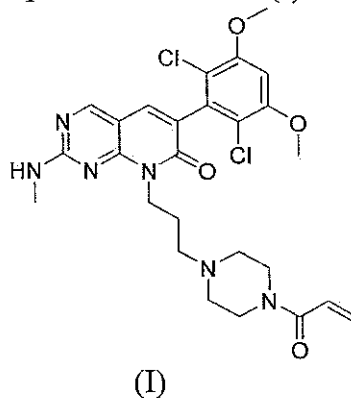


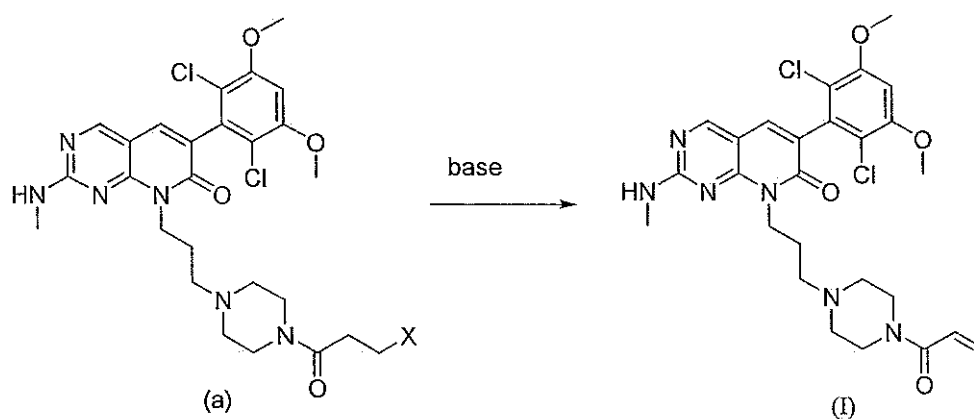
What is Claimed:

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



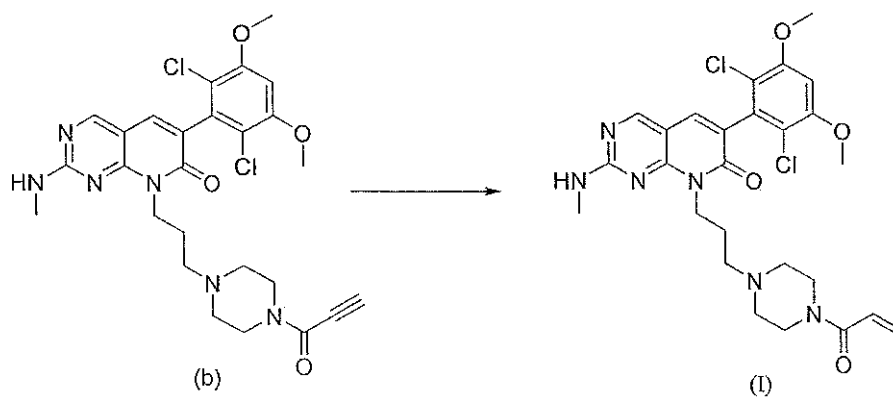
comprising:

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



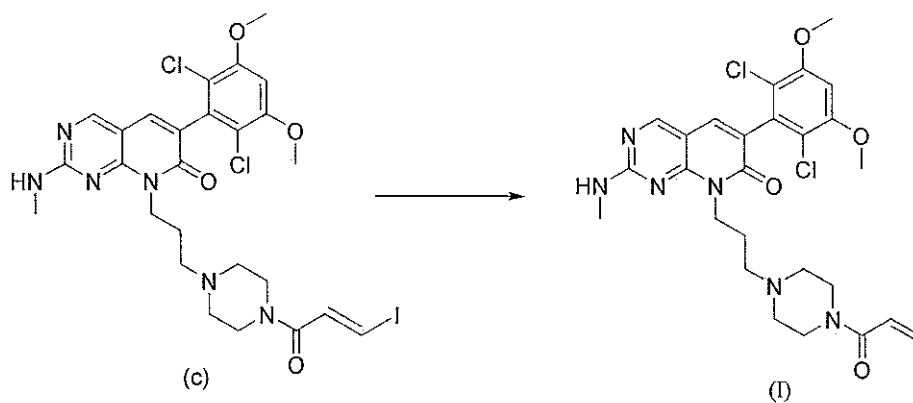
to provide the compound of formula (I); or

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



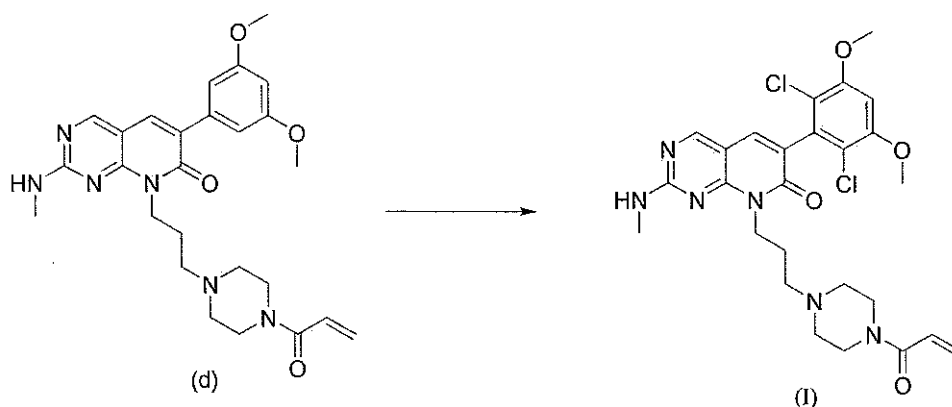
to provide the compound of formula (I); or

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



to provide the compound of formula (I); or

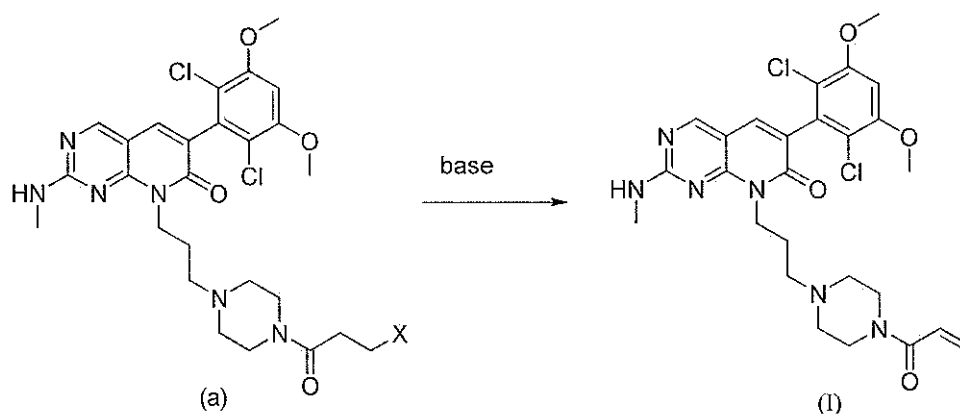
(D) chlorinating a compound of formula (d)



5

to provide the compound of formula (I).

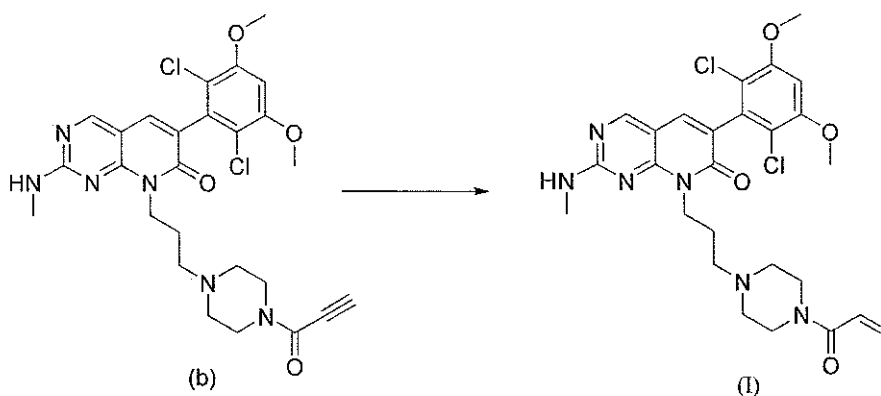
2. The process of Claim 1 wherein the process comprises treating the compound of formula (a) with a base



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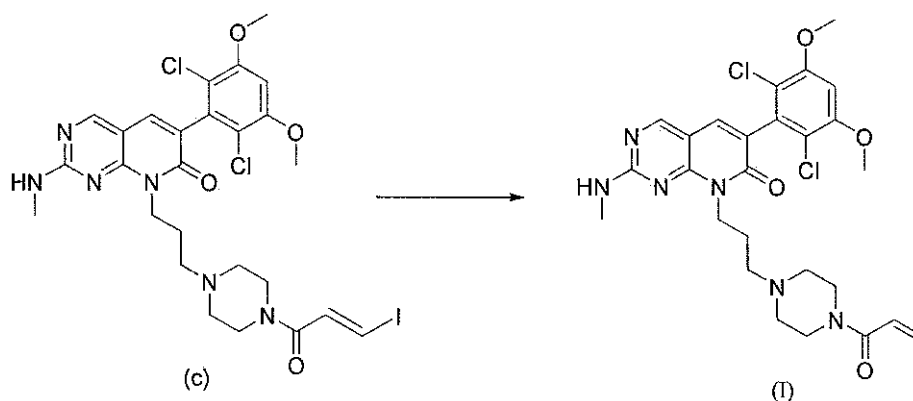
to provide the compound of formula (I).

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



to provide the compound of formula (I).

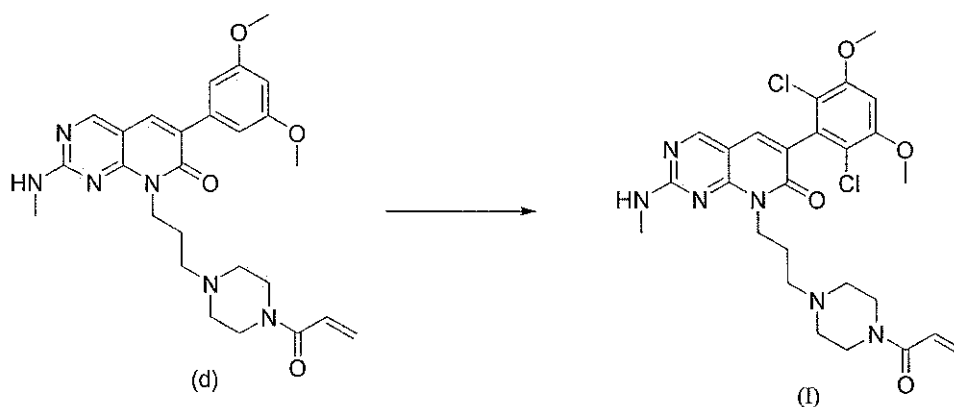
4. The process of Claim 1 wherein the process comprises treating a compound of formula (c) with a reducing agent



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to provide the compound of formula (I).

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



10

to provide the compound of formula (I).

6. The process of Claim 1 or 2 wherein:

(i) X is halo, phosphate, mesylate, tosylate, or 1,1,1-trifluoro-*N*-[(trifluoromethyl)sulfonate]; and/or

(ii) the reaction is carried out in an aprotic, polar organic solvent, preferably wherein the base is either an organic or an inorganic base.

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

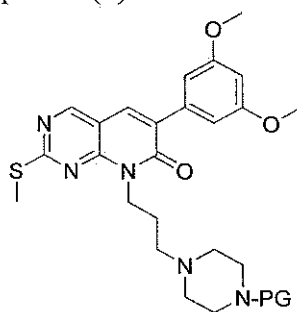
8. The process of Claim 1 or 4 where the reducing agent is sodium borohydride or i-

5 PrMgCl/THF/ and an organic or inorganic acid.

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

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.

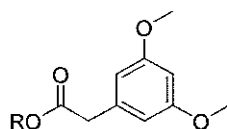
10 10. A process of preparing a compound (1):



(1)

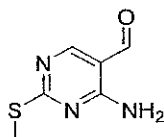
comprising:

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



(e)

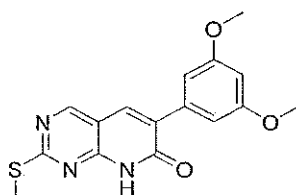
where R is alkyl; with a compound of formula (f):



(f)

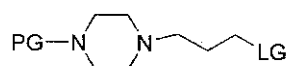
and

(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



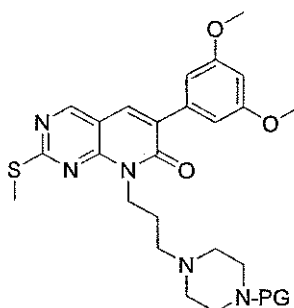
(h)

5 under alkylating conditions to provide a compound of formula (1), wherein PG in formula (1) and formula (h) is an amino protecting group, and LG in formula (h) is a leaving group under alkylating reaction conditions.

11. The process of Claim 10, wherein:

(i) Step G is carried out in the presence of a base, and in a polar organic solvent;

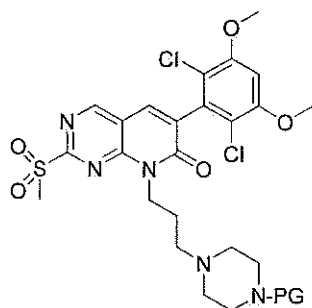
10 (ii) the process of Step H is carried out in the presence of a base and in a polar organic solvent; and/or the process further comprises reacting a compound of formula (1):



(1)

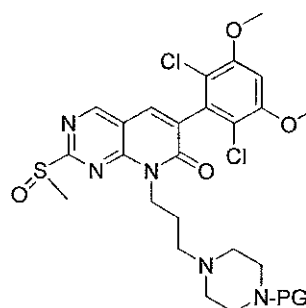
with a chlorinating agent to provide a compound of formula (2) and/or (3):

15



(2)

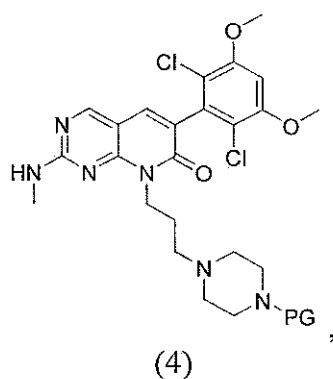
and/or



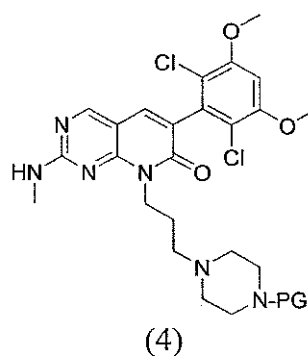
(3)

wherien PG is an amino protecting group, optionally wherein compound of formula (2) and/or

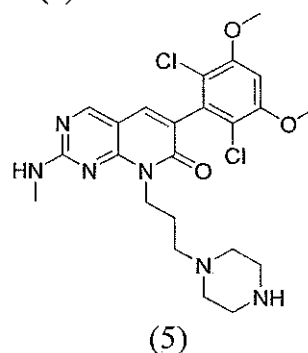
20 (3) is further treated with methylamine to give a compound of formula (4)



optionally further removing the amino protecting group “PG” of compound (4)

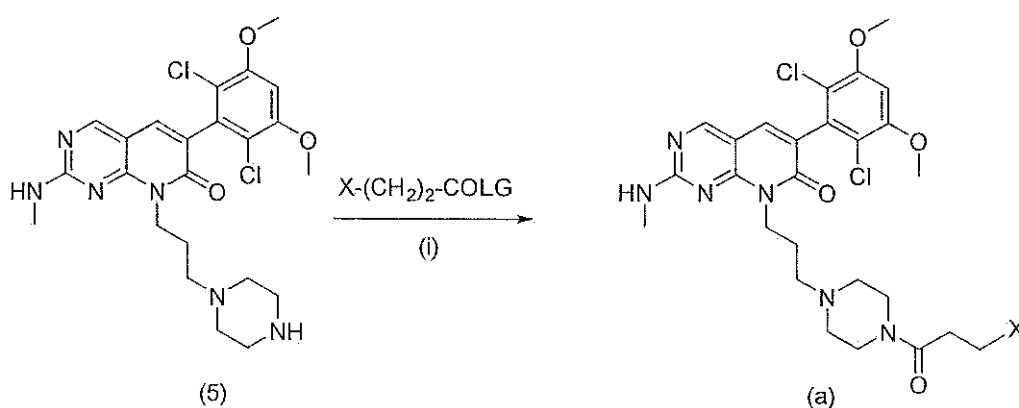


to give a compound of formula (5):



or a salt thereof,

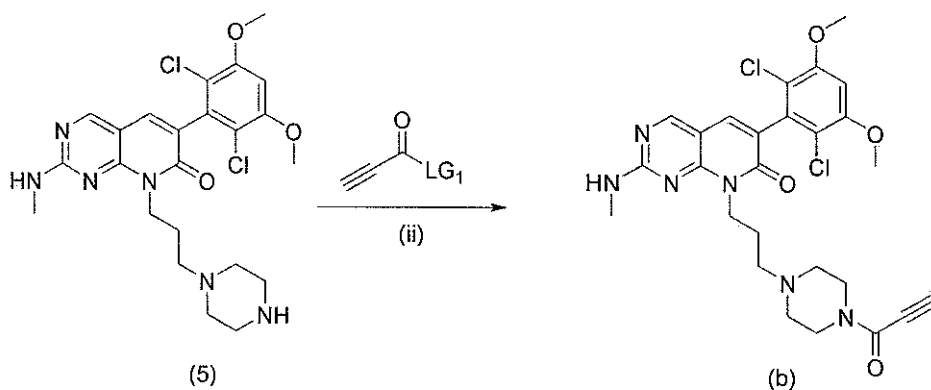
and optionally further comprising reacting a compound of formula (5) with either
(A) a compound of formula (i) where X is a leaving group under elimination reaction conditions
and LG is either a leaving group under acylation reaction conditions or a hydroxy



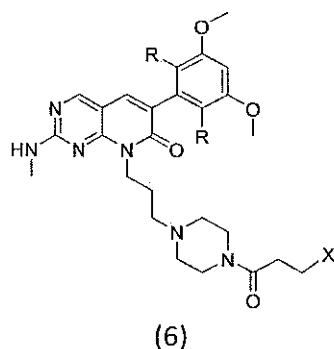
group to give a compound of formula (a); or

(B) 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)

5



12. An intermediate of formula (6):



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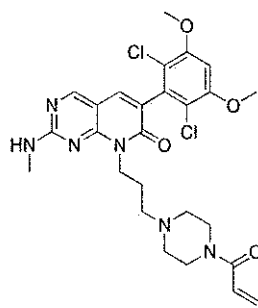
or a salt thereof, wherein:

both R are either hydrogen or chloro; and

X is halo, phosphate, tosylate, or mesylate;.

13. A crystalline free base, an amorphous free base, a crystalline hydrochloride salt or a

15 crystalline mesylate salt of a compound of formula:



, optionally wherein:

(i) the crystalline free base is characterized by an X-ray powder diffraction (XRPD) pattern comprising a characteristic peak at about 22° 2 Θ ;

(ii) the crystalline free base is in a substantially anhydrous form;

(iii) the crystalline free base is in a hydrate form characterized by an X-ray powder diffraction (XRPD) pattern comprising a characteristic peak at about $6^{\circ} 2\Theta$;

(iv) the crystalline free base is in a solvate form, preferably wherein the solvate is at least one of acetonitrile, acetone and dichloromethane, and/or wherein the crystalline free base is

5 characterized by an X-ray powder diffraction (XRPD) pattern comprising a characteristic peak at about $14^{\circ} 2\Theta$;

(v) the amorphous form of the free base is characterized by an X-ray powder diffraction (XRPD) pattern comprising a characteristic disordered halo at about $23^{\circ} 2\Theta$;

10 (vi) 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

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

14. A pharmaceutical composition comprising any of the crystalline free base, amorphous free base, crystalline hydrochloride salt or crystalline maleate salt of claim 13, and a
15 pharmaceutically acceptable carrier and/or excipient.

15. Use of the crystalline free base, amorphous free base, crystalline hydrochloride salt or crystalline maleate salt of claim 13, 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-
20 muscle invasive bladder 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,
25 myeloproliferative disorders involving FGFR translocations/fusions, alveolar rhabdomyosarcoma, malignant rhabdoid tumors, glioblastoma, muscle invasive bladder or renal cancer and prostate cancers.