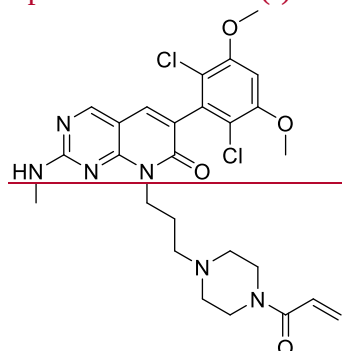


What is Claimed:

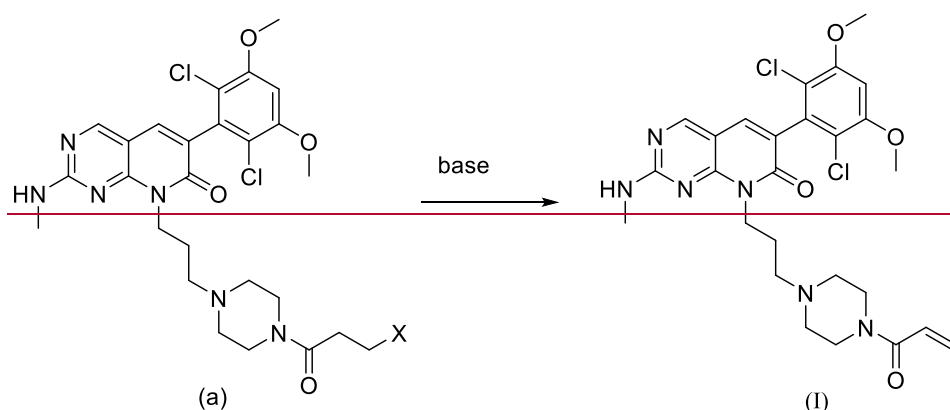
1. ~~A process of preparing a compound of formula (I):~~



5 ~~(I)~~

~~comprising:~~

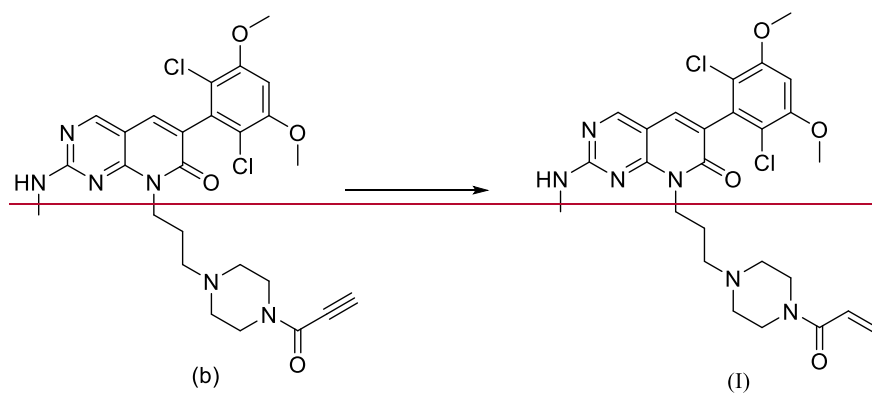
~~(A) treating compound of formula (a) (where X is a leaving group under elimination reaction conditions) with a base~~



10

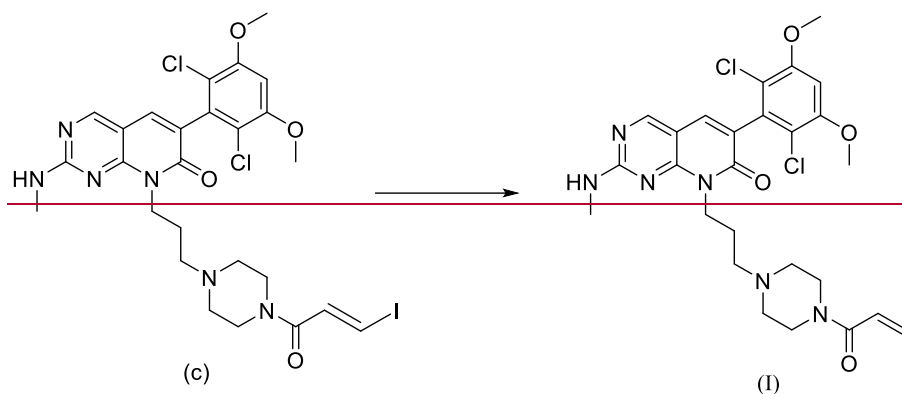
~~to provide the compound of formula (I); or~~

~~(B) reducing the acetylene bond in compound (b)~~

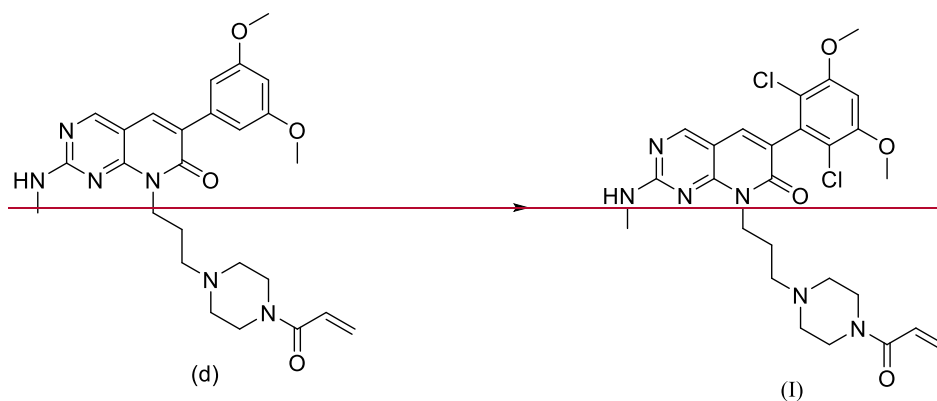


~~to provide the compound of formula (I); or~~

15 ~~(C) treating a compound of formula (c) with a reducing agent~~



to provide the compound of formula (I); or
 (D) — chlorinating a compound of formula (d)



5

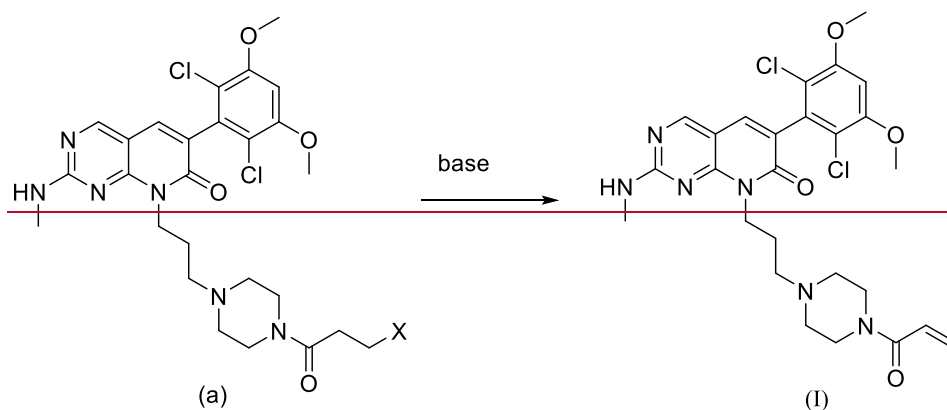
to provide the compound of formula (I); and

(E) — optionally converting the compound of formula (I) obtained from reaction (A),
 (B), (C), or (D) above to an acid addition salt; or

(F) — optionally converting the compound of formula (I) obtained from reaction (A),
 (B), (C), or (D) above to the free base.

10

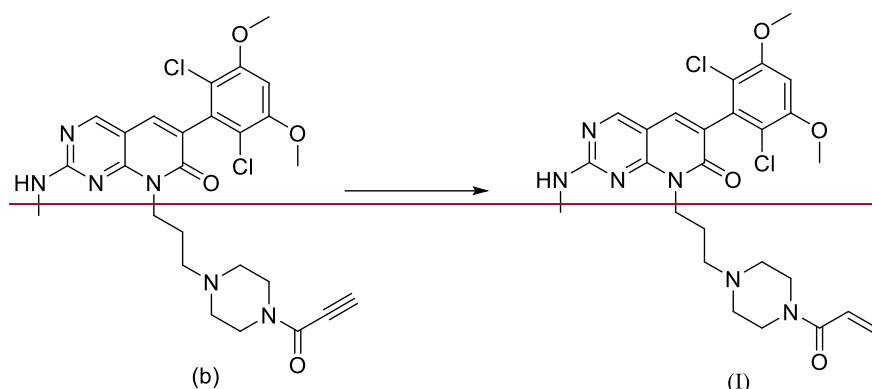
2. — The process of Claim 1 wherein the process comprises treating the compound of formula
 (a) (where X is a leaving group under elimination reaction conditions) with a base



15

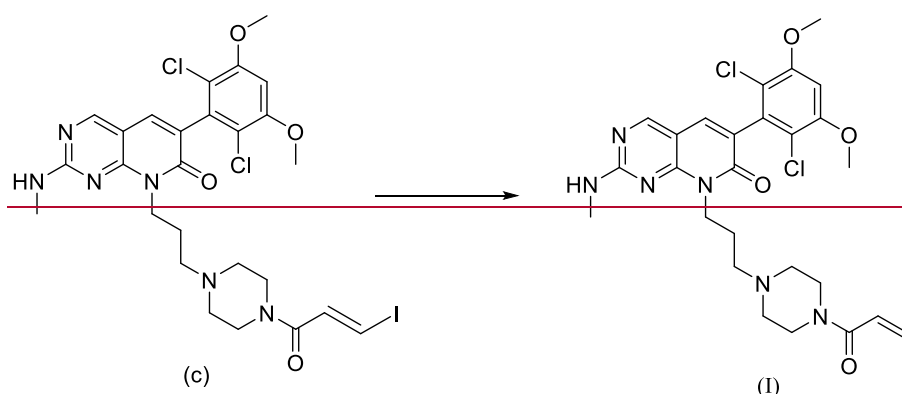
to provide the compound of formula (I).

3. ~~The process of Claim 1 wherein the process comprises reducing the acetylene bond in compound (b)~~



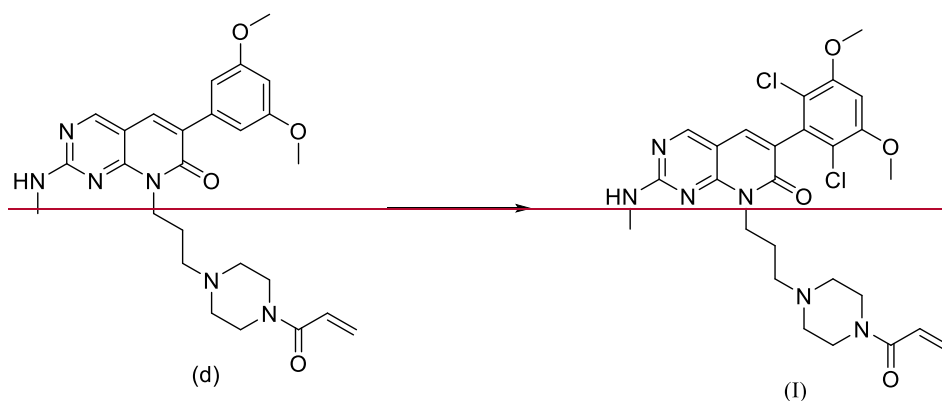
~~to provide the compound of formula (I).~~

5 4. ~~The process of Claim 1 wherein the process comprises treating a compound of formula (d) with a reducing agent~~



~~to provide the compound of formula (I).~~

10 5. ~~The process of Claim 1 wherein the process comprises chlorinating the compound of formula (d)~~



~~to provide the compound of formula (I).~~

15 6. ~~The process of Claim 1 or 2 wherein X is halo, phosphate, mesylate, tosylate, or 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonate].~~

7. ~~The process of Claim 1, 2, or 6 wherein the reaction is carried out in an aprotic, polar organic solvent.~~

8. ~~The process of Claim 7 wherein the base is either an organic or an inorganic base~~

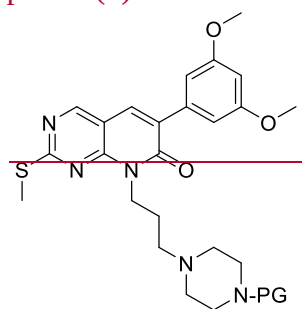
9. ~~The process of Claim 1 or 3 wherein the reducing agent is Lindlar catalyst.~~

5 10. ~~The process of Claim 1 or 4 where the reducing agent is sodium borohydride or i-PrMgCl/THF/ and an organic or inorganic acid.~~

11. ~~The process of Claim 1 or 5 where the chlorinating agent is N-chlorosuccinimide, sulfonyl chloride, or sulfuryl chloride.~~

10 12. ~~The process of Claim 11 wherein the chlorinating agent is NCS, the reaction is carried out in a halogenated hydrocarbon, and in the presence of an organic acid or an organic base.~~

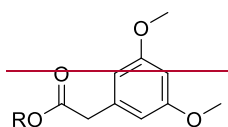
13. ~~A process of preparing a compound (1):~~



(1)

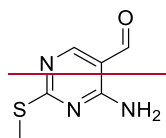
where PG is an amino protecting group, comprising:

15 ~~(G) reacting a compound of formula (e):~~



(e)

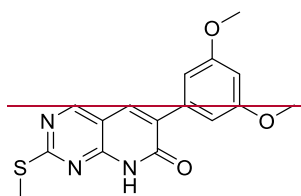
~~where R is alkyl; with a compound of formula (f):~~



(f)

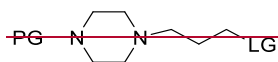
and

(H) ~~treating a compound of formula (g) formed *in situ*~~



(g)

from reaction of compound (e) and (f) with a compound of formula (h) or a salt thereof



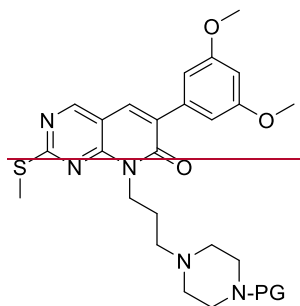
(h)

where PG is an amino protecting group under alkylating reaction conditions to provide a compound of formula (1).

14. The process of Claim 13 wherein Step G is carried out in the presence of a base, and in a polar organic solvent.

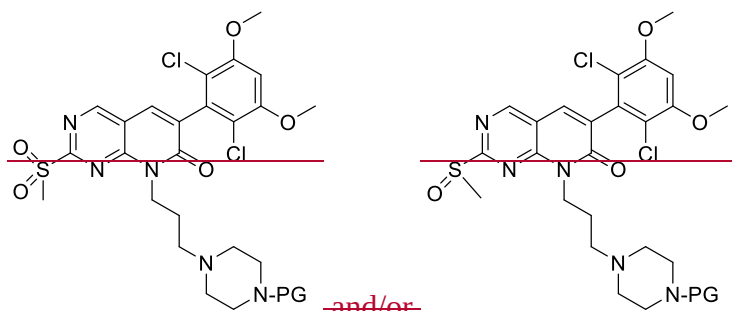
15. The process of Claim 13 wherein the process of Step H is carried out in the presence of a base and in a polar organic solvent.

16. The process of any of Claim 13-15, further comprising reacting a compound of formula (1):



(1)

where PG is an amino protecting group with a chlorinating agent to provide a compound of formula (2) and/or (3):

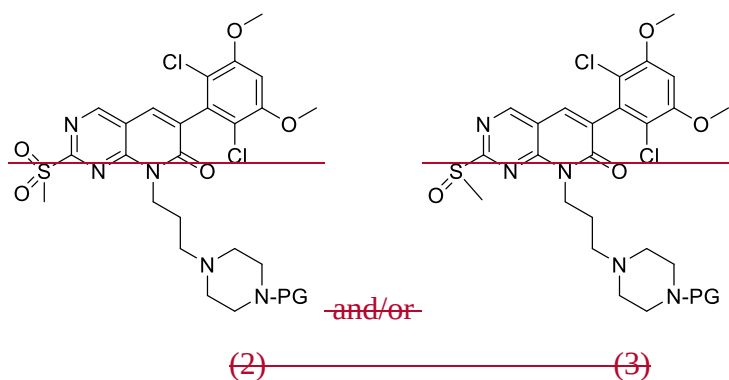


and/or

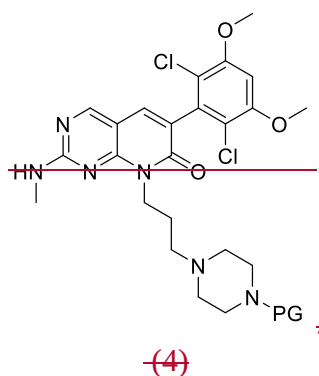
(2)

(3)

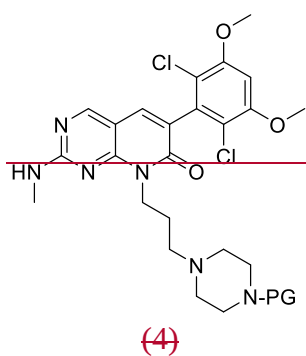
17. ~~The process of Claim 16 further comprising treating a compound of formula (2) and/or (3):~~



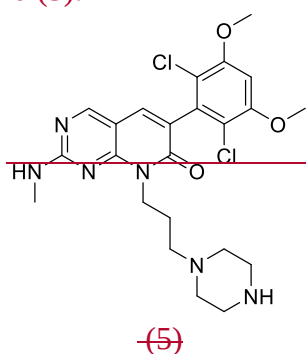
5 ~~with methylamine to give a compound of formula (4)~~



10 18. ~~The process of Claim 17, further comprising removing the amino protecting group "PG" of compound (4)~~

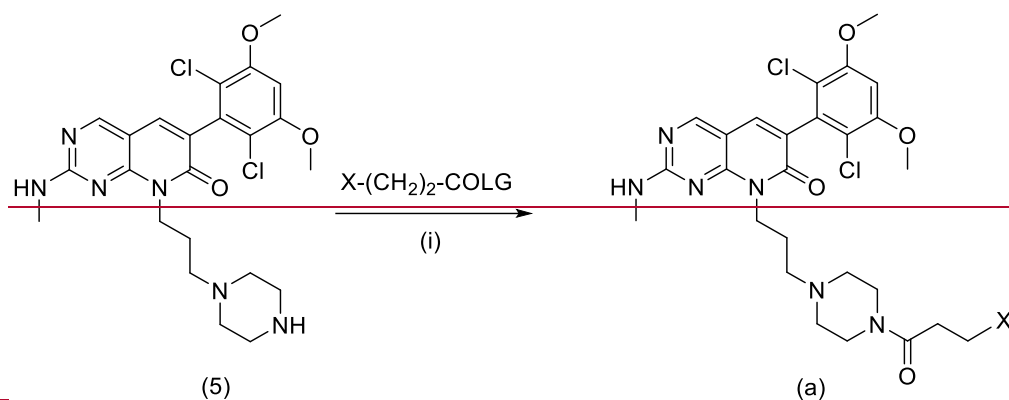


~~to give a compound of formula (5):~~



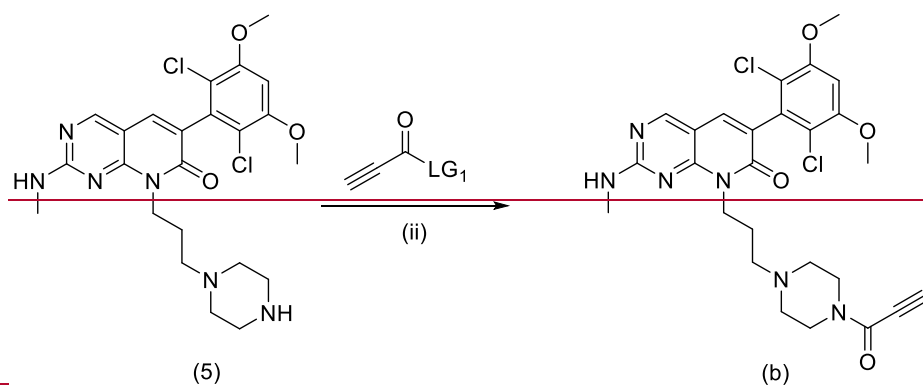
15 ~~or a salt thereof.~~

19. The process of the Claim 18 further comprising reacting a compound of formula (5) with a compound of formula (i) where X is a leaving group under elimination reaction conditions and LG is either a leaving group under acylation reaction conditions or a hydroxy

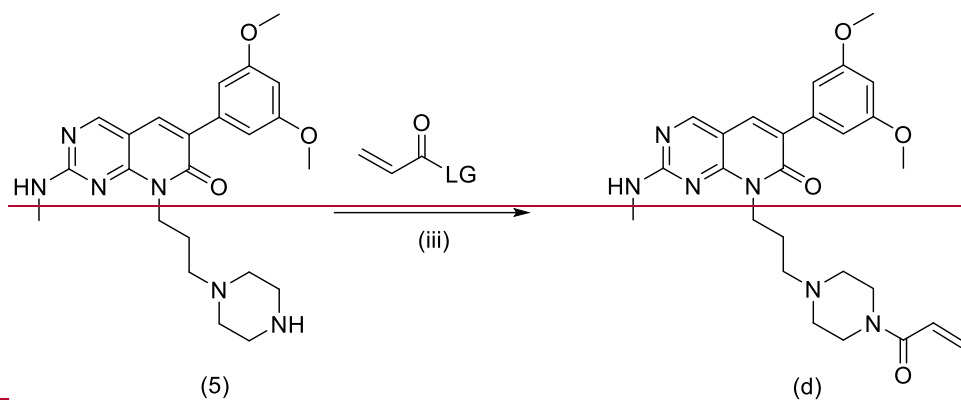


group to give a compound of formula (a).

20. The process of Claim 18 further comprising reacting a compound of Formula (5) with an alkyne of formula (ii) where LG₁ is either a leaving group under acylation conditions or a hydroxyl group to give a compound of formula (b).



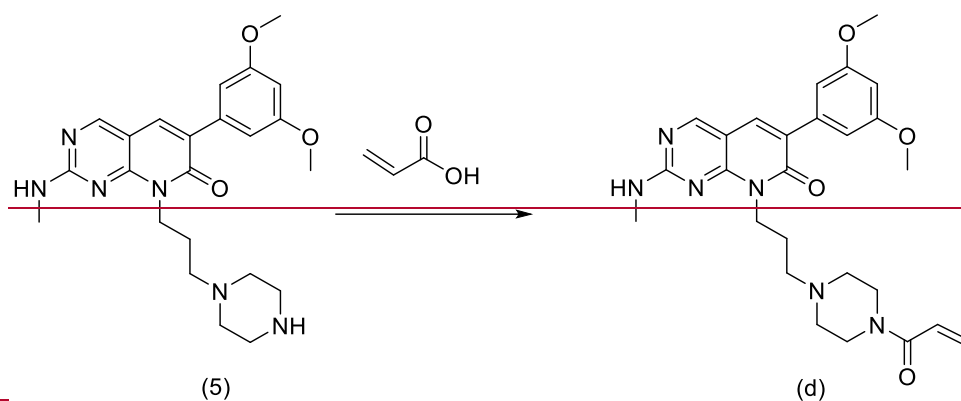
21. A process of preparing a compound of formula (d) comprising reacting a compound of formula (5) with a compound of formula (iii) where LG is a leaving group under acylating reaction conditions



to give a compound of formula (d); or

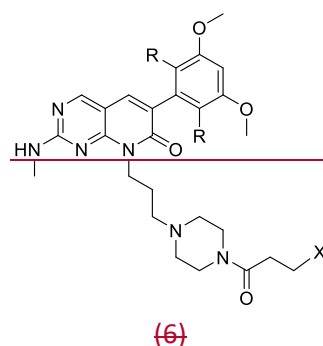
reacting a compound of formula (5) with propenoic acid under amide bond formation

5 reaction conditions:



to give a compound of formula (d).

10 22. — An intermediate of formula (6):

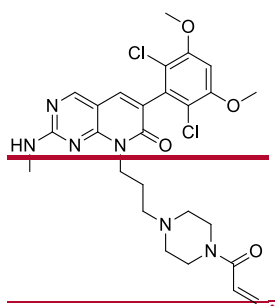


where:

both R are either hydrogen or chloro; and

15 ~~X is halo, phosphate, tosylate, or mesylate; or~~
a salt thereof.

23. A crystalline free base of a compound of formula:



24. ~~The crystalline free base according to claim 23, characterized by an X-ray powder diffraction (XRPD) pattern comprising a characteristic peak at about 22° 2Θ.~~

25. ~~The crystalline free base of claim 23, wherein the free base is in a substantially anhydrous form.~~

26. ~~The crystalline free base according to claim 23, wherein the free base is in a hydrate form.~~

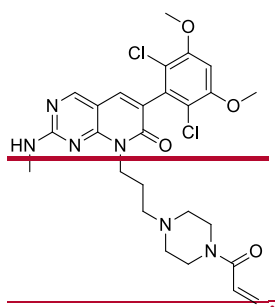
27. ~~The crystalline free base according to claim 26, characterized by an X-ray powder diffraction (XRPD) pattern comprising a characteristic peak at about 6° 2Θ.~~

28. ~~The crystalline free base according to claim 23, wherein the free base is in a solvate form.~~

29. ~~The crystalline free base according to claim 28 wherein the solvate is at least one of acetonitrile, acetone and dichloromethane.~~

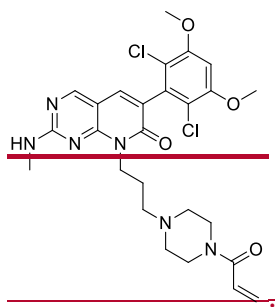
30. ~~The crystalline free base according to claim 28, characterized by an X-ray powder diffraction (XRPD) pattern comprising a characteristic peak at about 14° 2Θ.~~

31. ~~An amorphous form of the free base of a compound of formula:~~



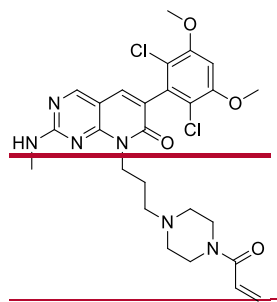
32. ~~The amorphous form of the free base according to claim 31, characterized by an X-ray powder diffraction (XRPD) pattern comprising a characteristic disordered halo at about 23° 2Θ.~~

33. ~~A crystalline hydrochloride salt of a compound of formula:~~



~~34. The crystalline hydrochloride salt according to claim 33, characterized by an X-ray powder diffraction (XRPD) pattern comprising a characteristic peak at about 11° 2θ.~~

~~35. A crystalline maleate salt of a compound of formula:~~

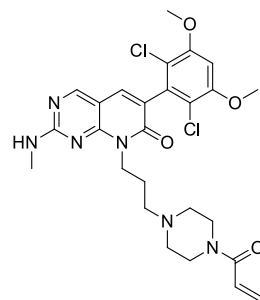


5 ~~36. The crystalline maleate salt according to claim 35, characterized by an X-ray powder diffraction (XRPD) pattern comprising a characteristic peak at about 22.5° 2θ.~~

~~37. A pharmaceutical composition comprising any of the crystalline free base, amorphous form of the free base, crystalline hydrochloride salt or crystalline maleate salt of any preceding claim, and further comprising a pharmaceutically acceptable carrier and/or excipient.~~

10 ~~38. A method of treating a disease mediated by aberrant activity of FGFR, in a subject in need thereof, comprising administering to the subject an effective amount of any of the crystalline free base, amorphous form of the free base, crystalline hydrochloride salt or crystalline maleate salt of any preceding claim, wherein the disease is selected from the group consisting of breast cancer, multiple myeloma, bladder cancer, non-muscle-invasive bladder~~
15 ~~cancer, endometrial cancer, gastric cancer, cervical cancer, rhabdomyosarcoma, lung cancer, squamous non-small cell lung cancer, cholangiocarcinoma, urothelial cancer, renal cell carcinoma, ovarian cancer, esophageal cancer, melanoma, colon cancer, liver cancer, hepatocellular carcinoma, head and neck squamous cell carcinoma, cholangiocarcinoma, glioma, cholangiocarcinoma, 8,11 myeloproliferative syndrome, myeloproliferative disorders involving~~
20 ~~FGFR translocations/fusions, alveolar rhabdomyosarcoma, malignant rhabdoid tumors, glioblastoma, muscle-invasive bladder or renal cancer and prostate cancers.~~

1. A crystalline hydrochloride salt or a crystalline maleate salt of a compound of formula:



, optionally wherein:

(i) the crystalline hydrochloride salt is characterized by an X-ray powder diffraction (XRPD) pattern comprising a characteristic peak at about $11^{\circ} 2\Theta$; or

(ii) the crystalline maleate salt is characterized by an X-ray powder diffraction (XRPD) pattern comprising a characteristic peak at about $22.5^{\circ} 2\Theta$.

2. A pharmaceutical composition comprising the crystalline hydrochloride salt or crystalline maleate salt of claim 1, and a pharmaceutically acceptable carrier and/or excipient.

3. Use of the crystalline hydrochloride salt or crystalline maleate salt of claim 1, in the manufacture of a medicament, for treating a disease mediated by aberrant activity of FGFR in a subject in need thereof, wherein the disease is selected from the group consisting of breast cancer, multiple myeloma, bladder cancer, non-muscle invasive bladder cancer, endometrial cancer, gastric cancer, cervical cancer, rhabdomyosarcoma, lung cancer, squamous non-small cell lung cancer, urothelial cancer, renal cell carcinoma, ovarian cancer, esophageal cancer, melanoma, colon cancer, liver cancer, hepatocellular carcinoma, head and neck squamous cell carcinoma, cholangiocarcinoma, glioma, 8,11 myeloproliferative syndrome, myeloproliferative disorders involving FGFR translocations/fusions, alveolar rhabdomyosarcoma, malignant rhabdoid tumors, glioblastoma, muscle invasive bladder, renal cancer, and prostate cancers.