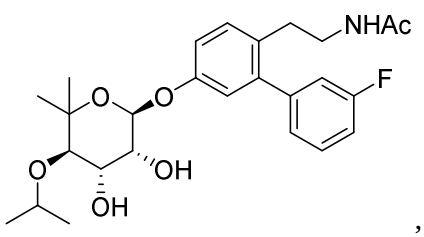
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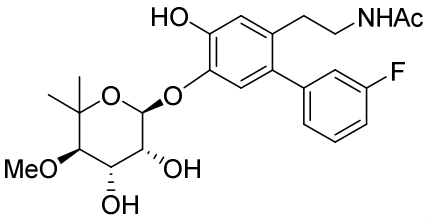
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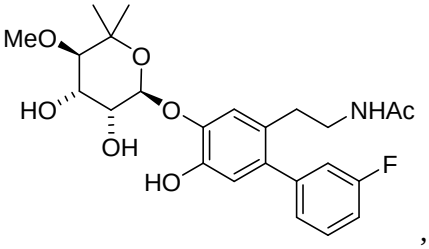
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In another aspect, the present disclosure refers to a compound of the formula:

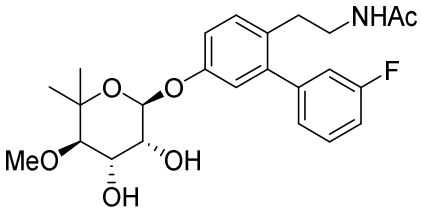


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or a pharmaceutically acceptable salt of either of these formulas.

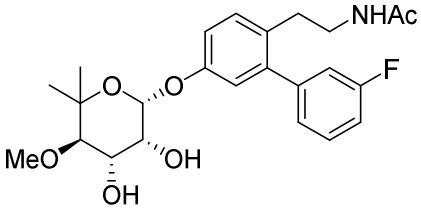
In yet another aspect, the present disclosure refers to a compound of the formula:



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wherein the compound is essentially free of any other stereoisomers;
or a pharmaceutically acceptable salt of the formula.

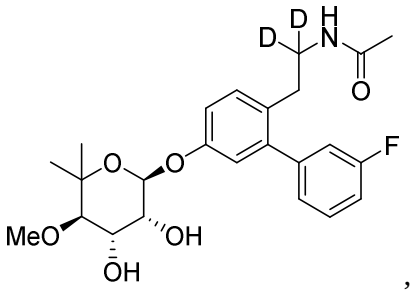
In yet another aspect, the present disclosure refers to a compound of the formula:



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wherein the compound is essentially free of any other stereoisomers;
or a pharmaceutically acceptable salt of the formula.

In yet another aspect, the present disclosure refers to a compound of the formula, or a pharmaceutically acceptable salt of the formula:



,

wherein the compound is greater than 90% deuterated at the positions indicated in the formula.

In yet another aspect, the present disclosure refers to a pharmaceutical composition comprising:

(A) a compound as described herein; and

(B) an excipient.

In some examples, the pharmaceutical compositions are formulated for administration: orally, intraadiposally, intraarterially, intraarticularly, intracranially, intradermally, intralesionally, intramuscularly, intranasally, intraocularly, intrapericardially, intraperitoneally, intrapleurally, intraprostatically, intrarectally, intrathecally, intratracheally, intratumorally, intraumbilically, intravaginally, intravenously, intravesicularlly, intravitreally, liposomally, locally, mucosally, parenterally, rectally, subconjunctival, subcutaneously, sublingually, topically, transbuccally, transdermally, vaginally, in crèmes, in lipid compositions, via a catheter, via a lavage, via continuous infusion, via infusion, via inhalation, via injection, via local delivery, or via localized perfusion. In some examples, the pharmaceutical compositions are formulated for oral, intraarterial, or intravenous administration. In some examples, the pharmaceutical compositions are formulated as a unit dose.

In yet another aspect, the present disclosure refers to a therapeutically effective amount of a compound or composition as described herein for use in therapy. In still yet another example, the present disclosure provides methods of treating a disease or disorder in a patient comprising administering to the patient in need thereof a therapeutically effective amount of a compound or composition described herein. In some examples, the disease or disorder is a neurological disorder. In other examples, the disease or disorder is diabetes or a complication thereof. In some examples, the disease or disorder is a complication from diabetes such as neuropathy, nephropathy, retinopathy, or vasculopathy. In some examples, the complication from diabetes is neuropathy such as diabetic peripheral neuropathy. In some examples, the disease or disorder is associated with misregulation of the Hsp70 protein. In some examples, the disease or disorder is associated with misregulation of the Hsp90 protein. In some examples, the patient is a mammal such as human. In some examples, the compound is administered once to the patient. In other examples, the compound is administered two or more times to the patient.

In yet another example, the present disclosure provides methods of inducing expression of a Hsp70 protein comprising contacting the protein with an effective amount of a compound or composition described herein sufficient to induce the expression of the Hsp70 protein. In some examples, the protein is contacted *in vitro*. In other examples, the protein is contacted *in vivo*. In some examples, the effective amount of a compound or composition is effective enough to induce expression by at least 50% of the Hsp70 protein such as by more than 100%. In some examples, the induction of Hsp70 protein expression is sufficient to treat a disease or disorder. In some examples, the disease or disorder is a neurodegenerative disease such as a neurodegenerative disease is associated with misfolded proteins, demyelination, inflammation, and neuropathy. In some examples, the neurodegenerative disease is diabetic peripheral neuropathy. In other examples, the disease or disorder is cancer. In other examples, the induction of Hsp70 protein expression results in a modulation in expression of one or more downstream products. In some examples, the induction of Hsp70 protein expression results in a modulation in activity of one or more downstream products.

In still yet another example, the present disclosure provides methods of inhibiting of a Hsp90 protein comprising contacting the protein with an effective amount of a compound or composition described herein sufficient to inhibit the activity of the Hsp90 protein. In some examples, the protein is contacted *in vitro*. In other examples, the protein is contacted *in vivo*. In some examples, the effective amount of a compound or composition is effective enough to inhibit the expression of the Hsp90 protein by at least 50% such as when the Hsp90 protein expression is inhibited by more than 75%. In some examples, the inhibition of Hsp90 protein expression is sufficient to treat a disease or disorder. In some examples, the disease or disorder is cancer or a hyperproliferative disorder. In some examples, the disease or disorder is associated with a highly proliferating cell. In some embodiemnts, the inhibition of Hsp90 protein expression results in a modulation in expression of one or more downstream products. In other examples, the inhibition of Hsp90 protein expression results in a modulation in activity of one or more downstream products.

In yet another aspect, the present disclosure refers to a compound of the formula:

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

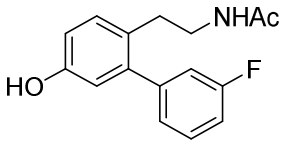
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

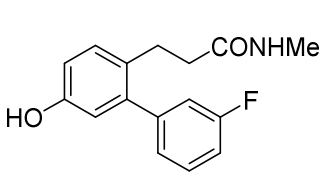
R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

provided that the compound is not a compound of the formula:

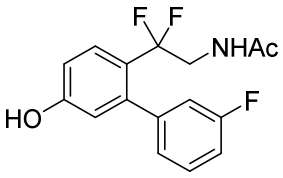


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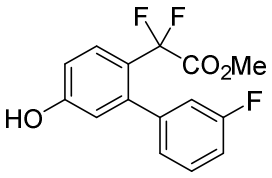
In some examples, the compounds are further defined as:



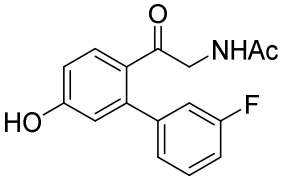
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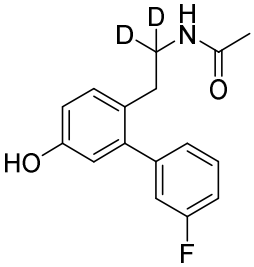
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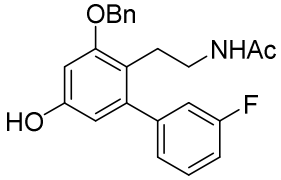
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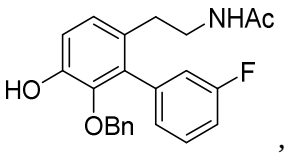
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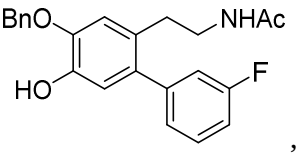


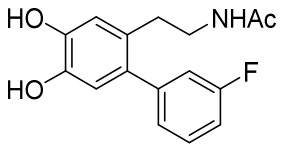
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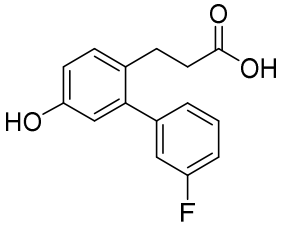


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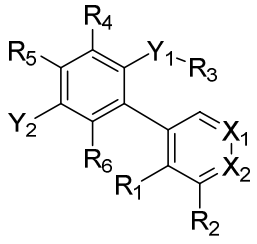
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In yet another aspect, the present disclosure refers to a method of making a compound as described herein, comprising reacting (a) with (b) in the presence of a coupling agent:

(a) a compound of the formula:



(XXXIII),

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, −alkanediyl$_{(C\leq6)}$−C(O)R_{17}, or a substituted version of any of these groups, wherein:

R_{17} is alkyl$_{(C\leq6)}$ or substituted alkyl$_{(C\leq6)}$;

Y_2 is hydroxy or mercapto;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is carboxy, –$NR_{11}R_{11}'$, or –C(O)$NR_{12}R_{12}'$, wherein:

heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR$_{13}$, or a substituted version of any of these groups wherein:

R$_{13}$ is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$;

R$_7$ and R$_7$′ are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups; and

R$_8$, R$_9$, and R$_{10}$ are each independently hydrogen, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups.

In some examples, the coupling agent is a Lewis acid. In some examples, the Lewis acid comprises a boron reagent such as BF_3, or more specifically $BF_3{\cdot}Et_2O$. In some examples, the methods further comprise a solvent. In other examples, the methods do not comprise a solvent.

Other objects, features and advantages of the present disclosure will become apparent from the following detailed description. It should be understood, however, that the detailed description and the specific examples, while indicating specific embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description. Note that simply because a particular compound is ascribed to one particular generic formula doesn't mean that it cannot also belong to another generic formula.

significant oxidative stress, these results indicate that this compound, and mechanistically related compounds such as KU-32, may be useful in treating other neurological disorders that involve oxidative stress and chronic inflammation, including neurodegenerative diseases, epilepsy, multiple sclerosis, spinal cord injury, demyelinating nerve disorders, and psychiatric disorders including schizophrenia, depression, bipolar disorder, autism and related disorders, and post-traumatic stress disorders. More generally, compounds exhibiting similar mechanistic actions such as the compounds of the present invention have potential uses in non-neurological diseases that involve mitochondrial dysfunction or chronic or acute oxidative stress and inflammation, including osteoarthritis, autoimmune diseases, and mitochondrial myopathy. These compounds may also be useful in combination with other therapies, particularly therapies that reduce oxidative stress, inflammation, and mitochondrial dysfunction by other mechanisms.

A. Hsp70 Protein

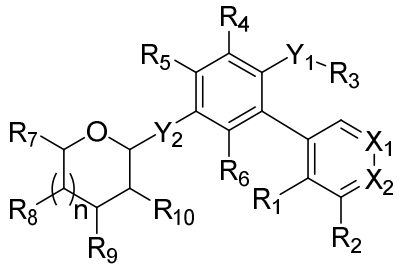
In some embodiments, the compounds and compositions provided herein may be used to modulate the expression and/or activity of Hsp70 proteins or to modulate the activity of targets or signaling pathways that are regulated by Hsp70. The Hsp70 protein functions as a chaperone protein assisting in protein folding and has a wide variety of different biological functions within normal cells. In particular, Hsp70 is associated with protein folding and transport of proteins into organelles, recognition of damaged proteins and assisting in the tagging of these proteins for destruction, and recognizes proteins carrying particular amino acid sequences and transports these proteins to specific organelles such as lysosomes. Notably, Hsp70 is an important regulator of importation of proteins into mitochondria. Without wishing to be bound by any theory, it is believed that as many as 30% of proteins interact with Hsp70 which ensures their proper folding and the Hsp70 interacts with the hydrophobic portions of proteins to prevent their degradation. Furthermore, Hsp70 also helps in the identification of irreversibly damaged proteins and sends those proteins to proteasomes for degradation. Such degradation occurs in conjunction with Bag-1 and CHIP proteins.

Additionally, the Hsp70 protein is associated with identifying and marking proteins which are degraded under fasting conditions or other low nutrient conditions. In particular, the presence of the amino acid sequence KFPRQ (SEQ ID NO: 1) within a protein is known to trigger the protein for degradation under such conditions by the lysosome.

CLAIMS

What is Claimed is:

1. A compound of the formula:



(I)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylthio$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, substituted alkoxy$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, or substituted acyloxy$_{(C\leq 6)}$;

R_7 is carboxy or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$;

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylamino_{(C\leq6)}$, $-alkanediyl_{(C\leq6)}-heterocycloalkyl_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are $alkanediyl_{(C\leq6)}$, $alkenediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups; and

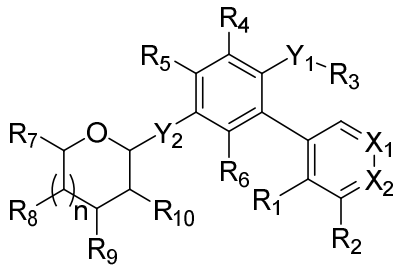
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylamino_{(C\leq6)}$, $-alkanediyl_{(C\leq6)}-heterocycloalkyl_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are $alkanediyl_{(C\leq6)}$, $alkenediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are $alkanediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(I)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylthio$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, substituted alkoxy$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, or substituted acyloxy$_{(C\leq 6)}$;

R_7 is hydrogen, carboxy or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is alkyl$_{(C\leq 12)}$, substituted alkyl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, or substituted aralkyl$_{(C\leq 12)}$;

R_8 and R_9 are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, aralkyl$_{(C\leq 12)}$, aralkoxy$_{(C\leq 12)}$, or a substituted version of any of these groups;

R_{10} is amino or alkylamino$_{(C\leq6)}$, dialkylamino$_{(C\leq12)}$, amido$_{(C\leq12)}$, or a substituted version of any of these three groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

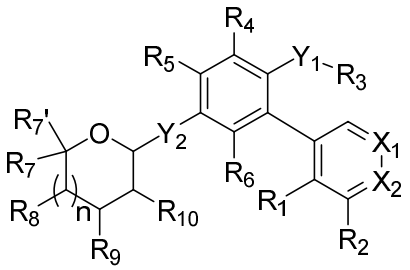
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(II)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 is carboxy or alkyl$_{(C3\text{-}8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$;

R_7' is hydrogen, carboxy, or alkyl$_{(C3\text{-}8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$; or

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups;

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, aralkyl$_{(C\leq 12)}$, aralkoxy$_{(C\leq 12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylamino$_{(C\leq 6)}$, −alkanediyl$_{(C\leq 6)}$−heterocycloalkyl$_{(C\leq 8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkenediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups; and

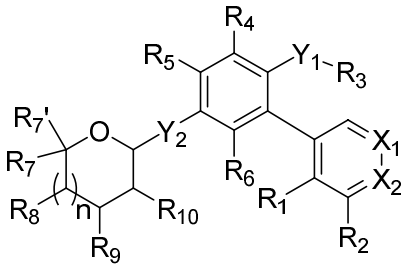
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylamino$_{(C\leq 6)}$, −alkanediyl$_{(C\leq 6)}$−heterocycloalkyl$_{(C\leq 8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq 6)}$, alkenediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(II)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2 or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 and R_7' are each independently hydrogen, carboxy, or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$;

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups;

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

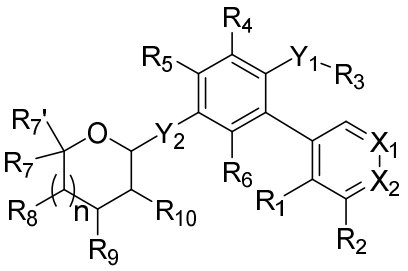
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(II)

wherein:

n is 0, 1, or 2;

Y_1 is substituted −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or substituted −C(O)−alkanediyl$_{(C\leq6)}$−;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 and R_7' are each independently hydrogen, carboxy or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$; or

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of any of these groups;

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

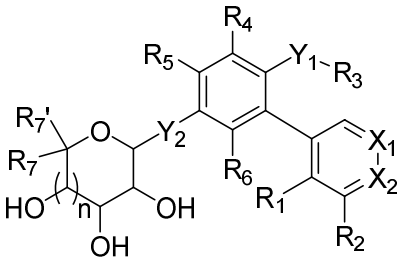
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(III)

wherein:

n is 1 or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 and R_7' are each independently hydrogen, carboxy, or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$; or

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

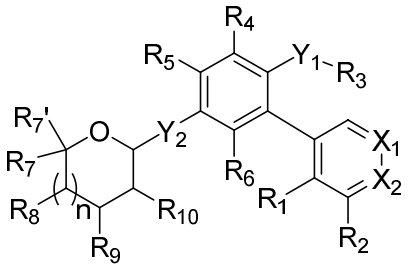
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(II)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylthio$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, substituted alkoxy$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, or substituted acyloxy$_{(C\leq 6)}$;

R_7 is carboxy or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$,

heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR$_{13}$, or a substituted version of any of these groups wherein:

R$_{13}$ is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$;

R$_7$′ is hydrogen, carboxy, or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR$_{13}$, or a substituted version of any of these groups wherein:

R$_{13}$ is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$; or

R$_7$ and R$_7$′ are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups;

R$_8$ is halo, alkoxy$_{(C3\text{-}6)}$, acyloxy$_{(C\leq6)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

R$_9$ and R$_{10}$ are each independently halo, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

X$_1$ is CR$_{14}$ or N, wherein:

R$_{14}$ is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R$_{14}$ and R$_{15}$ are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

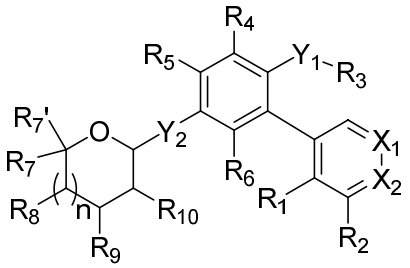
X$_2$ is CR$_{15}$ or N, wherein:

R$_{15}$ is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R$_{15}$ and R$_{14}$ are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R$_{15}$ and R$_2$ are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(II)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylthio$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, substituted alkoxy$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, or substituted acyloxy$_{(C\leq 6)}$;

R_7 and R_7' are each independently hydrogen, carboxy or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$,

heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR$_{13}$, or a substituted version of any of these groups wherein:

R$_{13}$ is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$;

R$_7$ and R$_7$′ are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups;

R$_8$, R$_9$, and R$_{10}$ are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

X$_1$ is CR$_{14}$ or N, wherein:

R$_{14}$ is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R$_{14}$ and R$_{15}$ are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

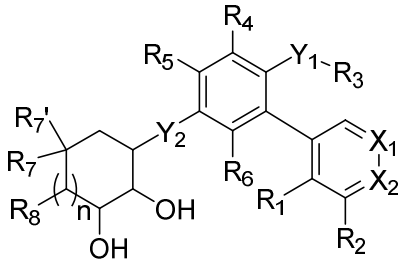
X$_2$ is CR$_{15}$ or N, wherein:

R$_{15}$ is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R$_{15}$ and R$_{14}$ are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R$_{15}$ and R$_2$ are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(IV)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylthio$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, substituted alkoxy$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, or substituted acyloxy$_{(C\leq 6)}$;

R_7 is carboxy or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is alkyl$_{(C\leq 12)}$, substituted alkyl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, or substituted aralkyl$_{(C\leq 12)}$;

R_7' is hydrogen, carboxy or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$,

heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR$_{13}$, or a substituted version of any of these groups wherein:

R$_{13}$ is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$;

R$_7$ and R$_7$′ are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups;

R$_8$ is halo, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

X$_1$ is CR$_{14}$ or N, wherein:

R$_{14}$ is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R$_{14}$ and R$_{15}$ are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

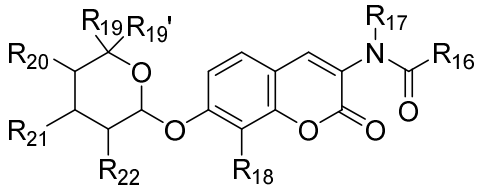
X$_2$ is CR$_{15}$ or N, wherein:

R$_{15}$ is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R$_{15}$ and R$_{14}$ are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R$_{15}$ and R$_2$ are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(V)

wherein:

R$_{16}$ is alkyl$_{(C\leq12)}$, cycloalkyl$_{(C\leq12)}$, aryl$_{(C\leq18)}$, heteroaryl$_{(C\leq18)}$, or a substituted version thereof;

R_{17} and R_{18} are each independently hydrogen, $alkyl_{(C\leq 8)}$, or substituted $alkyl_{(C\leq 8)}$;

R_{19} is carboxy or $alkyl_{(C\leq 8)}$, $alkenyl_{(C\leq 8)}$, $alkynyl_{(C\leq 8)}$, $cycloalkyl_{(C\leq 8)}$, $heterocycloalkyl_{(C\leq 8)}$, $aryl_{(C\leq 12)}$, $heteroaryl_{(C\leq 12)}$, $aralkyl_{(C\leq 12)}$, $heteroaralkyl_{(C\leq 12)}$, $-alkanediyl_{(C\leq 6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq 12)}$, substituted $alkyl_{(C\leq 12)}$, $aralkyl_{(C\leq 12)}$, or substituted

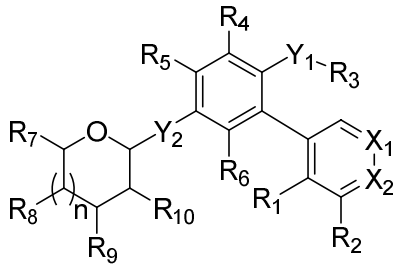
R_{19}' is hydrogen, carboxy or $alkyl_{(C\leq 8)}$, $alkenyl_{(C\leq 8)}$, $alkynyl_{(C\leq 8)}$, $cycloalkyl_{(C\leq 8)}$, $heterocycloalkyl_{(C\leq 8)}$, $aryl_{(C\leq 12)}$, $heteroaryl_{(C\leq 12)}$, $aralkyl_{(C\leq 12)}$, $heteroaralkyl_{(C\leq 12)}$, $-alkanediyl_{(C\leq 6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq 12)}$, substituted $alkyl_{(C\leq 12)}$, $aralkyl_{(C\leq 12)}$, or substituted $aralkyl_{(C\leq 12)}$;

R_{20}, R_{21}, and R_{22} are each independently halo, hydroxy, or $alkyl_{(C\leq 6)}$, $alkoxy_{(C\leq 6)}$, $acyl_{(C\leq 6)}$, $acyloxy_{(C\leq 6)}$, $aralkyl_{(C\leq 12)}$, $aralkoxy_{(C\leq 12)}$, or a substituted version of any of these groups, or a protected hydroxy group;

or a pharmaceutically acceptable salt of any of the above formulas.

2. The compound of claim 1 further defined as:



(I)

wherein:

n is 0, 1, or 2;

Y_1 is $-alkanediyl_{(C\leq 6)}-$, $-C(O)-alkanediyl_{(C\leq 6)}-$, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or $alkyl_{(C\leq 6)}$, $alkenyl_{(C\leq 6)}$, $alkynyl_{(C\leq 6)}$, $cycloalkyl_{(C\leq 8)}$, $heterocycloalkyl_{(C\leq 8)}$, $amido_{(C\leq 6)}$, $alkoxy_{(C\leq 6)}$, $alkylsulfonyl_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 is carboxy or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$;

R_8, R_9, and R_{10} are each independently hydrogen, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

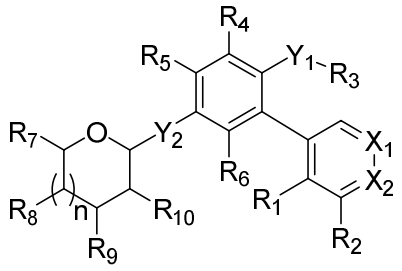
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylamino_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are $alkanediyl_{(C\leq6)}$, $alkenediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are $alkanediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(I)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $amido_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylsulfonyl_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $amido_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylthio_{(C\leq6)}$, $alkylsulfonyl_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are $alkanediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, $alkyl_{(C\leq6)}$, substituted $alkyl_{(C\leq6)}$, $acyl_{(C\leq6)}$, or substituted $acyl_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, $alkyl_{(C\leq6)}$, or substituted $alkyl_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, $alkyl_{(C\leq6)}$, substituted $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, substituted $alkoxy_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, or substituted $acyloxy_{(C\leq6)}$;

R_7 is hydrogen, carboxy or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $aralkyl_{(C\leq12)}$ or substituted $aralkyl_{(C\leq12)}$;

R_8 and R_9 are each independently hydrogen, hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups;

R_{10} is amino or $alkylamino_{(C\leq6)}$, $dialkylamino_{(C\leq12)}$, $amido_{(C\leq12)}$, or a substituted version of any of these three groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylamino_{(C\leq6)}$, $-alkanediyl_{(C\leq6)}-heterocycloalkyl_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are $alkanediyl_{(C\leq6)}$, $alkenediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups; and

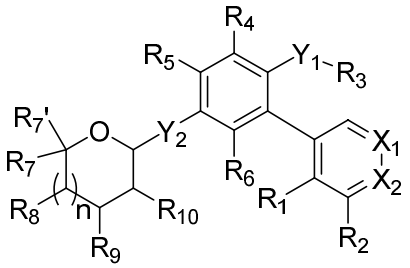
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylamino_{(C\leq6)}$, $-alkanediyl_{(C\leq6)}-heterocycloalkyl_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are $alkanediyl_{(C\leq6)}$, $alkenediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are $alkanediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(II)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylthio$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, substituted alkoxy$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, or substituted acyloxy$_{(C\leq 6)}$;

R_7 is carboxy or alkyl$_{(C3\text{-}8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$,

heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR$_{13}$, or a substituted version of any of these groups wherein:

R$_{13}$ is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$;

R$_7$′ is hydrogen, carboxy, or alkyl$_{(C3\text{-}8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR$_{13}$, or a substituted version of any of these groups wherein:

R$_{13}$ is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$; or

R$_7$ and R$_7$′ are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups;

R$_8$, R$_9$, and R$_{10}$ are each independently hydrogen, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

X$_1$ is CR$_{14}$ or N, wherein:

R$_{14}$ is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R$_{14}$ and R$_{15}$ are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

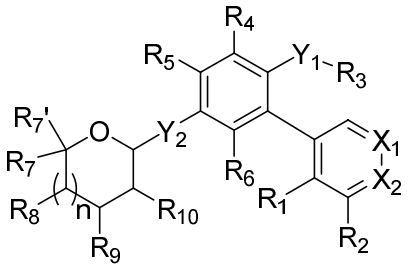
X$_2$ is CR$_{15}$ or N, wherein:

R$_{15}$ is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R$_{15}$ and R$_{14}$ are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R$_{15}$ and R$_2$ are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(II)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2 or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylthio$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, substituted alkoxy$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, or substituted acyloxy$_{(C\leq 6)}$;

R_7 and R_7' are each independently hydrogen, carboxy, or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$,

heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR$_{13}$, or a substituted version of any of these groups wherein:

R$_{13}$ is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$;

R$_7$ and R$_7$′ are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups;

R$_8$, R$_9$, and R$_{10}$ are each independently hydrogen, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

X$_1$ is CR$_{14}$ or N, wherein:

R$_{14}$ is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R$_{14}$ and R$_{15}$ are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

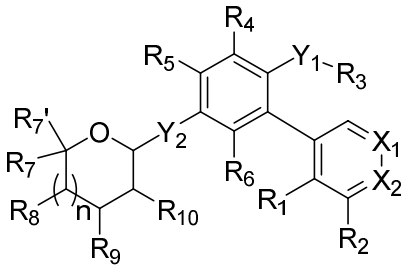
X$_2$ is CR$_{15}$ or N, wherein:

R$_{15}$ is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R$_{15}$ and R$_{14}$ are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R$_{15}$ and R$_2$ are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(II)

wherein:

n is 0, 1, or 2;

Y_1 is substituted −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or substituted −C(O)−alkanediyl$_{(C\leq 6)}$−;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylthio$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, substituted alkoxy$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, or substituted acyloxy$_{(C\leq 6)}$;

R_7 and R_7' are each independently hydrogen, carboxy or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq 12)}$ or substituted aralkyl$_{(C\leq 12)}$; or

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq 7)}$−, −alkenediyl$_{(C\leq 7)}$−, or a substituted version of any of these groups;

R_8, R_9, and R_{10} are each independently hydrogen, hydroxy, or alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, aralkyl$_{(C\leq 12)}$, aralkoxy$_{(C\leq 12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or $alkyl_{(C\leq 6)}$, $alkenyl_{(C\leq 6)}$, $alkynyl_{(C\leq 6)}$, $alkoxy_{(C\leq 6)}$, $alkylamino_{(C\leq 6)}$, −$alkanediyl_{(C\leq 6)}$−$heterocycloalkyl_{(C\leq 8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are $alkanediyl_{(C\leq 6)}$, $alkenediyl_{(C\leq 6)}$, $alkoxydiyl_{(C\leq 6)}$, $alkylaminodiyl_{(C\leq 6)}$, or a substituted version of any of these groups; and

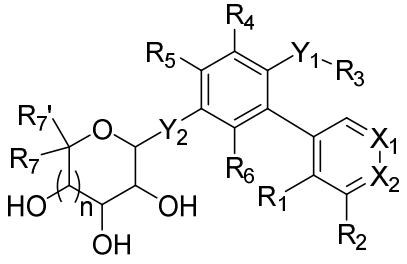
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or $alkyl_{(C\leq 6)}$, $alkenyl_{(C\leq 6)}$, $alkynyl_{(C\leq 6)}$, $alkoxy_{(C\leq 6)}$, $alkylamino_{(C\leq 6)}$, −$alkanediyl_{(C\leq 6)}$−$heterocycloalkyl_{(C\leq 8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are $alkanediyl_{(C\leq 6)}$, $alkenediyl_{(C\leq 6)}$, $alkoxydiyl_{(C\leq 6)}$, $alkylaminodiyl_{(C\leq 6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are $alkanediyl_{(C\leq 6)}$, $alkoxydiyl_{(C\leq 6)}$, $alkylaminodiyl_{(C\leq 6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(III)

wherein:

n is 1 or 2;

Y_1 is −$alkanediyl_{(C\leq 6)}$−, −C(O)−$alkanediyl_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or $alkyl_{(C\leq 6)}$, $alkenyl_{(C\leq 6)}$, $alkynyl_{(C\leq 6)}$, $cycloalkyl_{(C\leq 8)}$, $heterocycloalkyl_{(C\leq 8)}$, $amido_{(C\leq 6)}$, $alkoxy_{(C\leq 6)}$, $alkylsulfonyl_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or $alkyl_{(C\leq 6)}$, $alkenyl_{(C\leq 6)}$, $alkynyl_{(C\leq 6)}$, $cycloalkyl_{(C\leq 8)}$, $heterocycloalkyl_{(C\leq 8)}$, $aryl_{(C\leq 12)}$, $aralkyl_{(C\leq 12)}$,

amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylthio$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, substituted alkoxy$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, or substituted acyloxy$_{(C\leq 6)}$;

R_7 and R_7' are each independently hydrogen, carboxy, or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq 12)}$ or substituted aralkyl$_{(C\leq 12)}$; or

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq 7)}$−, −alkenediyl$_{(C\leq 7)}$−, or a substituted version of either of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylamino$_{(C\leq 6)}$, −alkanediyl$_{(C\leq 6)}$−heterocycloalkyl$_{(C\leq 8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkenediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups; and

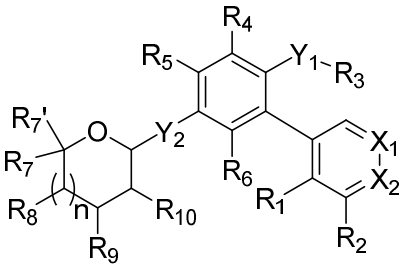
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylamino$_{(C\leq 6)}$, −alkanediyl$_{(C\leq 6)}$−heterocycloalkyl$_{(C\leq 8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(II)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 is carboxy or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$;

R_7' is hydrogen, carboxy, or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$; or

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups;

R_8 is alkoxy$_{(C3\text{-}6)}$, acyloxy$_{(C\leq6)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

R_9 and R_{10} are each independently hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

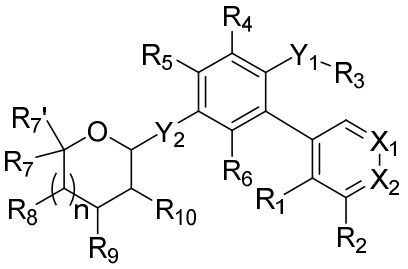
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(II)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 and R_7' are each independently hydrogen, carboxy or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$;

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups;

R_8, R_9, and R_{10} are each independently hydrogen, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

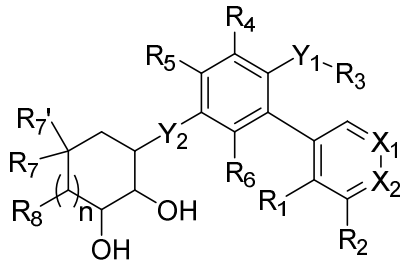
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(IV)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylthio$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, substituted alkoxy$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, or substituted acyloxy$_{(C\leq 6)}$;

R_7 is carboxy or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$;

R_7' is hydrogen, carboxy or $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$;

R_7 and R_7' are taken together and are $-alkanediyl_{(C\leq7)}-$, $-alkenediyl_{(C\leq7)}-$, or a substituted version of either of these groups;

R_8 is halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylamino_{(C\leq6)}$, $-alkanediyl_{(C\leq6)}-heterocycloalkyl_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are $alkanediyl_{(C\leq6)}$, $alkenediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups; and

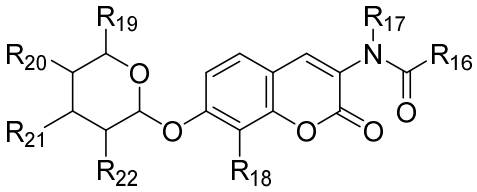
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylamino_{(C\leq6)}$, $-alkanediyl_{(C\leq6)}-heterocycloalkyl_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are $alkanediyl_{(C\leq6)}$, $alkenediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are $alkanediyl_{(C\leq6)}$, $alkoxydiyl_{(C\leq6)}$, $alkylaminodiyl_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(V)

wherein:

R_{16} is $alkyl_{(C\leq12)}$, $cycloalkyl_{(C\leq12)}$, $aryl_{(C\leq18)}$, $heteroaryl_{(C\leq18)}$, or a substituted version thereof;

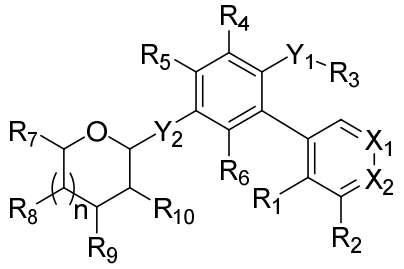
R_{17} and R_{18} are each independently hydrogen, $alkyl_{(C\leq8)}$, or substituted $alkyl_{(C\leq8)}$;

R_{19} is $alkyl_{(C\leq8)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, or a substituted version of any of these groups

R_{20}, R_{21}, and R_{22} are each independently hydroxy, $alkoxy_{(C\leq12)}$, substituted $alkoxy_{(C\leq12)}$, or a protected hydroxy group;

or a pharmaceutically acceptable salt of any of the above formulas.

3. The compound of either claim 1 or claim 2 further defined as:



(I)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $amido_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $alkylsulfonyl_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq6)}$, $alkynyl_{(C\leq6)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$,

amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylthio$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, substituted alkoxy$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, or substituted acyloxy$_{(C\leq 6)}$;

R_7 is carboxy or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq 12)}$ or substituted aralkyl$_{(C\leq 12)}$;

R_8, R_9, and R_{10} are each independently hydrogen, hydroxy, or alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, aralkyl$_{(C\leq 12)}$, aralkoxy$_{(C\leq 12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylamino$_{(C\leq 6)}$, −alkanediyl$_{(C\leq 6)}$−heterocycloalkyl$_{(C\leq 8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkenediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups; and

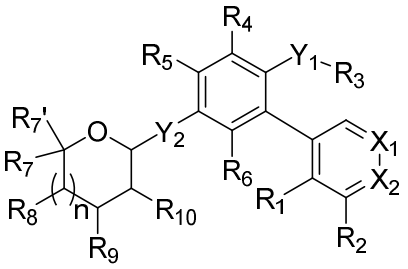
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylamino$_{(C\leq 6)}$, −alkanediyl$_{(C\leq 6)}$−heterocycloalkyl$_{(C\leq 8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(II)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 is carboxy or alkyl$_{(C3\text{-}8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$;

R_7' is hydrogen, carboxy, or alkyl$_{(C3\text{-}8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$; or

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups;

R_8, R_9, and R_{10} are each independently hydrogen, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

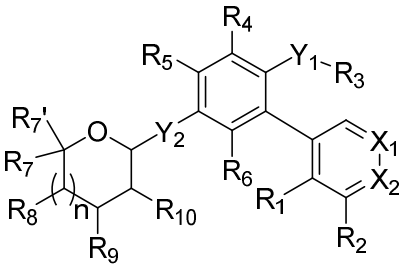
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(II)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2 or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 and R_7' are each independently hydrogen, carboxy, or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$;

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups;

R_8, R_9, and R_{10} are each independently hydrogen, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

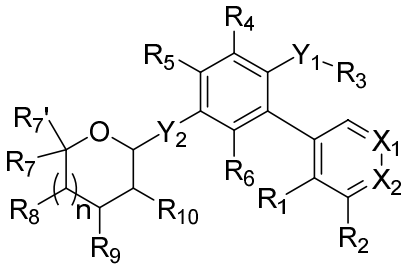
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(II)

wherein:

n is 0, 1, or 2;

Y_1 is substituted −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or substituted −C(O)−alkanediyl$_{(C\leq 6)}$−;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylthio$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, substituted alkoxy$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, or substituted acyloxy$_{(C\leq 6)}$;

R_7 and R_7' are each independently hydrogen, carboxy or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$,

heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR$_{13}$, or a substituted version of any of these groups wherein:

R$_{13}$ is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$; or

R$_7$ and R$_7$′ are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of any of these groups;

R$_8$, R$_9$, and R$_{10}$ are each independently hydrogen, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

X$_1$ is CR$_{14}$ or N, wherein:

R$_{14}$ is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R$_{14}$ and R$_{15}$ are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

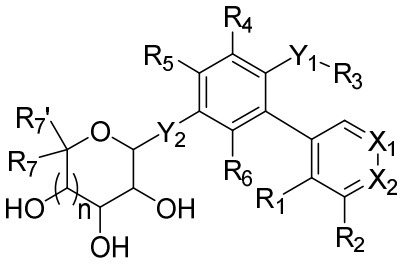
X$_2$ is CR$_{15}$ or N, wherein:

R$_{15}$ is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R$_{15}$ and R$_{14}$ are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R$_{15}$ and R$_2$ are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(III)

wherein:

n is 1 or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylthio$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, substituted alkoxy$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, or substituted acyloxy$_{(C\leq 6)}$;

R_7 and R_7' are each independently hydrogen, carboxy, or alkyl$_{(C\leq 8)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq 12)}$ or substituted aralkyl$_{(C\leq 12)}$; or

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq 7)}$−, −alkenediyl$_{(C\leq 7)}$−, or a substituted version of either of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylamino$_{(C\leq 6)}$, −alkanediyl$_{(C\leq 6)}$−heterocycloalkyl$_{(C\leq 8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

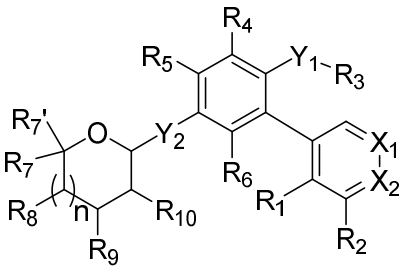
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(II)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 is carboxy or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$;

R_7' is hydrogen, carboxy, or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$; or

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups;

R_8 is alkoxy$_{(C3\text{-}6)}$, acyloxy$_{(C\leq6)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

R_9 and R_{10} are each independently hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

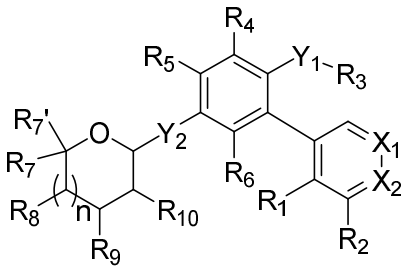
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(II)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is $-NR_{11}R_{11}'$ or $-C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 and R_7' are each independently hydrogen, carboxy or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, $-$alkanediyl$_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$;

R_7 and R_7' are taken together and are $-$alkanediyl$_{(C\leq7)}-$, $-$alkenediyl$_{(C\leq7)}-$, or a substituted version of either of these groups;

R_8, R_9, and R_{10} are each independently hydrogen, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, $-$alkanediyl$_{(C\leq6)}-$heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

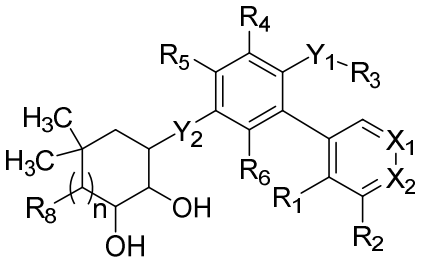
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, $-$alkanediyl$_{(C\leq6)}-$heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(IV)

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq6)}$−, −C(O)−alkanediyl$_{(C\leq6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_8 is hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

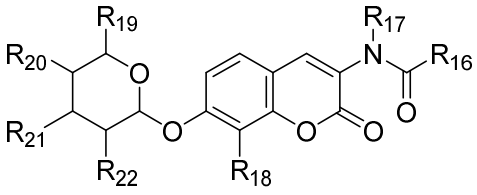
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a compound of the formula:



(V)

wherein:

R_{16} is alkyl$_{(C\leq12)}$, cycloalkyl$_{(C\leq12)}$, aryl$_{(C\leq18)}$, heteroaryl$_{(C\leq18)}$, or a substituted version thereof;

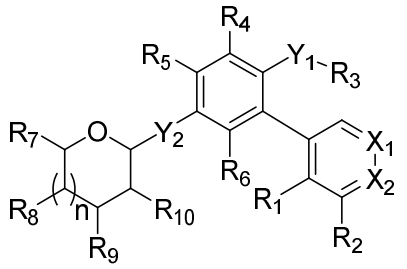
R_{17} and R_{18} are each independently hydrogen, alkyl$_{(C\leq8)}$, or substituted alkyl$_{(C\leq8)}$;

R_{19} is $alkyl_{(C\leq 8)}$, $alkenyl_{(C\leq 8)}$, $alkynyl_{(C\leq 8)}$, $cycloalkyl_{(C\leq 8)}$, $heterocycloalkyl_{(C\leq 8)}$, $aryl_{(C\leq 12)}$, $heteroaryl_{(C\leq 12)}$, $aralkyl_{(C\leq 12)}$, $heteroaralkyl_{(C\leq 12)}$, or a substituted version of any of these groups

R_{20}, R_{21}, and R_{22} are each independently hydroxy, $alkoxy_{(C\leq 12)}$, substituted $alkoxy_{(C\leq 12)}$, or a protected hydroxy group;

or a pharmaceutically acceptable salt of any of the above formulas.

4. The compound according to any one of claims 1-3 further defined as:



(I),

wherein:

n is 0, 1, or 2;

Y_1 is −$alkanediyl_{(C\leq 6)}$−, −C(O)−$alkanediyl_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or $alkyl_{(C\leq 6)}$, $alkenyl_{(C\leq 6)}$, $alkynyl_{(C\leq 6)}$, $cycloalkyl_{(C\leq 8)}$, $heterocycloalkyl_{(C\leq 8)}$, $amido_{(C\leq 6)}$, $alkoxy_{(C\leq 6)}$, $alkylsulfonyl_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or $alkyl_{(C\leq 6)}$, $alkenyl_{(C\leq 6)}$, $alkynyl_{(C\leq 6)}$, $cycloalkyl_{(C\leq 8)}$, $heterocycloalkyl_{(C\leq 8)}$, $aryl_{(C\leq 12)}$, $aralkyl_{(C\leq 12)}$, $amido_{(C\leq 6)}$, $alkoxy_{(C\leq 6)}$, $alkylthio_{(C\leq 6)}$, $alkylsulfonyl_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are $alkanediyl_{(C\leq 6)}$, $alkoxydiyl_{(C\leq 6)}$, $alkylaminodiyl_{(C\leq 6)}$, or a substituted version of any of these groups;

R_3 is $–NR_{11}R_{11}'$ or $–C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, $alkyl_{(C\leq 6)}$, substituted $alkyl_{(C\leq 6)}$, $acyl_{(C\leq 6)}$, or substituted $acyl_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, $alkyl_{(C\leq 6)}$, or substituted $alkyl_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

R_7 is carboxy or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is alkyl$_{(C\leq12)}$, substituted alkyl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, or substituted aralkyl$_{(C\leq12)}$;

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

X_2 is CR_{15} or N, wherein:

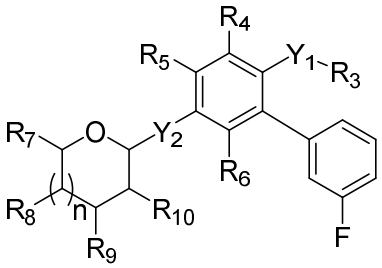
R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

5. The compound according to any one of claims 1-3 further defined as:



(VI),

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently hydrogen, halo, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, substituted alkoxy$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, or substituted acyloxy$_{(C\leq 6)}$;

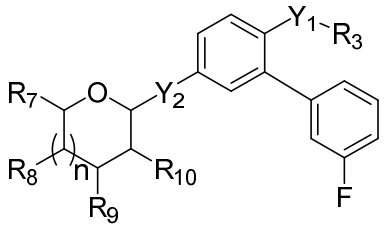
R_7 is carboxy or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is alkyl$_{(C\leq 12)}$, substituted alkyl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, or substituted aralkyl$_{(C\leq 12)}$; and

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, aralkyl$_{(C\leq 12)}$, aralkoxy$_{(C\leq 12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

6. The compound according to any one of claims 1-5 further defined as:



(VII),

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, or a substituted version of any of these groups;

Y_2 is CH_2, O, or S;

R_3 is –$NR_{11}R_{11}'$ or –$C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

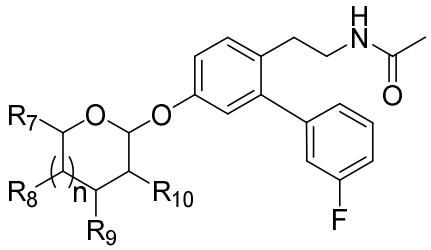
R_7 is carboxy or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 8)}$, alkynyl$_{(C\leq 8)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, heteroaryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, heteroaralkyl$_{(C\leq 12)}$, −alkanediyl$_{(C\leq 6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is alkyl$_{(C\leq 12)}$, substituted alkyl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, or substituted aralkyl$_{(C\leq 12)}$; and

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, acyloxy$_{(C\leq 6)}$, aralkyl$_{(C\leq 12)}$, aralkoxy$_{(C\leq 12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

7. The compound according to any one of claims 1-6 further defined as:



(VIII),

wherein:

n is 0, 1, or 2;

R_7 is carboxy or $alkyl_{(C\leq6)}$, $alkenyl_{(C\leq8)}$, $alkynyl_{(C\leq8)}$, $cycloalkyl_{(C\leq8)}$, $heterocycloalkyl_{(C\leq8)}$, $aryl_{(C\leq12)}$, $heteroaryl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, $heteroaralkyl_{(C\leq12)}$, $-alkanediyl_{(C\leq6)}-OR_{13}$, or a substituted version of any of these groups wherein:

R_{13} is $alkyl_{(C\leq12)}$, substituted $alkyl_{(C\leq12)}$, $aralkyl_{(C\leq12)}$, or substituted $aralkyl_{(C\leq12)}$; and

R_8, R_9, and R_{10} are each independently hydrogen, halo, hydroxy, or $alkyl_{(C\leq6)}$, $alkoxy_{(C\leq6)}$, $acyl_{(C\leq6)}$, $acyloxy_{(C\leq6)}$, $aralkyl_{(C\leq12)}$, $aralkoxy_{(C\leq12)}$, or a substituted version of any of these groups;

or a pharmaceutically acceptable salt of the formula.

8. The compound according to any one of claims 1-4, wherein R_1 is hydrogen, R_2 is halo such as fluoro.

9. The compound according to any one of claims 1-4 and 8, wherein X_1 is CR_{14}, wherein R_{14} is hydrogen or X_2 is CR_{15}, wherein R_{15} is hydrogen.

10. The compound according to any one of claims 1-6, 8, and 9, wherein Y_1 is $-alkanediyl_{(C\leq6)}-$ or substituted $-alkanediyl_{(C\leq6)}-$ and R_3 is $-NR_{11}R_{11}'$, wherein R_{11} is $acyl_{(C\leq6)}$ or substituted $acyl_{(C\leq6)}$, and R_{11}' is hydrogen.

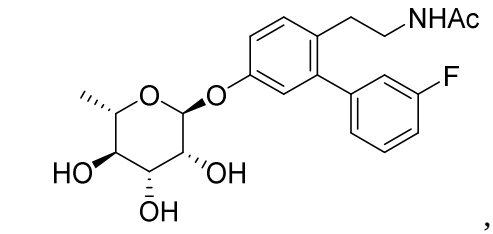
11. The compound according to any one of claims 1-5, and 8-10, wherein R_4 is hydrogen, R_5 is hydrogen, or R_6 is hydrogen.

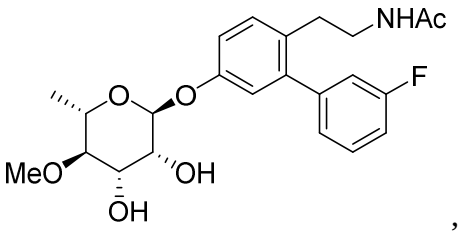
12. The compound according to any one of claims 1-6, and 8-11, wherein Y_2 is O and n is 1 or 2.

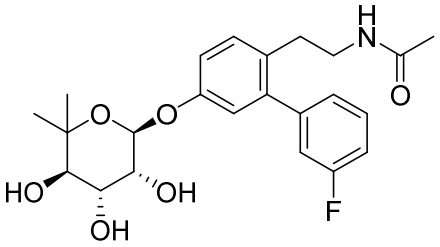
13. The compound according to any one of claims 1-12, wherein R_9 is hydroxy, R_{10} is hydroxy, or R_8 is hydroxy, $alkoxy_{(C\leq6)}$, or substituted $alkoxy_{(C\leq6)}$.

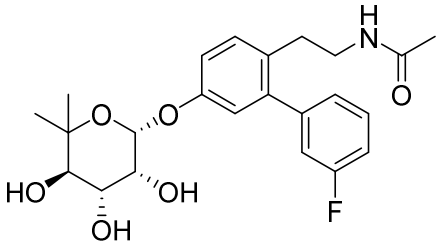
14. The compound according to any one of claims 1-13, wherein R_7 is $alkyl_{(C\leq6)}$ or substituted $alkyl_{(C\leq6)}$.

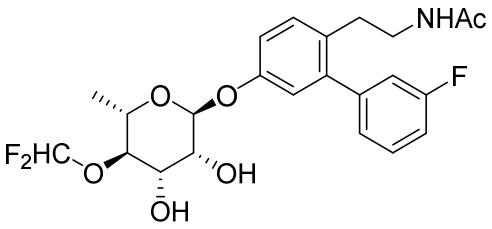
15. The compound according to any one of claims 1-14, wherein the compound is further defined as:

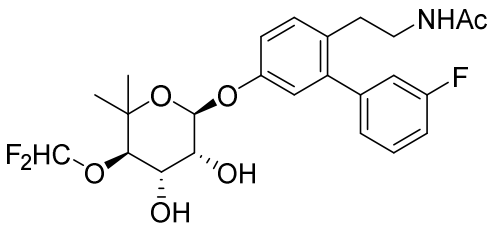


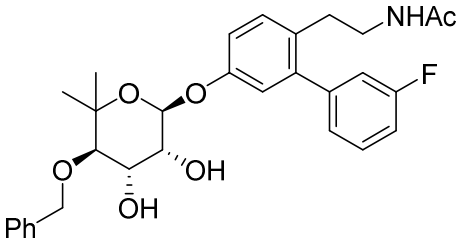
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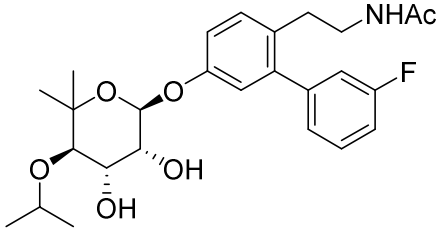
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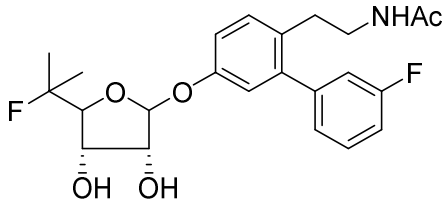
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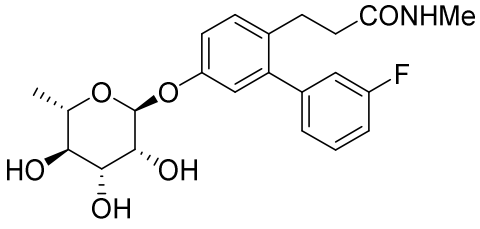
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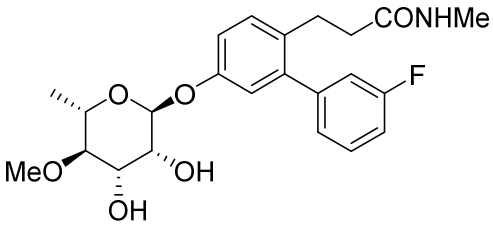
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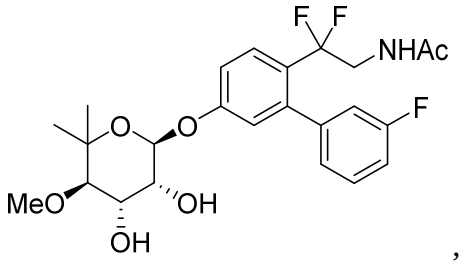
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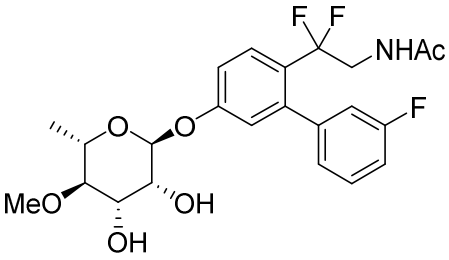
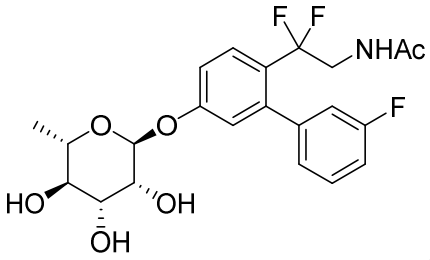
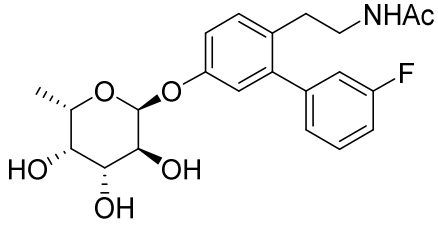
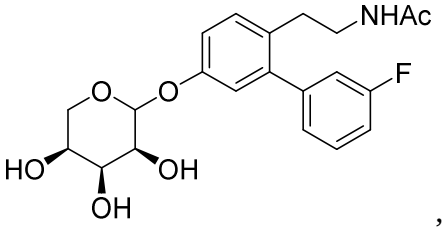
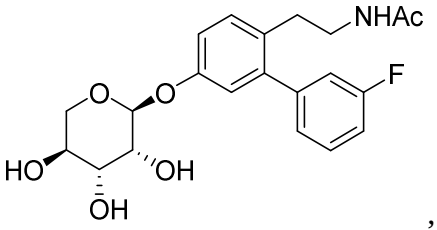
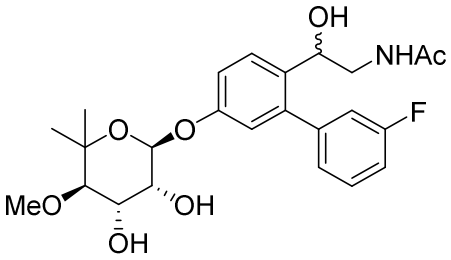
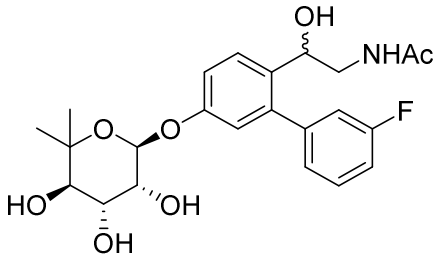
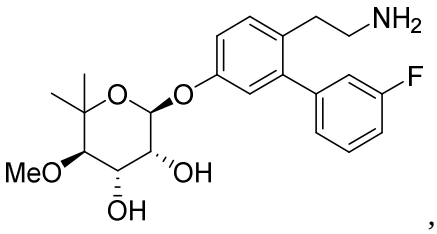
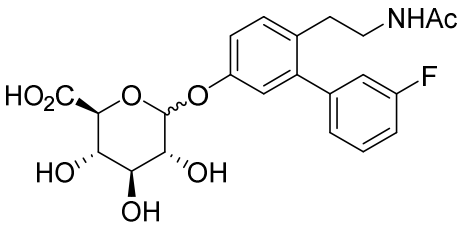
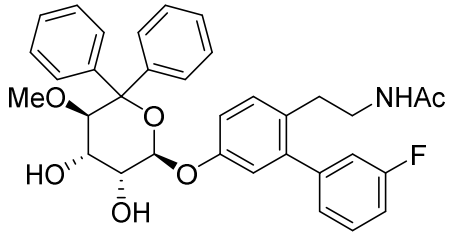
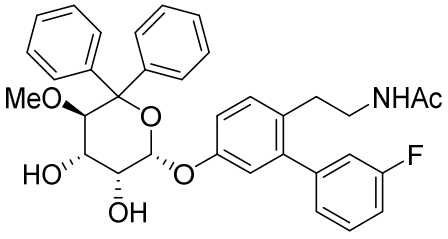
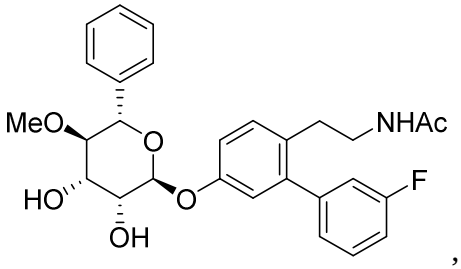
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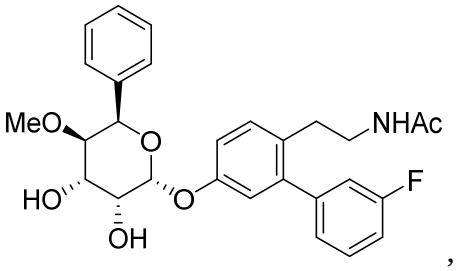
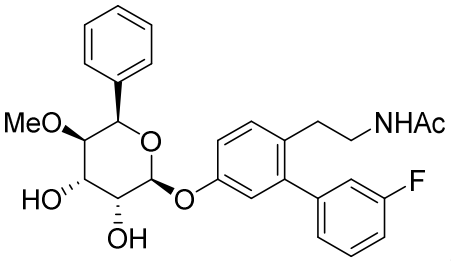
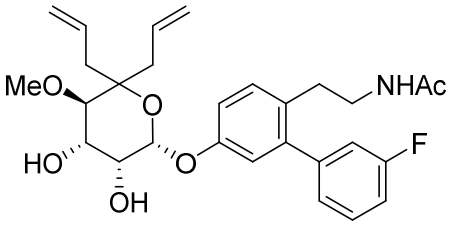
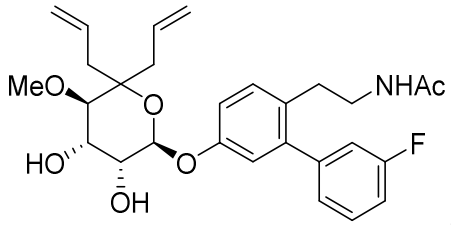
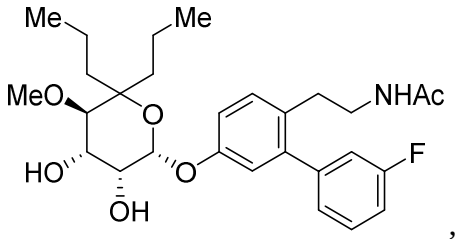
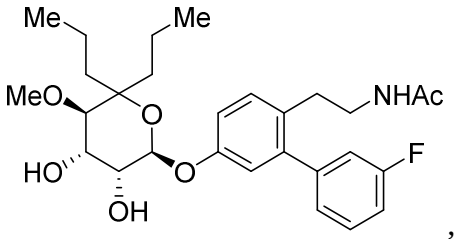
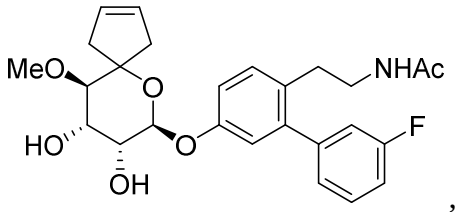
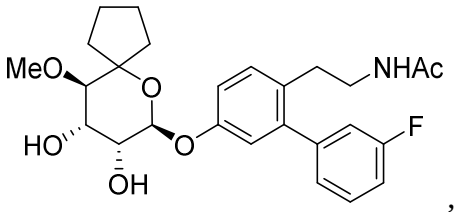
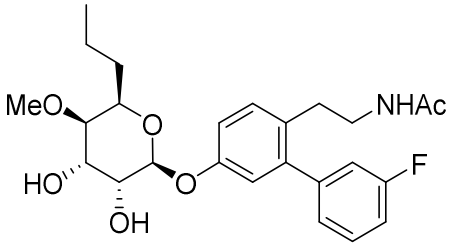
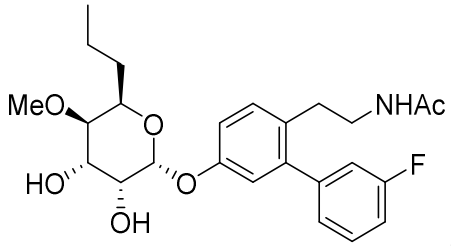
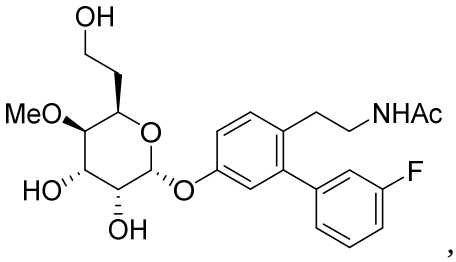
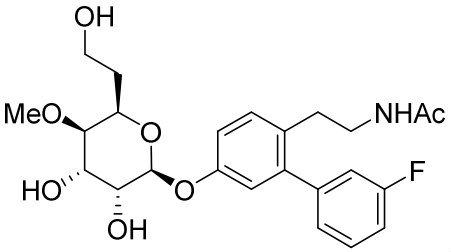
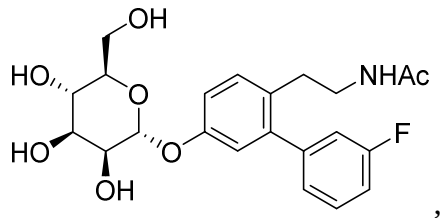
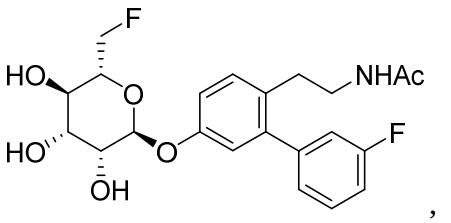
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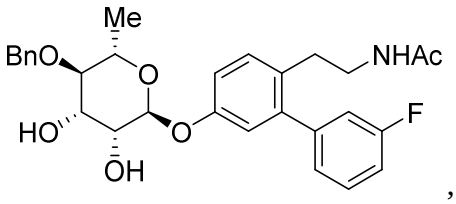
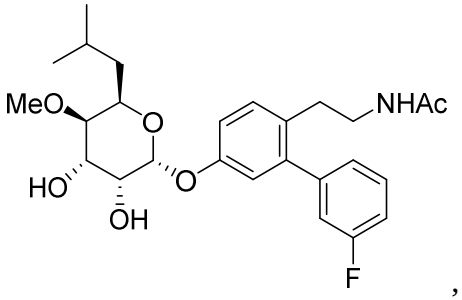
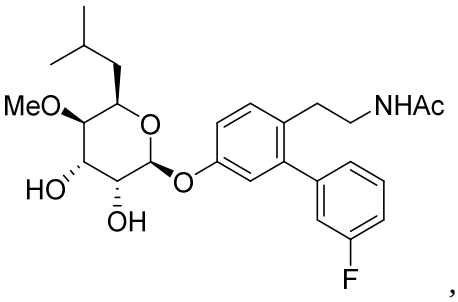
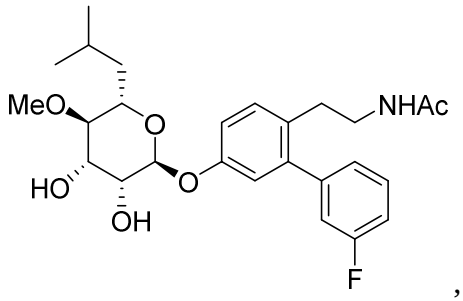
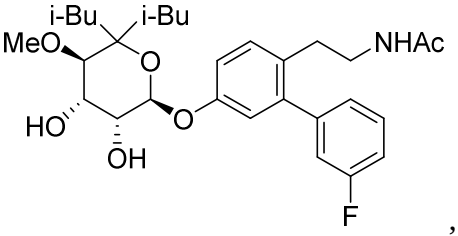
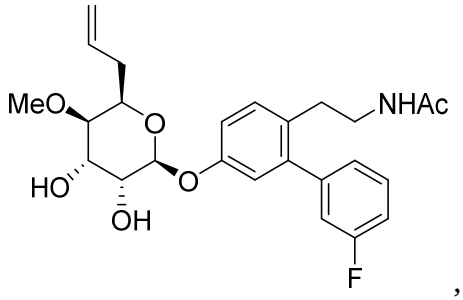
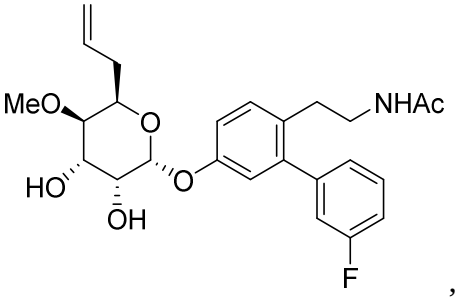
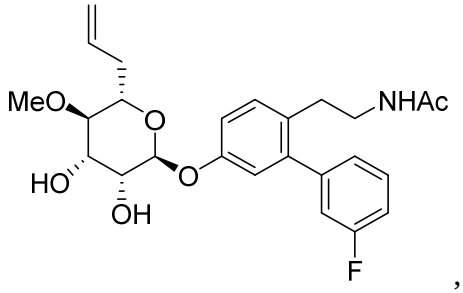
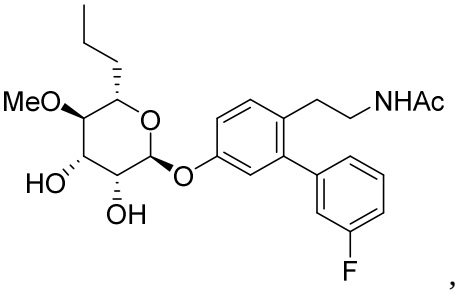
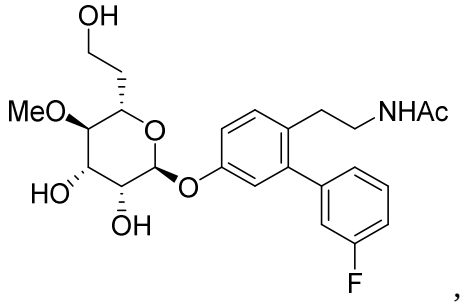
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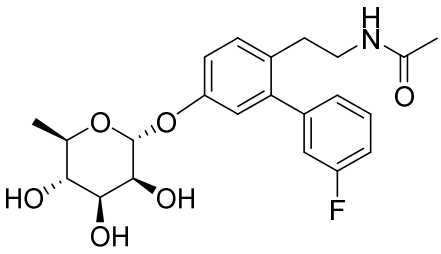
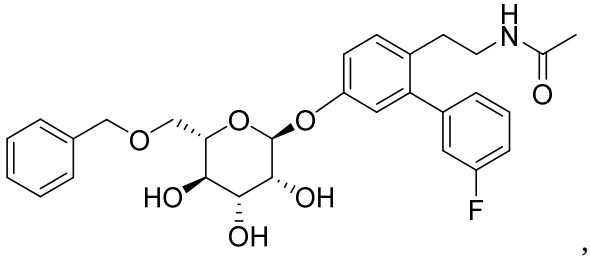
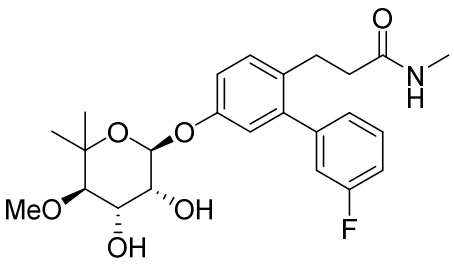
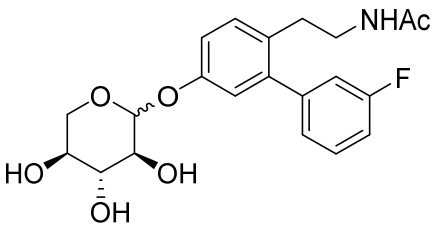
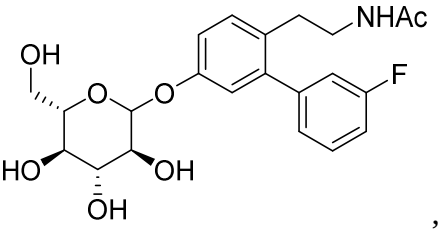
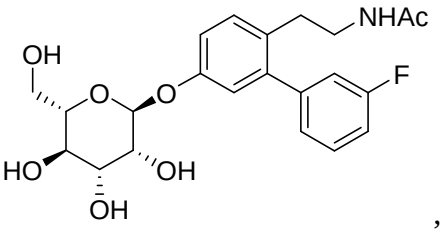
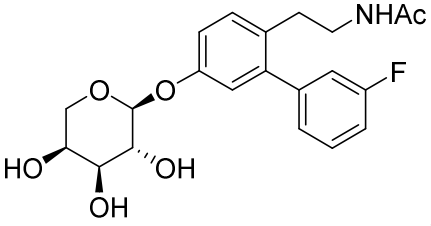
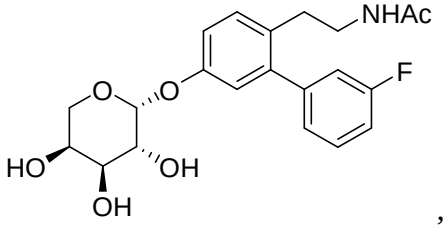
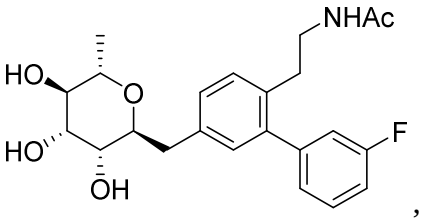
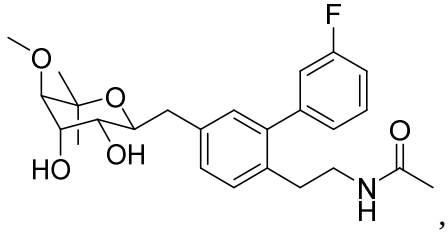
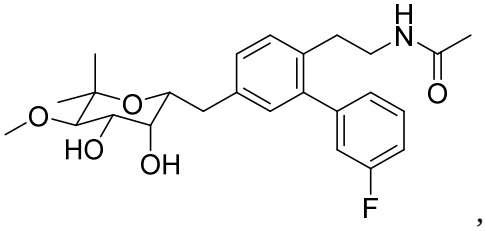
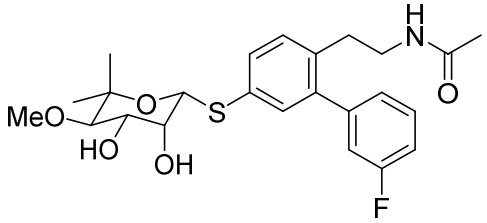
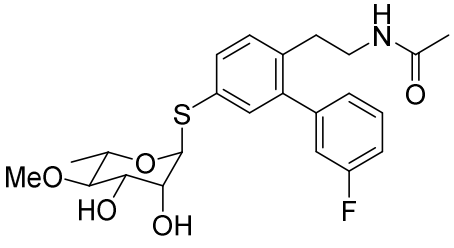
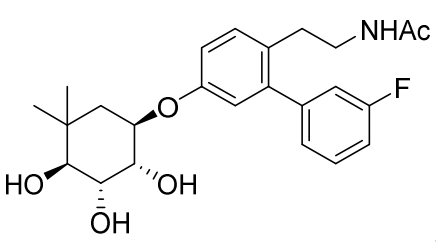
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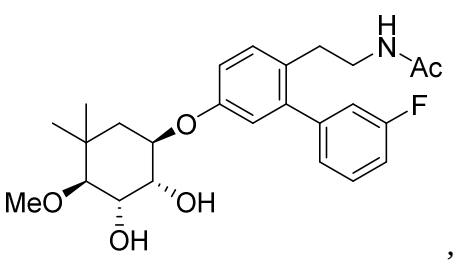

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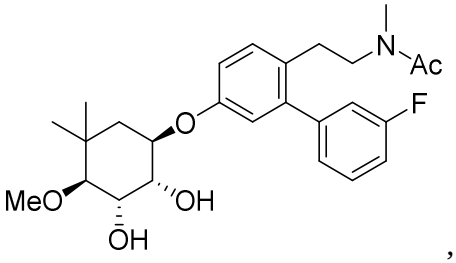

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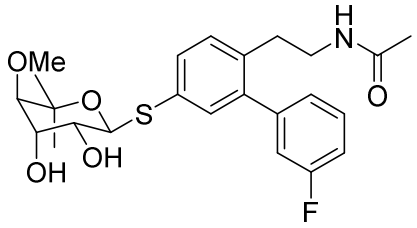

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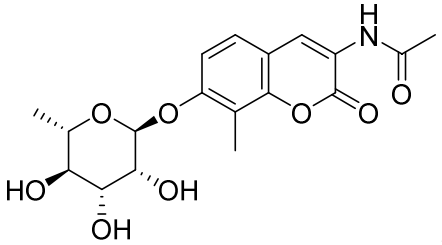
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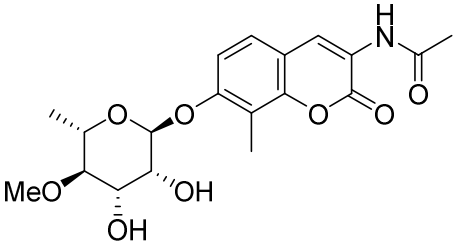
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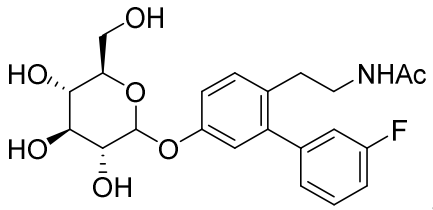


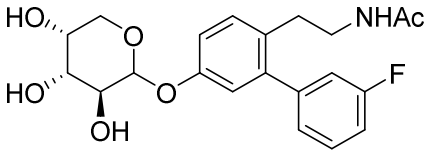
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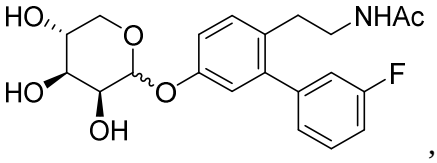
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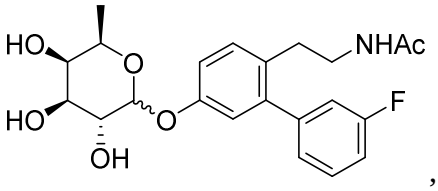
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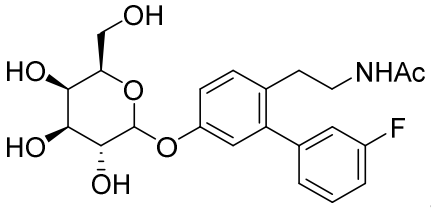
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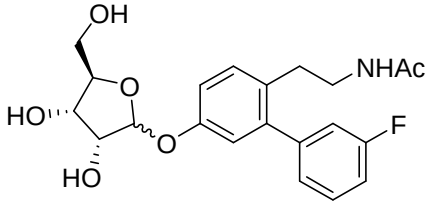
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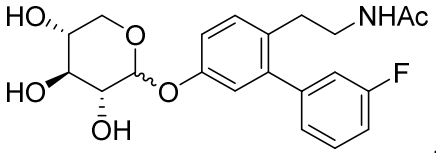
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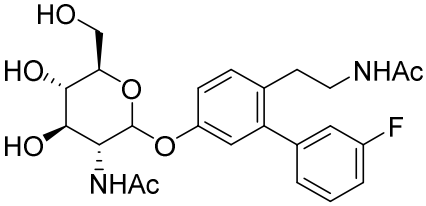
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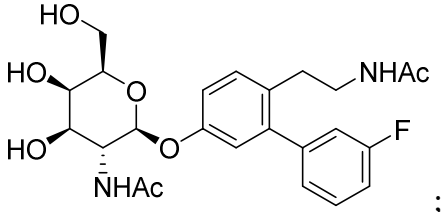
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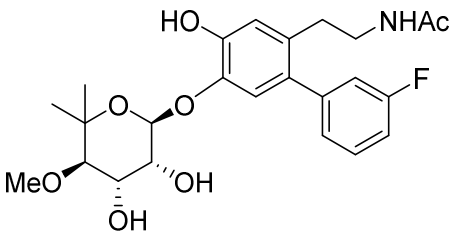
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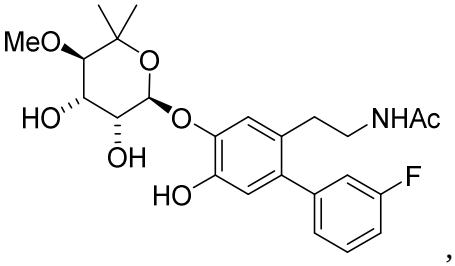
, or


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or a pharmaceutically acceptable salt of any of these formulas.

16. A compound of the formula:

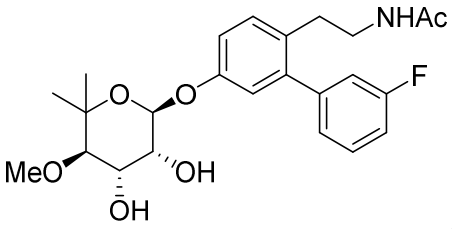


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or a pharmaceutically acceptable salt of either of these formulas.

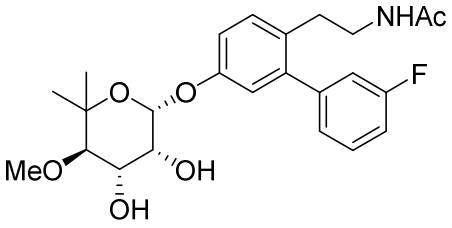
17. A compound of the formula:



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wherein the compound is essentially free of any other stereoisomers;
or a pharmaceutically acceptable salt of the formula.

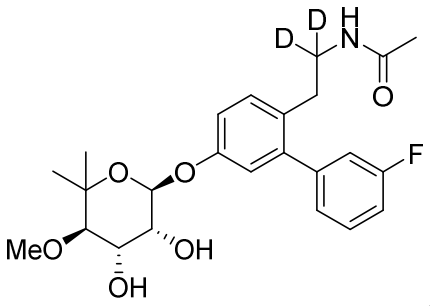
18. A compound of the formula:



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wherein the compound is essentially free of any other stereoisomers;
or a pharmaceutically acceptable salt of the formula.

19. A compound of the formula, or a pharmaceutically acceptable salt of the formula:



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wherein the compound is greater than 90% deuterated at the positions indicated in the formula.

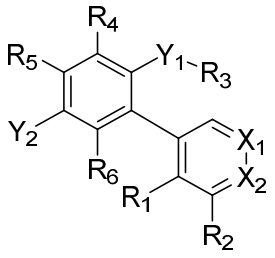
20. A pharmaceutical composition comprising:

(A) a compound according to any one of claims 1-19; and

(B) an excipient.

21. A therapeutically effective amount of a compound or composition according to any one of claims 1-20 for use in therapy.

22. A compound of the formula:



(XXXIII),

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, −alkanediyl$_{(C\leq 6)}$−C(O)R_{17}, or a substituted version of any of these groups, wherein:

R_{17} is alkyl$_{(C\leq 6)}$ or substituted alkyl$_{(C\leq 6)}$;

Y_2 is hydroxy or mercapto;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, amido$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylthio$_{(C\leq6)}$, alkylsulfonyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

R_3 is carboxy, $-NR_{11}R_{11}'$, or $-C(O)NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, acyl$_{(C\leq6)}$, or substituted acyl$_{(C\leq6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq6)}$, or substituted alkyl$_{(C\leq6)}$;

R_4, R_5, and R_6 are each independently absent, hydrogen, halo, alkyl$_{(C\leq6)}$, substituted alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, substituted alkoxy$_{(C\leq6)}$, aralkoxy$_{(C\leq12)}$, substituted aralkoxy$_{(C\leq12)}$, acyloxy$_{(C\leq6)}$, or substituted acyloxy$_{(C\leq6)}$;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; and

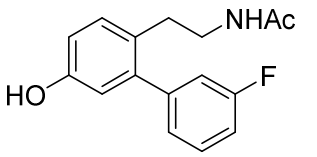
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

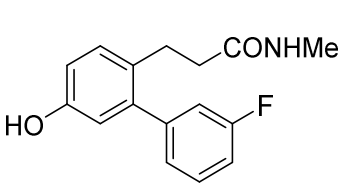
R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

provided that the compound is not a compound of the formula:

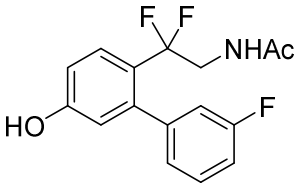


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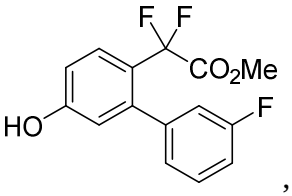
23. The compound of claim 22, wherein the compound is further defined as:



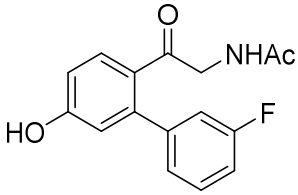
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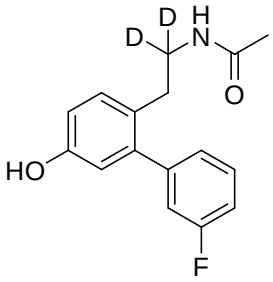
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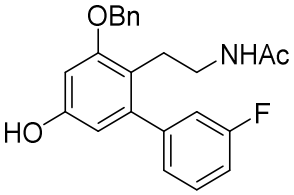
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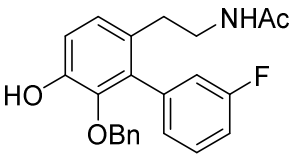
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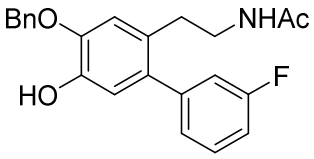
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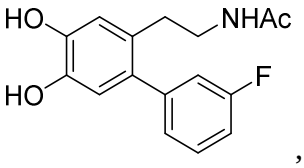
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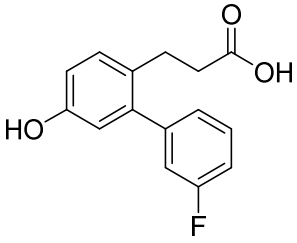
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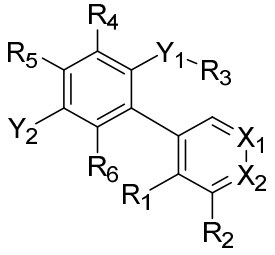
, or



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24. A method of making a compound according to any one of claims 1-19, comprising reacting (a) with (b) in the presence of a coupling agent:

(a) a compound of the formula:



(XXXIII),

wherein:

n is 0, 1, or 2;

Y_1 is −alkanediyl$_{(C\leq 6)}$−, −C(O)−alkanediyl$_{(C\leq 6)}$−, −alkanediyl$_{(C\leq 6)}$−C(O)R_{17}, or a substituted version of any of these groups, wherein:

R_{17} is alkyl$_{(C\leq 6)}$ or substituted alkyl$_{(C\leq 6)}$;

Y_2 is hydroxy or mercapto;

R_1 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 is hydrogen, amino, halo, hydroxy, carboxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, cycloalkyl$_{(C\leq 8)}$, heterocycloalkyl$_{(C\leq 8)}$, aryl$_{(C\leq 12)}$, aralkyl$_{(C\leq 12)}$, amido$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylthio$_{(C\leq 6)}$, alkylsulfonyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_2 and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

R_3 is carboxy, –$NR_{11}R_{11}'$, or –C(O)$NR_{12}R_{12}'$, wherein:

R_{11} and R_{11}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, acyl$_{(C\leq 6)}$, or substituted acyl$_{(C\leq 6)}$;

R_{12} and R_{12}' are each independently hydrogen, alkyl$_{(C\leq 6)}$, or substituted alkyl$_{(C\leq 6)}$;

R_4, R_5, and R_6 are each independently absent, hydrogen, halo, alkyl$_{(C\leq 6)}$, substituted alkyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, substituted alkoxy$_{(C\leq 6)}$, aralkoxy$_{(C\leq 12)}$, substituted aralkoxy$_{(C\leq 12)}$, acyloxy$_{(C\leq 6)}$, or substituted acyloxy$_{(C\leq 6)}$;

X_1 is CR_{14} or N, wherein:

R_{14} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq 6)}$, alkenyl$_{(C\leq 6)}$, alkynyl$_{(C\leq 6)}$, alkoxy$_{(C\leq 6)}$, alkylamino$_{(C\leq 6)}$, −alkanediyl$_{(C\leq 6)}$−heterocycloalkyl$_{(C\leq 8)}$, or a substituted version of any of these groups; or

R_{14} and R_{15} are taken together and are alkanediyl$_{(C\leq 6)}$, alkenediyl$_{(C\leq 6)}$, alkoxydiyl$_{(C\leq 6)}$, alkylaminodiyl$_{(C\leq 6)}$, or a substituted version of any of these groups;

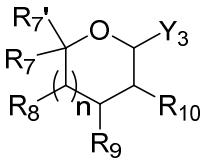
X_2 is CR_{15} or N, wherein:

R_{15} is hydrogen, halo, hydroxy, or alkyl$_{(C\leq6)}$, alkenyl$_{(C\leq6)}$, alkynyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, alkylamino$_{(C\leq6)}$, −alkanediyl$_{(C\leq6)}$−heterocycloalkyl$_{(C\leq8)}$, or a substituted version of any of these groups;

R_{15} and R_{14} are taken together and are alkanediyl$_{(C\leq6)}$, alkenediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups; or

R_{15} and R_2 are taken together and are alkanediyl$_{(C\leq6)}$, alkoxydiyl$_{(C\leq6)}$, alkylaminodiyl$_{(C\leq6)}$, or a substituted version of any of these groups;

(b) a compound of the formula:



(XXXIV),

wherein:

n is 0, 1, or 2;

Y_3 is hydroxy, halo, acyloxy$_{(C\leq8)}$, iminooxy$_{(C\leq8)}$,or a substituted version of either of these groups;

R_7 and R_7' are each independently hydrogen, hydroxy, carboxy, or alkyl$_{(C\leq8)}$, alkenyl$_{(C\leq8)}$, alkynyl$_{(C\leq8)}$, cycloalkyl$_{(C\leq8)}$, heterocycloalkyl$_{(C\leq8)}$, aryl$_{(C\leq12)}$, heteroaryl$_{(C\leq12)}$, aralkyl$_{(C\leq12)}$, heteroaralkyl$_{(C\leq12)}$, −alkanediyl$_{(C\leq6)}$−OR_{13}, or a substituted version of any of these groups wherein:

R_{13} is aralkyl$_{(C\leq12)}$ or substituted aralkyl$_{(C\leq12)}$;

R_7 and R_7' are taken together and are −alkanediyl$_{(C\leq7)}$−, −alkenediyl$_{(C\leq7)}$−, or a substituted version of either of these groups; and

R_8, R_9, and R_{10} are each independently hydrogen, hydroxy, or alkyl$_{(C\leq6)}$, alkoxy$_{(C\leq6)}$, acyl$_{(C\leq6)}$, acyloxy$_{(C\leq6)}$, aralkyl$_{(C\leq12)}$, aralkoxy$_{(C\leq12)}$, or a substituted version of any of these groups.