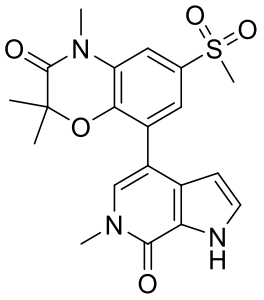
What is claimed is:

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



Compound 1

wherein the solid form is crystalline;
and wherein the solid form has Form I and has a characteristic XRPD peak, in terms of 2-theta, at about 12.7 degrees.

2. The solid form of claim 1 which is an anhydrate.

3. The solid form of claim 1, further having two or more characteristic XRPD peaks, in terms of 2-theta, selected from about 8.7, about 9.8, about 11.6, about 14.7, about 15.7, about 20.0, about 21.4, about 23.3, and about 27.1 degrees.

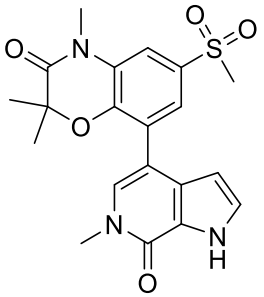
4. The solid form of claim 1 having an XRPD pattern substantially as shown in FIG. 1.

5. The solid form of claim 1 having a DSC thermogram characterized by an endothermic peak at a temperature of about 266 ºC.

6. The solid form of claim 1 having a DSC thermogram substantially as shown in FIG. 2.

7. The solid form of claim 1 having a TGA thermogram substantially as shown in FIG. 3.

8. A solid form of a compound having the formula:



Compound 1

wherein the solid form is crystalline;

and wherein the solid form has Form II and has a characteristic XRPD peak, in terms of 2-theta, at about 17.0 degrees.

9. The solid form of claim 8, further having two or more characteristic XRPD peaks, in terms of 2-theta, selected from about 6.7, about 9.5, about 10.5, about 14.8, about 16.2, about 18.8, and about 19.3 degrees.

10. The solid form of claim 8 having an XRPD pattern substantially as shown in FIG. 4.

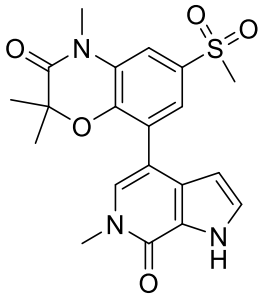
11. The solid form of claim 8 having a DSC thermogram characterized by an endothermic peak at a temperature of about 268 ºC.

12. The solid form of claim 8 having a DSC thermogram substantially as shown in FIG. 5.

13. The solid form of claim 8 having a TGA thermogram substantially as shown in FIG. 6.

14. A pharmaceutical composition comprising a solid form of claim 1 and at least one pharmaceutically acceptable carrier.

15. A process of preparing Form I of Compound 1:



Compound 1

comprising precipitating Form I from a solution comprising Compound 1 and a solvent.

16. The process of claim 15, wherein the solvent comprises methanol, acetone, n-heptane, or a mixture thereof.

17. The process of claim 15, wherein the precipitating is carried out by (1) reducing the temperature of the solution of Compound 1, (2) concentrating the solution of Compound 1, (3) adding an anti-solvent to the solution of Compound 1, or (4) any combination thereof.

18. The process of claim 15, wherein the preparation of Form I comprises:

(ia) heating the solution of Compound 1 to a temperature of about 50° C to about 60° C;

(iia) reducing the volume of the solution of Compound 1 at the temperature of about 50° C to about 60° C to form a reduced-volume solution of Compound 1;

(iiia) adding an anti-solvent to the reduced-volume solution of Compound 1 while maintaining the temperature at about 55° C to about 65° C to form a warm solution of Compound 1; and

(iva) cooling the warm solution of Compound 1 to a temperature of about 15° C to about 30° C to precipitate Form I.

19. The process of claim 15, wherein the preparation of Form I comprises:

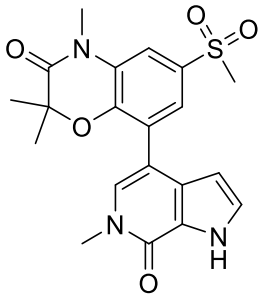
(ib) heating the solution of Compound 1, wherein the solution comprises methanol and acetone as solvent, to a temperature of about 50° C to about 60° C;

(iib) reducing the volume of the solution of Compound 1 at the temperature of about 50° C to about 60° C to form a reduced-volume solution of Compound 1;

(iiib) adding n-heptane to the reduced-volume solution of Compound 1 while maintaining the temperature at about 55° C to about 65° C to form a warm solution of Compound 1; and

(ivb) cooling the warm solution of Compound 1 to a temperature of about 15° C to about 30° C to precipitate Form I.

20. A process of preparing Form II of Compound 1:



Compound 1

comprising precipitating Form II from a solution comprising Compound I and a solvent.

21. The process of claim 20, wherein the solvent comprises tetrahydrofuran (THF), acetone, n-heptane, or a mixture thereof.

22. The process of claim 20, wherein the precipitating is carried out by (1) reducing the temperature of the solution of Compound 1, (2) concentrating the solution of Compound 1, (3) adding an anti-solvent to the solution of Compound 1, or (4) any combination thereof.

23. The process of claim 20, wherein the preparation of Form II comprises:

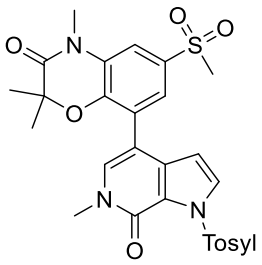
(ic) heating the solution of Compound 1 to a temperature of about 50 ºC to about 60 ºC;

(iic) reducing the volume of the solution of Compound 1 at the temperature of about 50 ºC to about 60 ºC to form a reduced-volume solution of Compound 1;

(iiic) adding an anti-solvent to the reduced-volume solution of Compound 1 while maintaining the temperature at about 55 ºC to about 65 ºC to form a warm solution of Compound 1; and

(ivc) cooling the warm solution of Compound 1 to a temperature of about 15 ºC to about 30 ºC to precipitate Form II.

24. The process of claim 15 further comprising preparing Compound 1, or a salt thereof, by a process comprising reacting Compound 8:



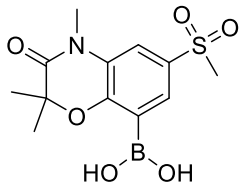
Compound 8

with B1, wherein B1 is a base.

25. The process of claim 24, wherein B1 is an alkali metal hydroxide base.

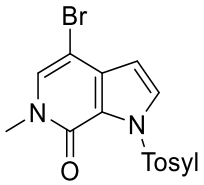
26. The process of claim 24, wherein the reacting of Compound 8 with B1 is carried out in a first solvent.

27. The process of claim 24 further comprising preparing Compound 8 by a process comprising reacting Compound 7:



Compound 7

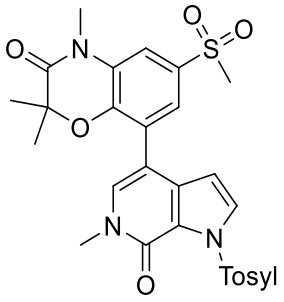
with Compound 9:



Compound 9

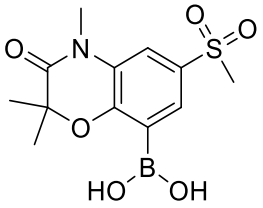
in the presence of P2 and B2, wherein P2 is a transition metal catalyst and B2 is a base.

28. A process of preparing Compound 8:



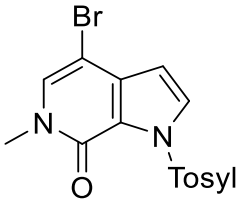
Compound 8

comprising reacting Compound 7:



Compound 7

with Compound 9:



Compound 9

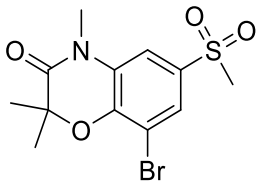
in the presence of P2 and B2, wherein P2 is a transition metal catalyst and B2 is a base.

29. The process of claim 27, wherein P2 is a palladium catalyst.

30. The process of claim 27, wherein B2 is an alkali metal bicarbonate base.

31. The process of claim 27, wherein the reacting of Compound 7 with Compound 9 is carried out in a second solvent.

32. The process of claim 27 further comprising preparing Compound 7 by a process comprising reacting Compound 6:



Compound 6

with 4,4,4',4',5,5,5',5'-octamethyl-2,2'-bi(1,3,2-dioxaborolane) in the presence of P3 and B3, wherein P3 is a transition metal catalyst and B3 is a base.

33. The solid form of claim 1, further having one or more characteristic XRPD peaks, in terms of 2-theta, selected from about 8.7, about 9.8, about 21.4, and about 23.3 degrees.

34. The solid form of claim 1, further having one or more characteristic XRPD peaks, in terms of 2-theta, selected from about 8.7, about 9.8, about 11.6, about 14.7, about 15.7, about 20.0, about 21.4, about 23.3, and about 27.1 degrees.

35. The solid form of claim 1, further having three or more characteristic XRPD peaks, in terms of 2-theta, selected from about 8.7, about 9.8, about 11.6, about 14.7, about 15.7, about 20.0, about 21.4, about 23.3, and about 27.1 degrees.

36. The solid form of claim 8, further having one or more characteristic XRPD peaks, in terms of 2-theta, selected from about 6.7, about 9.5, about 10.5, about 14.8, about 16.2, about 18.8, and about 19.3 degrees.

37. The solid form of claim 8, further having three or more characteristic XRPD peaks, in terms of 2-theta, selected from about 6.7, about 9.5, about 10.5, about 14.8, about 16.2, about 18.8, and about 19.3 degrees.

38. A pharmaceutical composition comprising a solid form of claim 8 and at least one pharmaceutically acceptable carrier.