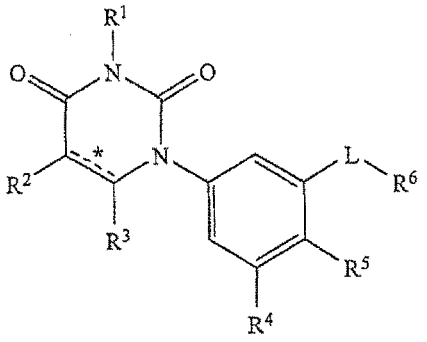
WE CLAIM:

1. A compound or salt thereof, wherein:

the compound corresponds in structure to formula I:



(I);

$\overset{*}{\cdots\!-\!-\!-}$ is selected from the group consisting of single carbon-carbon bond and double carbon-carbon bond;

R^1 is selected from the group consisting of hydrogen, methyl, and nitrogen-protecting group;

R^2 is selected from the group consisting of hydrogen, halo, hydroxy, methyl, cyclopropyl, and cyclobutyl;

R^3 is selected from the group consisting of hydrogen, halo, oxo, and methyl;

R^4 is selected from the group consisting of halo, alkyl, alkenyl, alkynyl, nitro, cyano, azido, alkyloxy, alkenyloxy, alkynyloxy, amino, aminocarbonyl, aminosulfonyl, alkylsulfonyl, carbocyclyl, and heterocyclyl, wherein:

(a) the amino, aminocarbonyl, and aminosulfonyl optionally are substituted with:

(1) one or two substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, and alkylsulfonyl, or

(2) two substituents that, together with the amino nitrogen, form a single-ring heterocyclyl, and

(b) the alkyl, alkenyl, alkynyl, alkyloxy, alkenyloxy, alkynyloxy, and alkylsulfonyl, optionally are substituted with one or more substituents independently selected from the group consisting of halo, oxo, nitro, cyano, azido, hydroxy, amino, alkyloxy, trimethylsilyl, carbocyclyl, and heterocyclyl, wherein:

the amino optionally is substituted with:

(1) one or two substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, alkylcarbonyl, alkylsulfonyl, alkyloxycarbonyl, carbocyclyl, heterocyclyl, carbocyclylalkyl, and

heterocyclylalkyl, or

(2) two substituents that, together with the amino nitrogen, form a single-ring heterocyclyl, and

(c) the carbocyclyl and heterocyclyl optionally are substituted with up to three substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, halo, oxo, nitro, cyano, azido, hydroxy, amino, alkyloxy, trimethylsilyl, carbocyclyl, and heterocyclyl, wherein:

the amino optionally is substituted with:

(1) one or two substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, alkylcarbonyl, alkylsulfonyl, alkyloxycarbonyl, carbocyclyl, heterocyclyl, carbocyclylalkyl, and heterocyclylalkyl, or

(2) two substituents that, together with the amino nitrogen, form a single-ring heterocyclyl;

R^5 is selected from the group consisting of hydrogen, hydroxy, alkyl, alkenyl, alkynyl, alkyloxy, alkenyloxy, alkynyloxy, alkylsulfonyloxy, carbocyclylsulfonyloxy, haloalkylsulfonyloxy, and halo;

as to L and R^6:

L is a bond, and R^6 is selected from the group consisting of fused 2-ring carbocyclyl and fused 2-ring heterocyclyl, wherein each such substituent optionally is substituted with one or more substituents independently selected from the group consisting of R^E, R^F, R^G, R^H, R^I, R^J, and R^K, or

L is selected from the group consisting of $C(R^A)=C(R^B)$, C≡C, $C(O)N(R^C)$, $N(R^D)C(O)$, C_1-C_2-alkylene, $C(H)_2O$, $OC(H)_2$, cyclopropyl-1,2-ene, $C(H)_2N(R^L)$, $N(R^M)C(H)_2$, $C(O)CH_2$, and $CH_2C(O)$, and R^6 is selected from the group consisting of C_5-C_6-carbocyclyl and 5-6-membered heterocyclyl, wherein each such substituent optionally is substituted with one or more substituents independently selected from the group consisting of R^E, R^F, R^G, R^H, R^I, R^J, and R^K;

R^A, R^B, R^L, and R^M are independently selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-alkyloxy, C_3-C_8-cycloalkyl, and halo, wherein:

the C_1-C_6-alkyl optionally is substituted with one or more substituents independently selected from the group consisting of carboxy, halo, hydroxy, nitro, oxo, amino, cyano, alkyloxycarbonyl, alkylcarbonyloxy, alkyloxy, carbocyclyl, and heterocyclyl;

R^C is selected from the group consisting of hydrogen and alkyl;

R^D is selected from the group consisting of hydrogen and alkyl;

each R^E is independently selected from the group consisting of halo, nitro, hydroxy, oxo,

carboxy, cyano, amino, imino, azido, and aldehydo, wherein:

the amino optionally is substituted with one or two substituents independently selected from the group consisting of alkyl, alkenyl, and alkynyl;

each R^F is independently selected from the group consisting of alkyl, alkenyl, and alkynyl, wherein:

each such substituent optionally is substituted with one or more substituents independently selected from the group consisting of carboxy, hydroxy, halo, amino, imino, nitro, azido, oxo, aminosulfonyl, alkylsulfonyl, alkyloxycarbonyl, alkenyloxycarbonyl, alkynyloxycarbonyl, alkylcarbonyloxy, alkenylcarbonyloxy, alkynylcarbonyloxy, alkyloxy, alkenyloxy, alkynyloxy, carbocyclyl, heterocyclyl, cyano, and aminocarbonyl, wherein:

the amino, imino, aminosulfonyl, aminocarbonyl, carbocyclyl, and heterocyclyl optionally are substituted with one or two substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, alkylsulfonyl, alkenylsulfonyl, alkynylsulfonyl, alkylsulfonylamino, hydroxy, and alkyloxy, wherein:

amino portion of the alkylsulfonylamino optionally is substituted with a substituent selected from the group consisting of alkyl, alkenyl, and alkynyl;

each R^G is independently selected from the group consisting of carbocyclyl and heterocyclyl, wherein:

each such substituent optionally is substituted with one or more substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, carboxy, hydroxy, halo, amino, nitro, azido, oxo, aminosulfonyl, alkyloxycarbonyl, alkenyloxycarbonyl, alkynyloxycarbonyl, alkylcarbonyloxy, alkenylcarbonyloxy, alkynylcarbonyloxy, alkyloxy, alkenyloxy, alkynyloxy, carbocyclyl, heterocyclyl, cyano, and aminocarbonyl, wherein:

the amino, aminosulfonyl, and aminocarbonyl optionally are substituted with one or two substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, alkylsulfonyl, alkenylsulfonyl, and alkynylsulfonyl;

each R^H is independently selected from the group consisting of alkyloxy, alkenyloxy, alkynyloxy, alkylsulfonyloxy, alkenylsulfonyloxy, and alkynylsulfonyloxy, wherein:

each such substituent optionally is substituted with one or more substituents independently selected from the group consisting of carboxy, hydroxy, halo, amino, nitro, azido, oxo, aminosulfonyl, alkyloxycarbonyl, alkenyloxycarbonyl, alkynyloxycarbonyl, alkylcarbonyloxy, alkenylcarbonyloxy, alkynylcarbonyloxy, alkyloxy, alkenyloxy, alkynyloxy, carbocyclyl, heterocyclyl, cyano, and aminocarbonyl, wherein:

the amino, aminosulfonyl, and aminocarbonyl optionally are substituted with one or two substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, alkylsulfonyl, alkenylsulfonyl, and alkynylsulfonyl;

each R^I is independently selected from the group consisting of alkylcarbonyl, alkenylcarbonyl, alkynylcarbonyl, aminocarbonyl, alkyloxycarbonyl, carbocyclylcarbonyl, and heterocyclylcarbonyl, wherein:

(a) the alkylcarbonyl, alkenylcarbonyl, and alkynylcarbonyl optionally are substituted with one or more substituents independently selected from the group consisting of carboxy, hydroxy, halo, amino, nitro, azido, oxo, aminosulfonyl, alkyloxycarbonyl, alkenyloxycarbonyl, alkynyloxycarbonyl, alkylcarbonyloxy, alkenylcarbonyloxy, alkynylcarbonyloxy, alkyloxy, alkenyloxy, alkynyloxy, carbocyclyl, heterocyclyl, cyano, and aminocarbonyl, and

(b) the aminocarbonyl optionally is substituted with one or two substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, alkyloxyalkyl, carbocyclyl, heterocyclyl, alkylsulfonyl, and alkylsulfonylamino, wherein:

the carbocyclyl and heterocyclyl optionally are substituted with one or two substituents independently selected from the group consisting of halo, alkyl, and oxo;

each R^J is independently selected from the group consisting of carbocyclylsulfonylamino, heterocyclylsulfonylamino, alkylcarbonylamino, alkenylcarbonylamino, alkynylcarbonylamino, alkyloxycarbonylamino, alkenyloxycarbonylamino, alkynyloxycarbonylamino, alkylsulfonylamino, alkenylsulfonylamino, alkynylsulfonylamino, aminocarbonylamino, alkyloxycarbonylaminoimino, alkylsulfonylaminoimino, alkenylsulfonylaminoimino, and alkynylsulfonylaminoimino, wherein:

(a) the amino portion of such substituents optionally is substituted with a substituent independently selected from the group consisting of carbocyclylalkyl, heterocyclylalkyl, alkylcarbonyloxy, aminocarbonylalkyl, alkyl, alkenyl, alkynyl, alkylcarbonyl, alkenylcarbonyl, alkynylcarbonyl, alkyloxycarbonyl, alkyloxyalkyloxycarbonyl, alkylcarbonyloxyalkyl, and alkylsulfonyl, wherein:

(1) the carbocyclyl portion of the carbocyclylalkyl and the heterocyclyl portion of the heterocyclylalkyl optionally are substituted with one or more substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, carboxy, hydroxy, alkyloxy, alkenyloxy, alkynyloxy, halo, nitro, cyano, azido, oxo, and amino, and

(2) the amino portion of the aminocarbonylalkyl optionally is substituted with one or two substituents independently selected from the group consisting of alkyl, alkenyl, and alkynyl,

(b) the alkyl, alkenyl, and alkynyl portion of such substituents optionally is substituted with one or more substituents independently selected from the group consisting of carboxy, halo, oxo, amino, alkyloxycarbonyl, alkylcarbonyloxy, hydroxy, alkyloxy, carbocyclyl, heterocyclyl, and cyano, wherein:

the amino optionally is substituted with one or two substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, alkyloxy, alkenyloxy, and alkynyloxy, wherein:

the alkyl optionally is substituted with one or more hydroxy;

(c) the carbocyclyl and heterocyclyl portions of such substituents optionally are substituted with one or more substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, carboxy, hydroxy, alkyloxy, alkenyloxy, alkynyloxy, halo, nitro, cyano, azido, and amino, wherein:

the amino optionally is substituted with one or two substituents independently selected from the group consisting of alkyl, alkenyl, and alkynyl; and

each R^K is independently selected from the group consisting of aminosulfonyl, alkylsulfonyl, alkenylsulfonyl, and alkynylsulfonyl, wherein:

(a) the alkylsulfonyl, alkenylsulfonyl, and alkynylsulfonyl optionally are substituted with one or more substituents independently selected from the group consisting of carboxy, hydroxy, halo, amino, nitro, azido, oxo, aminosulfonyl, alkyloxycarbonyl, alkenyloxycarbonyl, alkynyloxycarbonyl, alkylcarbonyloxy, alkenylcarbonyloxy, alkynylcarbonyloxy, alkyloxy, alkenyloxy, alkynyloxy, carbocyclyl, heterocyclyl, cyano, and aminocarbonyl, wherein:

the amino, aminosulfonyl, and aminocarbonyl optionally are substituted with one or two substituents independently selected from the group consisting of alkyl, alkenyl, and alkynyl; and

(b) the aminosulfonyl optionally is substituted with one or two substituents independently selected from the group consisting of alkyl, alkenyl, and alkynyl.

2. The compound or salt of claim 1, wherein:

R^1 is selected from the group consisting of hydrogen and methyl;

R^2 is selected from the group consisting of hydrogen and halo;

R^3 is selected from the group consisting of hydrogen and halo;

R^4 is selected from the group consisting of C_1-C_4-alkyl, C_3-C_6-carbocyclyl, and 5-6-membered heterocyclyl, wherein:

(a) the C_1-C_4-alkyl optionally is substituted with up to three substituents independently

selected from the group consisting of halo, oxo, hydroxy, alkyloxy, and trimethylsilyl, and

(b) the C_3-C_6-carbocyclyl and 5-6-membered heterocyclyl optionally are substituted with one or two substituents independently selected from the group consisting of alkyl, halo, and alkylsulfonylamino;

R^5 is selected from the group consisting of hydrogen, hydroxy, alkyloxy, and halo;

as to L and R^6:

L is a bond, and R^6 is selected from the group consisting of fused 2-ring carbocyclyl and fused 2-ring heterocyclyl, wherein each such substituent is substituted with one, two, three substituents independently selected from the group consisting of R^E, R^F, R^G, R^H, R^I, R^J, and R^K, or

L is selected from the group consisting of $C(R^A)=C(R^B)$, C≡C, $C(O)N(R^C)$, $N(R^D)C(O)$, C_1-C_2-alkylene, $C(H)_2O$, $OC(H)_2$, cyclopropyl-1,2-ene, $C(H)_2N(R^L)$, $N(R^M)C(H)_2$, $C(O)CH_2$, and $CH_2C(O)$, and R^6 is selected from the group consisting of C_5-C_6-carbocyclyl and 5-6-membered heterocyclyl, wherein each such substituent is substituted with one two, or three substituents independently selected from the group consisting of R^E, R^F, R^G, R^H, R^I, R^J, and R^K;

one of R^A and R^B is hydrogen, and the other is selected from the group consisting of hydrogen, methyl, methoxy, and halo;

R^C is selected from the group consisting of hydrogen and methyl;

R^D is selected from the group consisting of hydrogen and methyl;

each R^E is independently selected from the group consisting of chloro, fluoro, nitro, hydroxy, oxo, carboxy, amino, imino, aldehydo, and alkylamino;

each R^F is an independently selected alkyl optionally substituted with a substituent selected from the group consisting of carboxy, halo, amino, imino, and aminosulfonyl, wherein:

the amino, imino, and aminosulfonyl optionally are substituted with one or two substituents independently selected from the group consisting of alkyl, alkylsulfonyl, and alkylsulfonylamino;

each R^I is independently selected from the group consisting of alkylcarbonyl and aminocarbonyl, wherein:

the aminocarbonyl optionally is substituted with a substituent selected from the group consisting of alkyl, alkyloxyalkyl, alkylsulfonyl, and alkylsulfonylamino;

each R^J is independently selected from the group consisting of alkylsulfonylamino, alkenylsulfonylamino, alkynylsulfonylamino, and alkylsulfonylaminoimino, wherein:

(a) the amino portion of such substituents optionally is substituted with a substituent independently selected from the group consisting of carbocyclylalkyl, heterocyclylalkyl,

alkylcarbonyloxy, aminocarbonylalkyl, alkyl, alkylcarbonyl, alkyloxycarbonyl, alkyloxyalkyloxycarbonyl, alkylcarbonyloxyalkyl, and alkylsulfonyl, wherein:

(1) the carbocyclyl portion of the carbocyclylalkyl and the heterocyclyl portion of the heterocyclylalkyl optionally are substituted with one or two substituents independently selected from the group consisting of alkyl, carboxy, hydroxy, alkyloxy, halo, nitro, cyano, oxo, and amino, and

(2) the amino portion of the aminocarbonylalkyl optionally is substituted with one or two substituents independently selected from the group consisting of alkyl, alkenyl, and alkynyl,

(b) the alkyl, alkenyl, and alkynyl portion of such substituents optionally is substituted with one or two substituents independently selected from the group consisting of carboxy, halo, oxo, amino, alkyloxycarbonyl, alkylcarbonyloxy, hydroxy, alkyloxy, carbocyclyl, heterocyclyl, and cyano, wherein:

the amino optionally is substituted with one or two substituents independently selected from the group consisting of alkyl and alkyloxy, wherein:

the alkyl optionally is substituted with one or more hydroxy;

each R^K is independently selected from the group consisting of aminosulfonyl and alkylsulfonyl, wherein:

(a) the alkylsulfonyl optionally is substituted with one or two substituents independently selected from the group consisting of carboxy, hydroxy, halo, amino, nitro, oxo, aminosulfonyl, alkyloxycarbonyl, alkylcarbonyloxy, alkyloxy, carbocyclyl, heterocyclyl, cyano, and aminocarbonyl; and

(b) the aminosulfonyl optionally is substituted with one or two substituents independently selected alkyl;

R^L is hydrogen; and

R^M is hydrogen.

3. The compound or salt of any one of claims **1** and **2**, wherein:

R^1 is hydrogen;

R^2 is selected from the group consisting of hydrogen and halo;

R^3 is hydrogen;

R^4 is tert-butyl;

R^5 is selected from the group consisting of hydroxy and methoxy;

R^A is hydrogen;

R^B is hydrogen;

R^C is hydrogen; and

R^D is hydrogen.

4. The compound or salt of any one of claims 1-3, wherein:

L is a bond; and

R^6 is selected from the group consisting of fused 2-ring heterocyclyl and fused 2-ring carbocyclyl, wherein each such substituent is substituted with one, two, or three substituents independently selected from the group consisting of R^E, R^F, and R^J.

5. The compound or salt of any one of claims 1-4, wherein:

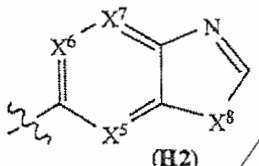
R^6 is selected from the group consisting of fused 2-ring heterocyclyl and fused 2-ring carbocyclyl, wherein each such substituent is substituted with a substituent selected from the group consisting of R^F and R^J;

R^F is alkylsulfonylaminoalkyl; and

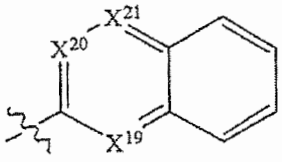
R^J is alkylsulfonylamino.

6. The compound or salt of any one of claims 1-5, wherein the substituted fused 2-ring carbocyclyl is selected from the group consisting of naphthalenyl, dihydronaphthalenyl, tetrahydronaphthalenyl, hexahydronaphthalenyl, octahydronaphthalenyl, decahydronaphthalenyl, indenyl, dihydroindenyl, hexahydroindenyl, octahydroindenyl, pentalenyl, octahydropentalenyl, and hexahydropentalenyl.

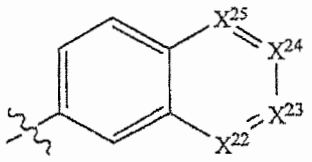
7. The compound or salt of any one of claims 1-5, wherein the substituted fused 2-ring heterocyclyl is selected from the group consisting of:



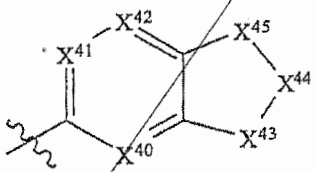
(H2),



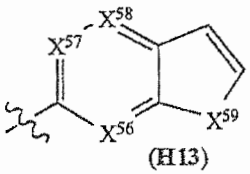
(H5),



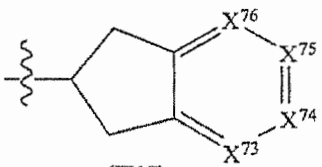
(H6),



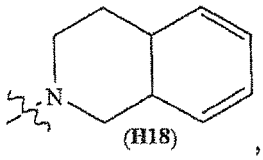
(H10),

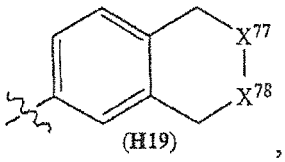


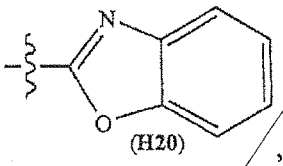
(H13),

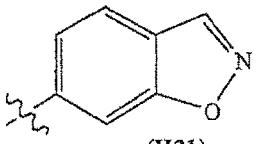


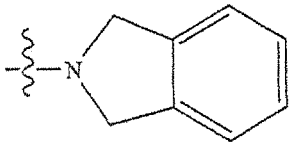
(H17),


(H18) ,


(H19) ,


(H20) ,


(H21) , and


(H22) ;

X^5, X^6, and X^7 are independently selected from the group consisting of N and C(H);

X^8 is selected from the group consisting of N(H), O, and S;

one or more of X^{19}, X^{20}, and X^{21} is N, and the remaining one(s) is/are C(H);

one or more of X^{22}, X^{23}, X^{24}, and X^{25} is N, and the remaining one(s) is/are C(H);

X^{40}, X^{41}, and X^{42} are independently selected from the group consisting of N and C(H);

one of X^{43}, X^{44}, and X^{45} is selected from the group consisting of N(H), O, and S, and the remaining two are $C(H)_2$;

X^{56}, X^{57}, and X^{58} are independently selected from the group consisting of N and C(H);

one or more of X^{73}, X^{74}, X^{75}, and X^{76} is N, and the remaining one(s) is/are C(H); and

one of X^{77} and X^{78} is N(H), and the remaining one is $C(H)_2$.

8. The compound or salt of any one of claims **1-3**, wherein:

L is selected from the group consisting of $C(R^A)=C(R^B)$, ethylene, and cyclopropyl-1,2-ene; and

R^6 is selected from the group consisting of C_5-C_6-carbocyclyl and 5-6-membered heterocyclyl, wherein each such substituent is substituted with one, two, or three substituents independently selected from the group consisting of R^E, R^F, and R^J.

9. The compound or salt of any one of claims **1-3**, wherein:

L is selected from the group consisting of C≡C, $C(O)N(R^C)$, $N(R^D)C(O)$, $C(H)_2O$, $OC(H)_2$, $C(H)_2N(R^L)$, $N(R^M)C(H)_2$, $C(O)CH_2$, and $CH_2C(O)$; and

R^6 is selected from the group consisting of C_5-C_6-carbocyclyl and 5-6-membered heterocyclyl, wherein each such substituent is substituted with one, two, or three substituents independently selected from the group consisting of R^E, R^F, and R^J.

10. The compound or salt of any one of claims **1-3** and **9**, wherein **L** is C≡C.

11. The compound or salt of any one of claims **1-3**, and **8-10**, wherein:

R^6 is phenyl substituted with a substituent selected from the group consisting of R^F and R^J;

R^F is alkylsulfonylaminoalkyl; and

R^J is alkylsulfonylamino.

12. A compound or salt thereof, wherein the compound is selected from the group of compounds shown in Examples 1-140.

13. N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide crystalline form selected from the group consisting of:

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide ethanol solvate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 8.3±0.2, 9.7±0.2, 10.6±0.2, 13.6±0.2, 17.2±0.2, 19.2±0.2, 22.7±0.2, 26.9±0.2, and 29.4±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide ethanol solvate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 8.3±0.2, 9.7±0.2, 10.0±0.2, 10.6±0.2, 13.6±0.2, 17.2±0.2, 17.5±0.2, 19.2±0.2, 19.4±0.2, 22.7±0.2, 26.9±0.2, and 29.4±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl)naphthalen-2-yl)methanesulfonamide ethanol solvate having an X-ray powder diffraction pattern substantially as shown in Figure 1;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide acetonitrile solvate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 5.3±0.2, 8.3±0.2, 9.7±0.2, 10.5±0.2, 13.8±0.2, 17.2±0.2, 19.1±0.2, and 19.5±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide acetonitrile solvate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 5.3±0.2, 8.3±0.2, 9.7±0.2, 10.5±0.2, 13.8±0.2, 17.2±0.2, 17.7±0.2, 19.1±0.2, 19.5±0.2, 22.0±0.2, 22.8±0.2, and 27.2±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide acetonitrile solvate having an X-ray powder diffraction pattern substantially as shown in Figure 3;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide ethyl acetate solvate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 7.9±0.2, 9.3±0.2, 9.7±0.2, 10.6±0.2, 18.7±0.2, 38.5±0.2, and 44.7±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide ethyl acetate solvate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 7.9±0.2, 9.3±0.2, 9.7±0.2, 10.6±0.2, 13.7±0.2, 17.4±0.2, 18.7±0.2, 21.7±0.2, 22.0±0.2, 28.2±0.2, 38.5±0.2, and 44.7±0.2 degrees 2θ.

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide ethyl acetate having an X-ray powder diffraction pattern substantially as shown in Figure 4;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide 2-propanol solvate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 8.2±0.2, 9.3±0.2, 10.1±0.2, 16.3±0.2, 18.1±0.2, 18.6±0.2, 19.4±0.2, 21.6±0.2, and 22.5±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide 2-propanol solvate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 8.2±0.2, 9.3±0.2, 10.1±0.2, 16.3±0.2, 18.1±0.2, 18.6±0.2, 19.4±0.2, 21.6±0.2, 22.5±0.2, 23.8±0.2, 26.0±0.2, and 28.0±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxy-phenyl)naphthalen-2-yl)methanesulfonamide 2-propanol solvate having an X-ray powder diffraction pattern substantially as shown in Figure 5;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide methanol solvate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 8.4±0.2, 9.7±0.2, 10.1±0.2, 13.8±0.2, 17.4±0.2, 19.3±0.2, and 19.6±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide methanol solvate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 8.4±0.2, 9.7±0.2, 10.1±0.2, 13.5±0.2, 13.8±0.2, 17.4±0.2, 19.3±0.2, 19.6±0.2, and 27.1±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide methanol solvate having an X-ray powder diffraction pattern substantially as shown in Figure 6;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide 1-propanol solvate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 8.2±0.2, 9.3±0.2, 10.1±0.2, 15.7±0.2, 16.2 ±0.2, 18.4±0.2, 19.3±0.2, 21.6±0.2, and 22.8±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide 1-propanol solvate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 8.2±0.2, 9.3±0.2, 10.1±0.2, 10.5±0.2, 15.7±0.2, 16.2 ±0.2, 18.4±0.2, 18.6±0.2, 19.3±0.2, 21.0±0.2, 21.6±0.2, and 22.8±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide 1-propanol solvate having an X-ray powder diffraction pattern substantially as shown in Figure 7.

crystalline solvent free N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl)naphthalen-2-yl)methanesulfonamide having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 6.2±0.2, 7.9±0.2, 9.9±0.2, 16.2±0.2, and 18.3±0.2 degrees 2θ;

crystalline solvent free N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxy-phenyl)naphthalen-2-yl)methanesulfonamide having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 6.2±0.2, 7.9±0.2, 9.9±0.2, 10.1±0.2, 14.9±0.2, 16.2±0.2, 18.3±0.2, 19.8±0.2, and 26.5±0.2 degrees 2θ;

crystalline solvent free N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxy-phenyl)naphthalen-2-yl)methanesulfonamide having an X-ray powder diffraction pattern substantially as shown in Figure 8;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide hydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 6.4±0.2, 12.9±0.2, 17.9±0.2, and 18.9±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide hydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 6.4±0.2, 12.9±0.2, 17.5±0.2, 17.9±0.2, 18.9±0.2, and 24.4±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide hydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 6.4±0.2, 12.7±0.2, 12.9±0.2, 14.1±0.2, 15.7±0.2, 17.2±0.2, 17.5±0.2, 17.9±0.2, 18.9±0.2, 21.2±0.2, 24.4±0.2, and 25.0±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide hydrate having an X-ray powder diffraction pattern substantially as shown in Figure 9;

crystalline pattern A N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl)naphthalen-2-yl)methanesulfonamide monosodium salt having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 4.6±0.2, 10.4±0.2, 12.0±0.2, 15.6±0.2, 18.6±0.2, 22.8±0.2, and 23.9±0.2 degrees 2θ;

crystalline pattern A N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl)naphthalen-2-yl)methanesulfonamide monosodium salt having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 4.6±0.2, 10.4±0.2, 12.0±0.2, 15.6±0.2, 18.6±0.2, 22.8±0.2, 23.3±0.2, and 23.9±0.2 degrees 2θ;

crystalline pattern A N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl)naphthalen-2-yl)methanesulfonamide monosodium salt having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 4.6±0.2, 10.4±0.2, 12.0±0.2, 15.6±0.2, 16.0±0.2, 18.6±0.2, 22.8±0.2, 23.3±0.2, 23.9±0.2, and 28.3±0.2 degrees 2θ;

crystalline pattern A N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl)naphthalen-2-yl)methanesulfonamide monosodium salt having an X-ray powder diffraction pattern substantially as shown in Figure **10**;

crystalline pattern B N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl)naphthalen-2-yl)methanesulfonamide monosodium salt having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 5.4±0.2, 10.8±0.2, 14.4±0.2, 16.3±0.2, 17.0±0.2, 21.6±0.2, 22.1±0.2, and 23.7±0.2 degrees 2θ;

crystalline pattern B N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl)naphthalen-2-yl)methanesulfonamide monosodium salt having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 5.4±0.2, 10.8±0.2, 14.4±0.2, 16.3±0.2, 17.0±0.2, 18.8±0.2, 19.2±0.2, 19.6±0.2, 21.6±0.2, 22.1±0.2, 23.7±0.2, 28.8±0.2, 29.1±0.2, and 31.8±0.2 degrees 2θ;

crystalline pattern B N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl)naphthalen-2-yl)methanesulfonamide monosodium salt having an X-ray powder diffraction pattern comprising three or more peaks selected from the group consisting of 5.4±0.2, 10.8±0.2, 16.3±0.2, 22.1±0.2, and 23.7±0.2 degrees 2θ;

crystalline pattern B N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl)naphthalen-2-yl)methanesulfonamide monosodium salt having an X-ray powder diffraction pattern comprising peaks at 5.4±0.2, 10.8±0.2, 16.3±0.2, and 22.1±0.2 degrees 2θ;

crystalline pattern C N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl)naphthalen-2-yl)methanesulfonamide monosodium salt having an X-ray powder diffraction

pattern comprising one or more peaks selected from the group consisting of 5.0±0.2, 12.0±0.2, 17.5±0.2, 18.8±0.2, and 22.7±0.2 degrees 2θ;

crystalline pattern C N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxy-phenyl)naphthalen-2-yl)methanesulfonamide monosodium salt having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 5.0±0.2, 12.0±0.2, 17.5±0.2, 17.8±0.2, 18.8±0.2, and 22.7±0.2 degrees 2θ;

crystalline pattern C N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxy-phenyl)naphthalen-2-yl)methanesulfonamide monosodium salt having pattern C monosodium salt has an X-ray powder diffraction pattern substantially as shown in Figure **14**;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl)-naphthalen-2-yl)methanesulfonamide disodium salt having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 4.8±0.2, 9.6±0.2, 10.5±0.2, 13.0±0.2, 14.6±0.2, 15.4±0.2, 16.8 ±0.2, and 23.0±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide disodium salt having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 4.8±0.2, 9.6±0.2, 10.5±0.2, 13.0±0.2, 14.6±0.2, 15.4±0.2, 16.8 ±0.2, 22.7±0.2, 23.0±0.2, and 23.3±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide disodium salt having disodium salt has an X-ray powder diffraction pattern substantially as shown in Figure **15**;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide monopotassium salt having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 5.0±0.2, 9.9±0.2, 11.3±0.2, 13.3±0.2, 16.9±0.2, 18.1±0.2, 19.1±0.2, 20.0±0.2, 21.1±0.2, 23.5±0.2, 24.8±0.2, and 25.7±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide monopotassium salt having monopotassium salt has an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 5.0±0.2, 9.9±0.2, 11.3±0.2, 13.3±0.2, 16.9±0.2, 18.1±0.2, 19.1±0.2, 20.0±0.2, 21.1±0.2, 21.5±0.2, 23.5±0.2, 24.8±0.2, and 25.7±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide monopotassium salt having an X-ray powder diffraction pattern substantially as shown in Figure **17**;

crystalline pattern A N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxy-phenyl)naphthalen-2-yl)methanesulfonamide monocholine salt having an X-ray powder diffraction

pattern comprising one or more peaks selected from the group consisting of 10.9±0.2, 12.1±0.2, 13.4±0.2, 15.5±0.2, 17.0±0.2, 17.8±0.2, 18.3±0.2, 19.5±0.2, and 21.9±0.2 degrees 2θ;

crystalline pattern A N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxy phenyl)naphthalen-2-yl)methanesulfonamide monocholine salt having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 10.9±0.2, 12.1±0.2, 13.0±0.2, 13.4±0.2, 13.6±0.2, 15.5±0.2, 17.0±0.2, 17.8±0.2, 18.3±0.2, 19.5±0.2, 19.7±0.2, and 21.9±0.2 degrees 2θ;

crystalline pattern A N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxy-phenyl)naphthalen-2-yl)methanesulfonamide monocholine salt having an X-ray powder diffraction pattern substantially as shown in Figure **19**;

crystalline pattern B N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxy-phenyl)naphthalen-2-yl)methanesulfonamide monocholine salt having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 8.0±0.2, 9.4±0.2, 11.0±0.2, 13.0±0.2, 13.7±0.2, 15.9±0.2, 17.0±0.2, 18.3±0.2, 18.9±0.2, 19.8±0.2, and 22.1±0.2 degrees 2θ;

crystalline pattern B N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxy-phenyl)naphthalen-2-yl)methanesulfonamide monocholine salt having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 8.0±0.2, 9.4±0.2, 11.0±0.2, 13.0±0.2, 13.3±0.2, 13.7±0.2, 15.9±0.2, 17.0±0.2, 17.4±0.2, 18.3±0.2, 18.9±0.2, 19.8±0.2, 21.8±0.2, and 22.1±0.2 degrees 2θ;

crystalline pattern B N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxy-phenyl)naphthalen-2-yl)methanesulfonamide monocholine salt having an X-ray powder diffraction pattern substantially as shown in Figure **21**;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide dicholine salt having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 8.6±0.2, 11.0±0.2, 12.9±0.2, 17.0±0.2, 17.5±0.2, 18.9±0.2, 19.8±0.2, and 21.9±0.2 degrees 2θ;

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl) naphthalen-2-yl)methanesulfonamide dicholine salt having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 8.6±0.2, 11.0±0.2, 12.9±0.2, 17.0±0.2, 17.5±0.2, 18.9±0.2, 19.8±0.2, 21.9±0.2, and 22.1±0.2 degrees 2θ; and

crystalline N-(6-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxy-phenyl)naphthalen-2-yl)methanesulfonamide dicholine salt having an X-ray powder diffraction pattern substantially as shown in Figure **23**.

14. (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide crystalline form selected from the group consisting of:

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide disodium salt nonahydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 4.3±0.2, 10.4±0.2, 10.9±0.2, 11.6±0.2, 12.9±0.2, 14.7±0.2, 16.4±0.2, 17.8±0.2, 19.4±0.2, 19.8±0.2, 20.8±0.2, 21.9±0.2, and 23.5±0.2 degrees 2θ;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide disodium salt nonahydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 4.3±0.2, 10.4±0.2, 10.9±0.2, 11.6±0.2, 12.9±0.2, 14.7±0.2, 14.9±0.2, 16.4±0.2, 17.8±0.2, 19.4±0.2, 19.7±0.2, 19.8±0.2, 20.8±0.2, 20.9±0.2, 21.9±0.2, 22.1±0.2, and 23.5±0.2 degrees 2θ;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide disodium salt nonahydrate having an X-ray powder diffraction pattern substantially as shown in Figure 24;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide nonahydrate disodium salt having cell unit parameters, wherein a is 8.9Å, b is 9.4Å, and c is 20.7Å;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide disodium salt tetrahydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 4.8±0.2, 12.1±0.2, 14.0±0.2, 17.0±0.2, 17.5±0.2, 20.9±0.2, 21.6±0.2, 25.0±0.2, and 29.5±0.2 degrees 2θ;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide disodium salt tetrahydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 4.8±0.2, 12.1±0.2, 14.0±0.2, 14.4±0.2, 17.0±0.2, 17.5±0.2, 20.9±0.2, 21.6±0.2, 25.0±0.2, 29.5±0.2, and 34.2±0.2 degrees 2θ;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide disodium salt tetrahydrate having an X-ray powder diffraction pattern substantially as shown in Figure 25;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide dipotassium salt tetrahydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 5.0±0.2, 11.9±0.2, 12.4±0.2, 13.7±0.2, 15.0±0.2, 16.5±0.2, 17.1±0.2, 20.8±0.2, 21.3±0.2, 22.2±0.2, 24.0±0.2, 26.4±0.2, and 29.3±0.2 degrees 2θ;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide dipotassium salt tetrahydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 5.0±0.2, 11.9±0.2, 12.4±0.2, 12.6±0.2, 13.7±0.2, 15.0±0.2, 16.5±0.2, 16.7±0.2, 17.1±0.2, 20.7±0.2, 20.8±0.2, 21.3±0.2, 22.2±0.2, 22.4±0.2, 24.0±0.2, 26.4±0.2, and 29.3±0.2 degrees 2θ;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide dipotassium salt tetrahydrate having an X-ray powder diffraction pattern substantially as shown in Figure **27**;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide dipotassium salt tetrahydrate having unit cell parameters, wherein a is 14.5Å, b is 10.8Å, and c is 35.8Å;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide monopotassium salt trihydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 4.8±0.2, 10.8±0.2, 11.3±0.2, 13.4±0.2, 15.3±0.2, 16.9±0.2, 21.2±0.2, 21.7±0.2, 22.1±0.2, 22.5±0.2, and 23.0±0.2 degrees 2θ;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide monopotassium salt trihydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 4.8±0.2, 10.8±0.2, 11.3±0.2, 13.4±0.2, 13.6±0.2, 15.3±0.2, 16.9±0.2, 21.2±0.2, 21.7±0.2, 21.7±0.2, 22.1±0.2, 22.5±0.2, 22.6±0.2, and 23.0±0.2 degrees 2θ;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide monopotassium salt trihydrate having an X-ray powder diffraction pattern comprising five or more peaks selected from the group consisting of 4.8±0.2, 10.8±0.2, 11.3±0.2, 13.4±0.2, 15.3±0.2, 16.9±0.2, 21.2±0.2, 21.7±0.2, 22.1±0.2, 22.5±0.2, and 23.0±0.2 degrees 2θ;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide monopotassium salt trihydrate having unit cell parameters, wherein a is 9.0Å, b is 8.3Å, and c is 18.6Å;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide monopotassium salt dihydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 7.7±0.2, 8.8±0.2, 16.1±0.2, and 19.7±0.2 degrees 2θ;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide monopotassium salt dihydrate having an X-ray powder diffraction pattern

comprising one or more peaks selected from the group consisting of 7.7±0.2, 8.8±0.2, 12.4±0.2, 14.0±0.2, 16.1±0.2, 17.7±0.2, 19.2±0.2, 19.7±0.2, 23.1±0.2, and 29.2±0.2 degrees 2θ;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide monopotassium salt dihydrate having an X-ray powder diffraction pattern substantially as shown in Figure **29**;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide 1/7 potassium salt having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 7.7±0.2, 8.3±0.2, 10.1±0.2, 10.6±0.2, 11.4±0.2, 12.0±0.2, 13.4±0.2, 15.6±0.2, 16.3±0.2, 16.7±0.2, 17.2±0.2, 18.3±0.2, 18.8±0.2, 19.4±0.2, 19.9±0.2, 20.2±0.2, 20.5±0.2, 21.2±0.2, 22.1±0.2, and 22.9±0.2 degrees 2θ;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide 1/7 potassium salt having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 7.7±0.2, 8.3±0.2, 10.1±0.2, 10.6±0.2, 11.4±0.2, 12.0±0.2, 13.4±0.2, 15.6±0.2, 16.3±0.2, 16.7±0.2, 17.2±0.2, 18.3±0.2, 18.8±0.2, 19.4±0.2, 19.9±0.2, 20.2±0.2, 20.5±0.2, 20.8±0.2, 21.2±0.2, 22.1±0.2, 22.9±0.2, 24.3±0.2, 24.9±0.2, and 25.1±0.2 degrees 2θ;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide 1/7 potassium salt having an X-ray powder diffraction pattern substantially as shown in Figure **31**;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide monodiethylamine salt tetrahydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 9.5±0.2, 10.0±0.2, 11.8±0.2, 12.1±0.2, 14.4±0.2, 16.8±0.2, 17.6±0.2, 19.8±0.2, 20.8±0.2, 21.4±0.2, 21.8±0.2, and 29.8±0.2 degrees 2θ;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide monodiethylamine salt tetrahydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 9.5±0.2, 10.0±0.2, 11.8±0.2, 12.1±0.2, 14.4±0.2, 16.8±0.2, 17.6±0.2, 19.4±0.2, 19.8±0.2, 20.8±0.2, 21.4±0.2, 21.8±0.2, 21.9±0.2, and 29.8±0.2 degrees 2θ;

crystalline (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl) phenyl)methanesulfonamide monodiethylamine salt tetrahydrate having an X-ray powder diffraction pattern substantially as shown in Figure **32**;

crystalline pattern A (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 5.8±0.2, 9.9±0.2, 11.8±0.2, 12.4±0.2, 14.5±0.2, 18.8±0.2, 22.7±0.2, and 29.2±0.2 degrees 2θ;

crystalline pattern A (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 5.8±0.2, 9.9±0.2, 11.8±0.2, 12.4±0.2, 14.0±0.2, 14.5±0.2, 15.3±0.2, 18.5±0.2, 18.8±0.2, 22.2±0.2, 22.7±0.2, 23.8±0.2, 26.0±0.2, and 29.2±0.2 degrees 2θ;

crystalline pattern A (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide having an X-ray powder diffraction pattern substantially as shown in Figure **34**;

crystalline pattern B (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 11.5±0.2, 13.3±0.2, 15.4±0.2, 16.4±0.2, 17.1±0.2, 18.6±0.2, 19.4±0.2, 20.4±0.2, 21.6±0.2, 22.4±0.2, 24.0±0.2, 26.8±0.2, and 29.0±0.2 degrees 2θ;

crystalline pattern B (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide having an X-ray powder diffraction pattern substantially as shown in Figure **36**;

crystalline pattern C (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 7.7±0.2, 10.1±0.2, 10.6±0.2, 12.0 ±0.2, 13.4±0.2, 16.2±0.2, 19.4±0.2, 20.5±0.2, 21.4±0.2, 22.0±0.2, 22.6±0.2, 24.3±0.2, and 27.6±0.2 degrees 2θ;

crystalline pattern C (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide having an X-ray powder diffraction pattern substantially as shown in Figure **37**;

crystalline pattern D (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 5.8±0.2, 10.7±0.2, 11.2±0.2, 15.2±0.2, 16.1±0.2, 16.9±0.2, 19.9±0.2, 22.1±0.2, 24.7±0.2, and 26.0±0.2 degrees 2θ;

crystalline pattern D (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 5.8±0.2, 10.7±0.2, 11.2±0.2, 15.2±0.2, 16.1±0.2, 16.9±0.2, 17.1±0.2, 19.9±0.2, 20.1±0.2, 22.1±0.2, 24.7±0.2, and 26.0±0.2 degrees 2θ;

crystalline pattern D (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide having an X-ray powder diffraction pattern substantially as shown in Figure **38**;

crystalline pattern A (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide hydrate having an X-ray powder diffraction pattern

comprising one or more peaks selected from the group consisting of 5.1±0.2, 7.9±0.2, 9.5±0.2, 10.3±0.2, 13.7±0.2, 16.5±0.2, 17.1±0.2, 17.5±0.2, 18.8±0.2, 19.2±0.2, 20.7±0.2, 21.3±0.2, 21.6±0.2, 25.8±0.2, 26.8±0.2, and 28.4±0.2 degrees 2θ;

crystalline pattern A (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide hydrate having an X-ray powder diffraction pattern substantially as shown in Figure **39**;

crystalline pattern A (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide hydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 6.3±0.2, 7.7±0.2, 10.4±0.2, 12.7±0.2, 13.3±0.2, 14.9±0.2, 15.4±0.2, 16.4±0.2, 18.6±0.2, 18.9±0.2, 19.4±0.2, 22.5±0.2, 23.5±0.2, 24.0±0.2, 26.8±0.2, and 29.0±0.2 degrees 2θ;

crystalline pattern B (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide hydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 6.3±0.2, 7.7±0.2, 10.4±0.2, 12.7±0.2, 13.3±0.2, 13.5±0.2, 14.9±0.2, 15.4±0.2, 16.4±0.2, 18.5±0.2, 18.6±0.2, 18.9±0.2, 19.4±0.2, 22.5±0.2, 23.5±0.2, 24.0±0.2, 26.8±0.2, and 29.0±0.2 degrees 2θ;

crystalline pattern B (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide hydrate having an X-ray powder diffraction pattern substantially as shown in Figure **41**;

crystalline pattern C (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide hydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 10.5±0.2, 13.3±0.2, 14.9±0.2, 15.4±0.2, 16.4±0.2, 18.6±0.2, 19.0±0.2, 19.4±0.2, 22.5±0.2, 23.5±0.2, 26.9±0.2, and 29.0±0.2 degrees 2θ;

crystalline pattern C (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide hydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 10.5±0.2, 13.3±0.2, 13.5±0.2, 14.9±0.2, 15.4±0.2, 16.4±0.2, 18.6±0.2, 19.0±0.2, 19.4±0.2, 22.5±0.2, 23.5±0.2, 26.9±0.2, and 29.0±0.2 degrees 2θ;

crystalline pattern C (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide hydrate having an X-ray powder diffraction pattern substantially as shown in Figure **43**;

crystalline pattern D (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide hydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 6.6±0.2, 10.0±0.2, 10.5±0.2,

11.1±0.2, 11.6±0.2, 12.2±0.2, 14.2±0.2, 16.6±0.2, 17.1±0.2, 17.7±0.2, 18.5±0.2, 18.8±0.2, 19.3±0.2, 21.4±0.2, 22.7±0.2, 23.1±0.2, 23.6±0.2, 24.6±0.2, 25.2±0.2, 27.2±0.2, 29.1±0.2, and 31.0±0.2 degrees 2θ;

crystalline pattern D (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide hydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 6.6±0.2, 10.0±0.2, 10.5±0.2, 11.1±0.2, 11.6±0.2, 12.2±0.2, 12.5±0.2, 14.2±0.2, 16.6±0.2, 17.1±0.2, 17.7±0.2, 18.5±0.2, 18.8±0.2, 19.3±0.2, 21.4±0.2, 22.7±0.2, 22.8±0.2, 23.1±0.2, 23.6±0.2, 24.6±0.2, 24.9±0.2, 25.2±0.2, 27.2±0.2, 29.1±0.2, and 31.0±0.2 degrees 2θ;

crystalline pattern D (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide hydrate having an X-ray powder diffraction pattern substantially as shown in Figure **45**;

crystalline pattern D (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide hydrate having unit cell parameters, wherein a is 17.8Å, b is 9.6Å, and c is 27.0Å;

crystalline pattern E (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide hydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 6.2±0.2, 7.8±0.2, 10.2±0.2, 10.7±0.2, 12.1±0.2, 16.3±0.2, 19.7±0.2, 20.9±0.2, 21.8±0.2, 24.5±0.2, and 28.0±0.2 degrees 2θ;

crystalline pattern E (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide hydrate having an X-ray powder diffraction pattern comprising one or more peaks selected from the group consisting of 6.2±0.2, 7.8±0.2, 10.2±0.2, 10.4±0.2, 10.7±0.2, 12.1±0.2, 16.3±0.2, 19.7±0.2, 20.9±0.2, 21.8±0.2, 24.5±0.2, and 28.0±0.2 degrees 2θ;

crystalline pattern E (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide hydrate having an X-ray powder diffraction pattern substantially as shown in Figure **46**; and

crystalline pattern E (E)-N-(4-(3-tert-butyl-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxystyryl)phenyl)methanesulfonamide hydrate having unit cell parameters, wherein a is 9.5Å, b is 14.5Å, and c is 17.3Å.

15. A composition comprising (**a**) one or more compounds and/or salts recited in any one of claims **1-12** or one or more crystalline forms recited in any one of claims **13** and **14**; (**b**) one or more excipients; and, optionally, (**c**) one or more additional therapeutic agents.

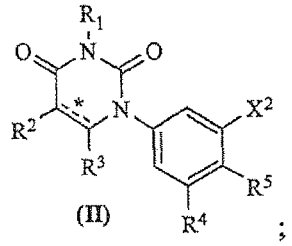
16. A method for inhibiting replication of a ribonucleic acid (RNA) virus, wherein the method comprises exposing the virus to one or more compounds and/or salts recited in any one of claims **1-12** or

one or more crystalline forms recited in any one of claims **13** and **14**.

17. A method for treating hepatitis C in a mammal in need of such treatment, wherein the method comprises administering to the mammal one or more compounds and/or salts recited in any one of claims **1-12** or one or more crystalline forms recited in any one of claims **13** and **14**, and, optionally, one or more additional therapeutic agents.

18. A compound or salt thereof, wherein:

the compound of formula **II** corresponds in structure to formula **II**:



(II)

;

$\overset{*}{=\!=}$, R^1, R^2, R^3, R^4, and R^5 are as defined in claim **1**; and

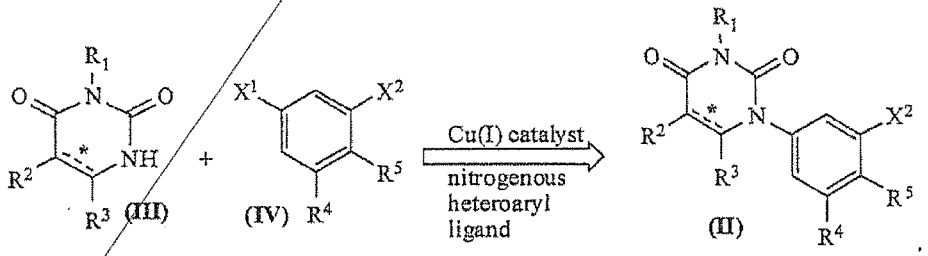
X^2 is halo.

19. The compound or salt of claim **18**, wherein:

R^1, R^2, R^3, R^4, and R^5 are as defined in claim **3**; and

X^2 is selected from the group consisting of chloro, bromo, and iodo.

20. A process for preparing the compound or salt of claim **18** , wherein the process comprises reacting a compound of formula **III** (wherein R^1, R^2, and R^3 are as defined in claim **18**) with a compound of formula **IV** (wherein R^4, R^5, and X^2 are as defined in claim **18**; and X^1 is halo) in the presence of (i) copper (I) salt catalyst and (ii) nitrogenous heteroaryl ligand



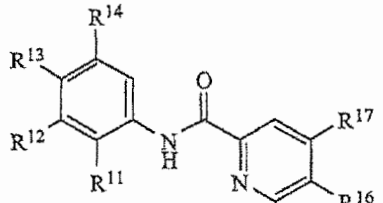
(III) (IV) (II)

21. The process of claim 20, wherein X^1 is selected from the group consisting of chloro, bromo, and iodo.

22. The process of any one of claims **20** and **21**, wherein the process is conducted in the presence of a base.

23. The process of claim **22**, wherein the base is selected from the group consisting of potassium salt, sodium salt, and cesium salt.

24. The process of any one of claims **20-23**, wherein the nitrogenous heteroaryl ligand comprises a picolinamide compound corresponding in structure to formula V:



(V)

; and

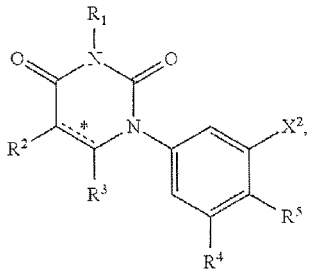
R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, and R^{17} are independently selected from the group consisting of hydrogen, C_{1-4}-perfluoroalkyl, C_{1-4}-alkyloxy, C_{1-4}-haloalkyl, chloro, and cyano.

25. The process of any one of claims **20-24**, wherein the nitrogenous heteroaryl ligand is selected from the group consisting of 8-hydroxyquinoline, 2-(2-pyridyl)-benzimidazole, N-(4-cyano-phenyl)picolinamide, and N-(2-cyanophenyl)picolinamide.

CLAIMS

1. A compound or salt thereof, wherein the compound corresponds in structure to formula II:

(II)



wherein

$\overset{*}{=\!=}$ is selected from the group consisting of single carbon-carbon bond and double carbon-carbon bond;

R^1 is selected from the group consisting of hydrogen, methyl, and nitrogen-protecting group;

R^2 is selected from the group consisting of hydrogen, halo, hydroxy, methyl, cyclopropyl, and cyclobutyl;

R^3 is selected from the group consisting of hydrogen, halo, oxo, and methyl;

R^4 is selected from the group consisting of alkyl, alkenyl, alkynyl, nitro, cyano, azido, alkyloxy, alkenyloxy, alkynyloxy, amino, aminocarbonyl, aminosulfonyl, alkylsulfonyl, carbocyclyl, and heterocyclyl, wherein:

(a) the amino, aminocarbonyl, and aminosulfonyl optionally are substituted with:

(1) one or two substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, and alkylsulfonyl, or

(2) two substituents that, together with the amino nitrogen, form a single-ring heterocyclyl, and

(b) the alkyl, alkenyl, alkynyl, alkyloxy, alkenyloxy, alkynyloxy, and alkylsulfonyl, optionally are substituted with one or more substituents independently selected from the group consisting of halo, oxo, nitro, cyano, azido, hydroxy, amino, alkyloxy, trimethylsilyl, carbocyclyl, and heterocyclyl, wherein:

the amino optionally is substituted with:

(1) one or two substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, alkylcarbonyl, alkylsulfonyl, alkyloxycarbonyl, carbocyclyl, heterocyclyl, carbocyclylalkyl, and heterocyclylalkyl, or

(2) two substituents that, together with the amino nitrogen, form a single-ring heterocyclyl, and

(c) the carbocyclyl and heterocyclyl optionally are substituted with up to three substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, halo, oxo, nitro, cyano, azido, hydroxy, amino, alkyloxy, trimethylsilyl, carbocyclyl, and heterocyclyl, wherein:

the amino optionally is substituted with:

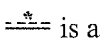
(1) one or two substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, alkylcarbonyl, alkylsulfonyl, alkyloxycarbonyl, carbocyclyl, heterocyclyl, carbocyclylalkyl, and heterocyclylalkyl, or

(2) two substituents that, together with the amino nitrogen, form a single-ring heterocyclyl;

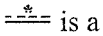
R^5 is selected from the group consisting of hydrogen, hydroxy, alkyl, alkenyl, alkynyl, alkyloxy, alkenyloxy, alkynyloxy, alkylsulfonyloxy, carbocyclylsulfonyloxy, haloalkylsulfonyloxy, and halo; and

X^2 is halo.

2. The compound or salt of claim 1, wherein

 is a single carbon-carbon bond.

3. The compound or salt of claim 1, wherein

 is a double carbon-carbon bond.

4. The compound or salt of claim 1, wherein R^1 is selected from the group consisting of hydrogen and methyl.

5. The compound or salt of claim 1, wherein R^1 is hydrogen.

6. The compound or salt of claim 1, wherein R^2 is selected from the group consisting of hydrogen, methyl, and halo.

7. The compound or salt of claim 1, wherein R^2 is hydrogen.

8. The compound or salt of claim 1, wherein R^3 is selected from the group consisting of hydrogen and methyl.

9. The compound or salt of claim 1, wherein R^3 is hydrogen.

10. The compound or salt of claim 1, wherein R^4 is selected from the group consisting of C_1-C_4-alkyl, C_2-C_4-alkenyl, C_2-C_4-alkynyl, amino, C_1-C_4-alkylsulfonyl, C_3-C_6-carbocyclyl, and 5-6-membered heterocyclyl, wherein:

the amino optionally is substituted with one or two substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, and alkylsulfonyl,

the C_1-C_4-alkyl, C_2-C_4-alkenyl, and C_2-C_4-alkynyl optionally are substituted with one or more substituents independently selected from the group consisting of halo, oxo, hydroxy, alkyloxy, and trimethylsilyl, and

the C_3-C_6-carbocyclyl and 5-6-membered heterocyclyl optionally are substituted with up to three substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, halo, and amino, wherein:

the amino optionally is substituted with one or two substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, and alkylsulfonyl.

11. The compound or salt of claim 1, wherein:

R^4 is selected from the group consisting of C_1-C_4-alkyl, C_3-C_6-carbocyclyl, and 5-6-membered heterocyclyl, wherein:

(a) the C_1-C_4-alkyl optionally is substituted with up to three substituents independently selected from the group consisting of halo, oxo, hydroxy, alkyloxy, and trimethylsilyl, and

(b) the C_3-C_6-carbocyclyl and 5-6-membered heterocyclyl optionally are substituted with one or two substituents independently selected from the group consisting of alkyl, halo, and alkylsulfonylamino.

12. The compound or salt of claim 1, wherein R^4 is selected from the group consisting of alkyl, alkenyl, alkynyl, nitro, cyano, azido, alkyloxy, alkenyloxy, alkynyloxy, amino, aminocarbonyl, aminosulfonyl, alkylsulfonyl, carbocyclyl, and heterocyclyl.

13. The compound or salt of claim 1, wherein R^4 is selected from the group consisting of C_1-C_4-alkyl, C_3-C_6-carbocyclyl, and 5-6-membered heterocyclyl.

14. The compound or salt of claim 1, wherein R^4 is selected from the group consisting of tert-butyl, C_3-C_6-carbocyclyl, and 5-6-membered heterocyclyl.

15. The compound or salt of claim 1, wherein R is selected from the group consisting of tert-butyl, C_3-C_6-carbocyclyl, and 5-6-membered heterocyclyl.

16. The compound or salt of claim 1, wherein R^4 is alkyl.

17. The compound or salt of claim 1, wherein R^4 is tert-butyl.

18. The compound or salt of claim 1, wherein R^5 is selected from the group consisting of hydrogen, hydroxy, alkyloxy, and halo.

19. The compound or salt of claim 1, wherein R^5 is selected from the group consisting of hydrogen, methoxy, and halo.

20. The compound or salt of claim 1, wherein R^5 is methoxy.

21. The compound or salt of claim 1, wherein X^2 is selected from the group consisting of chloro, bromo, and iodo.

22. The compound or salt of claim 1, wherein X^2 is iodo.

23. The compound or salt of claim 1, wherein

R^1 is selected from the group consisting of hydrogen, methyl, and nitrogen-protecting group;

R^2 is selected from the group consisting of hydrogen and halo;

R^3 is selected from the group consisting of hydrogen and halo;

R^4 is selected from the group consisting of C_1-C_4-alkyl, C_3-C_6-carbocyclyl, and 5-6-membered heterocyclyl, wherein:

(a) the C_1-C_4-alkyl optionally is substituted with up to three substituents independently selected from the group consisting of halo, oxo, hydroxy, alkyloxy, and trimethylsilyl, and

(b) the C_3-C_6-carbocyclyl and 5-6-membered heterocyclyl optionally are substituted with one or two substituents independently selected from the group consisting of alkyl, halo, and alkylsulfonylamino;

R^5 is selected from the group consisting of hydrogen, hydroxy, alkyloxy, and halo; and

X^2 is selected from the group consisting of chloro, bromo, and iodo.

24. The compound or salt of claim 1, wherein

$\overset{*}{=\!=}$ is a double carbon-carbon bond;

R^1 is hydrogen;

R^2 is selected from the group consisting of hydrogen and halo;

R^3 is hydrogen;

R^4 is tert-butyl;

R^5 is selected from the group consisting of hydrogen, hydroxy, and methoxy; and

X^2 is selected from the group consisting of bromo and iodo.

25. The compound or salt of claim 1, wherein

R^1 is selected from the group consisting of hydrogen and methyl;

R^2 is selected from the group consisting of hydrogen and methyl;

R^3 is selected from the group consisting of hydrogen and methyl;

R^4 is tert-butyl;

R^5 is selected from the group consisting of hydroxy and methoxy; and

X^2 is selected from the group consisting of chloro, bromo, and iodo.

26. The compound or salt of claim 1, wherein

$\overset{*}{=\!=}$ is a double carbon-carbon bond;

R^1 is hydrogen;

R^2 is hydrogen;

R^3 is hydrogen;

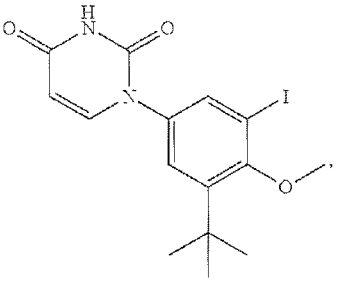
R^4 is tert-butyl;

R^5 is selected from the group consisting of hydroxy and methoxy; and

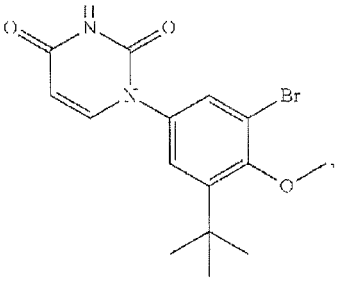
X^2 is selected from the group consisting of chloro, bromo, and iodo.

27. The compound or salt of claim 1, wherein the compound is selected from the group consisting of

(II-I)

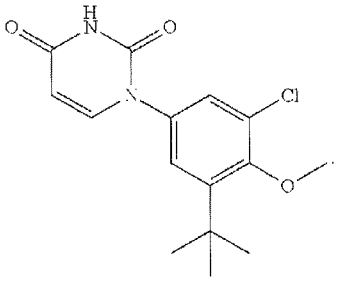


(II-Br)

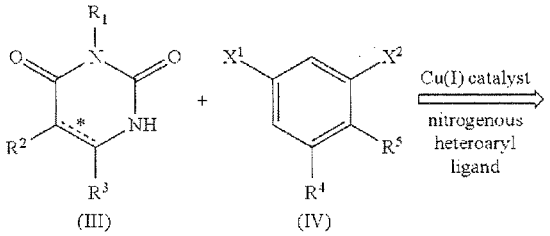


and

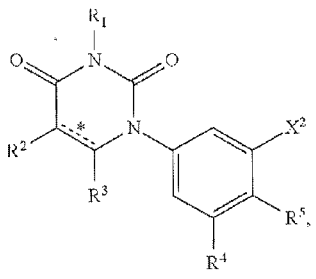
(II-Cl)



28. A process for preparing the compound or salt of claim 1, wherein the process comprises reacting a compound of formula III with a compound of formula IV in the presence of (i) copper (I) salt catalyst and (ii) nitrogenous heteroaryl ligand



(III) (IV)



(II)

wherein R^1, R^2, R^3, R^4, R^5 and X^2 are as defined in claim 1, and X^1 is halo.

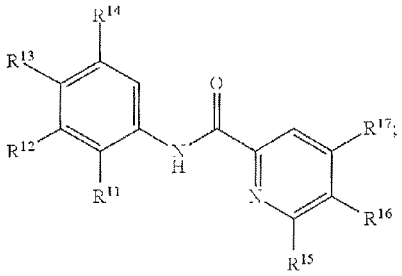
29. The process of claim 28, wherein X^1 is selected from the group consisting of chloro, bromo, and iodo.

30. The process of claim 28, wherein the process is conducted in the presence of a base.

31. The process of claim 30, wherein the base is selected from the group consisting of potassium salt, sodium salt, and cesium salt.

32. The process of claim 28, wherein the nitrogenous heteroaryl ligand comprises a picolinamide compound corresponding in structure to formula V:

(V)



and

R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, and R^{17} are independently selected from the group consisting of hydrogen, C_{1-4}-perfluoroalkyl, C_{1-4}-alkyloxy, C_{1-4}-haloalkyl, chloro, and cyano.

33. The process of claim 28, wherein the nitrogenous heteroaryl ligand is selected from the group consisting of 8-hydroxyquinoline, 2-(2-pyridyl)-benzimidazole, N-(4-cyano-phenyl)picolinamide, and N-(2-cyanophenyl)picolinamide.

34. The compound or salt of claim 1, wherein the compound is 1-(3-tert-butyl-5-iodo-4-methoxyphenyl)pyrimidine-2,4(1H,3H)-dione.

35. 1-(3-tert-butyl-5-iodo-4-methoxyphenyl)pyrimidine-2,4(1H,3H)-dione.