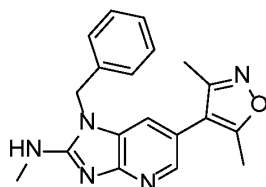


CLAIMS

What is claimed is:

1. A solid form of a Compound having the formula:



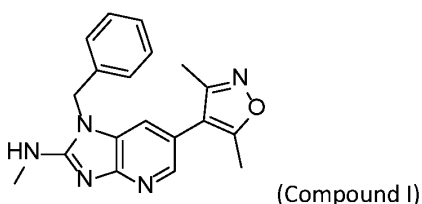
Compound I

wherein the solid form is crystalline.

2. The solid form of claim 1, which is an anhydrate.
3. The solid form of claim 1, wherein the solid form is Form VII.
4. The solid form of claim 3, having three or more characteristic XRPD peaks, in terms of 2-theta, at 7.2, 10.3, 11.2, 12.0, 13.8, 13.9, 15.2, 15.6, 16.5, 17.3, 20.7, 20.9, 21.6, and 22.5 degrees, wherein each peak is ± 0.2 degrees θ , as determined on a diffractometer using a Cu-K α radiation tube.
5. The solid form of claim 3, having six or more characteristic XRPD peaks, in terms of 2-theta, at 7.2, 10.3, 11.2, 12.0, 13.8, 13.9, 15.2, 15.6, 16.5, 17.3, 20.7, 20.9, 21.6, and 22.5 degrees, wherein each peak is ± 0.2 degrees θ , as determined on a diffractometer using a Cu-K α radiation tube.
6. The solid form of any one of claims 1-3, having an XRPD pattern substantially similar to that shown in FIG. 1.
7. The solid form of any one of claims 1-6, having a DSC thermogram pattern with an endothermic peak at a temperature of about 205 °C.
8. The solid form of any one of claims 1-7 having a DSC thermogram substantially similar to that shown in FIG. 2.
9. The solid form of any one of claims 1-8 having a TGA thermogram substantially similar to that shown in FIG. 3.
10. A pharmaceutical composition comprising the solid form of any one of claims 1-9 and at least one pharmaceutically acceptable carrier.
11. A method of treating a cancer, comprising administering to a subject in need of such treatment a therapeutically effective amount of the solid form of any one of claims 1-9 or the pharmaceutical composition of claim 10.
12. The method of claim 11, wherein the cancer is B-acute lymphocytic leukemia, Burkitt's lymphoma, diffuse large cell lymphoma, multiple myeloma, primary plasma cell

leukemia, lung cancer, bladder cancer, breast cancer, cervical cancer, colon cancer, gastric cancer, glioblastoma, prostate cancer, ovarian cancer, or neuroblastoma.

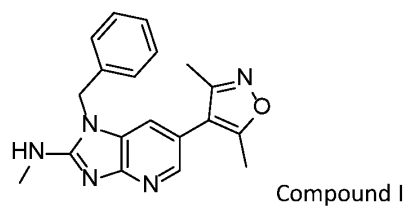
13. The method of claim 12, wherein the cancer is prostate cancer.
14. The method of claim 12, wherein the cancer is castration-resistant prostate cancer.
15. The method of claim 12, wherein the cancer is metastatic castration-resistant prostate cancer.
16. The method of claim 12, wherein the cancer is breast cancer.
17. The method of claim 12, wherein the cancer is triple-negative breast cancer.
18. The method of claim 12, wherein the cancer is estrogen-receptor positive breast cancer.
19. A method of treating an inflammatory disease, comprising administering to a patient in need of such treatment a therapeutically effective amount of the solid form of any one of claims 1-9.
20. A method of treating a cardiovascular disease, comprising administering to a patient in need of such treatment a therapeutically effective amount of the solid form of any one of claims 1-9.
21. The method of claim 11, wherein the subject is a human.
22. A process of preparing crystalline Compound I, Form VII:



comprising precipitating Form VII from a solution comprising Compound I and ethanol, t-butylmethylether (MTBE), or a mixture thereof.

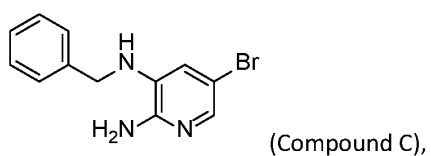
23. The process of claim 21, wherein the precipitation is carried out by
 - (1) cooling the ethanol solution of Compound I;
 - (2) adding seed crystals of Compound I, Form VII to the solution;
 - (3) stirring the mixture for about 10 h;
 - (4) cooling the mixture further and adding MTBE; and
 - (5) stirring for about 3-5 h to precipitate Compound I, Form VII.

24. A process of preparing Compound I

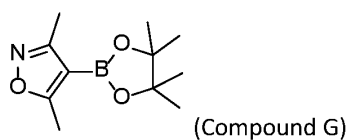


comprising steps (a)-(d):

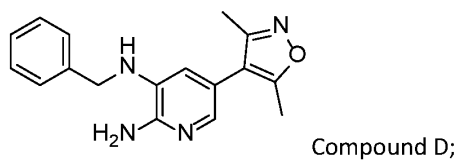
(a) reacting



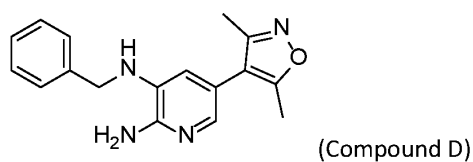
with Compound G:



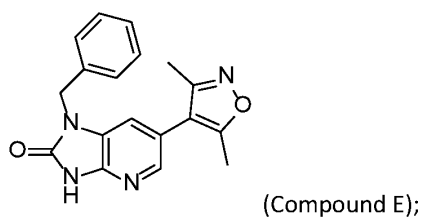
to produce Compound D:



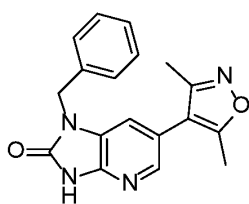
(b) reacting Compound D:



with a first reagent to produce Compound E:

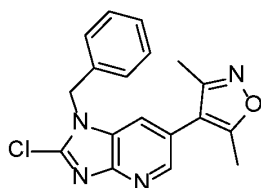


(c) reacting Compound E:



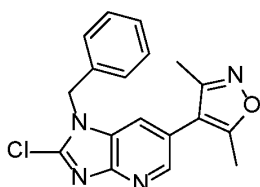
(Compound E)

with a chlorination agent to produce Compound F:



(Compound F); and

(d) reacting Compound F:

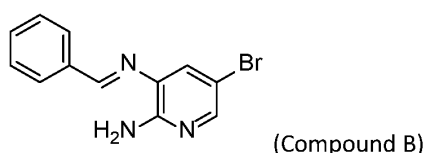


(Compound F)

with methylamine.

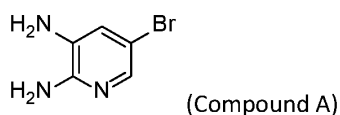
27. The process of claim 24, wherein step (a) is performed in the presence of a transition metal catalyst and a base.
28. The process of claim 25, wherein the transition metal catalyst is a palladium catalyst.
29. The process of claim 26, wherein the palladium catalyst is $\text{Pd}(\text{PPh}_3)_4$.
30. The process of claim 25, wherein the base is an alkali metal carbonate.
31. The process of claim 25, wherein the base is K_3PO_4 .
32. The process of claim 24, wherein the first reagent in step (b) is carbonyldiimidazole (CDI), and step (b) is performed in a solvent.
33. The process of claim 30, wherein the solvent is an aprotic solvent.
34. The process of claim 30, wherein the solvent is DMSO.
35. The process of claim 30, wherein step (b) comprises addition of water to the reaction mixture and precipitation of Compound E.
36. The process of claim 24, wherein step (c) is performed in the presence of a base.
37. The process of claim 34, wherein the chlorination agent is phosphoryl chloride (POCl_3).
38. The process of claim 34, wherein the base is N,N-diisopropylethylamine (DIPEA).
39. The process of claim 34, wherein 8-9 molar equivalents of POCl_3 and 2.5 molar equivalents of DIPEA are used relative to Compound E.

40. The process of claim 34, further comprising co-distillation with ethyl acetate prior to quenching the reaction with NaHCO_3 solution.
41. The process of claim 34, wherein Compound F is isolated by crystallization from an ethyl acetate / n-heptane mixture.
42. The process of claim 24, wherein step (d) is performed using methylamine 2 M in THF.
43. The process of claim 24, wherein step (d) is performed at 20-30 °C.
44. The process of claim 24, wherein step (d) further comprises a reaction work-up, comprising dissolving the crude product in an aqueous HCl solution and washing with a non-polar solvent, followed by neutralization with aqueous NaOH solution.
45. The process of claim 24, wherein step (d) further comprises removal of any remaining HCl, comprising dissolving the dried material in ethanol, treatment with a solution of sodium hydroxide in ethanol, followed by addition of water to precipitate the product.
46. The process of claim 24, wherein Compound C is prepared by
(e) reacting Compound B:



with NaBH_4 in a solvent.

47. The process of claim 45, where in the solvent is an alcohol.
48. The process of claim 45, wherein the solvent is ethanol.
49. The process of claim 45, wherein 0.6 molar equivalents of NaBH_4 is used relative to Compound B.
50. The process of claim 45, further comprising a work-up and isolation comprising adding an HCl solution to quench the reaction followed by addition of water to precipitate Compound C.
51. The process of claim 45, wherein Compound B is prepared by
(f) reacting Compound A:



with benzaldehyde in the presence of an acid.

52. The process of claim 50, wherein the acid is acetic acid.
53. The process of claim 50, further comprising a solvent, wherein the solvent is methanol.

54. The process of claim 50, further comprising adding NaHCO_3 solution to the reaction mixture after reaction completion to precipitate Compound B.