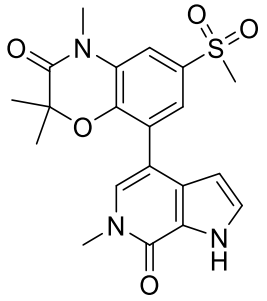
What is claimed is:

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



Compound 1

wherein the solid form is crystalline;

and wherein the solid form is selected from:

Form Ia, having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 8.8, 10.0, 11.7, 12.8, 13.5, 20.0, 21.5, 22.6, and 23.3 degrees;

Form III, having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 7.8, 12.4, 13.1, 15.2, 15.5, 16.9, 17.5, and 20.3 degrees;

Form IV, having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 11.2, 16.3, 18.7, and 22.1 degrees;

Form V, having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 8.2, 8.5, 14.1, 16.3, 17.1, 18.9, 19.8, 21.8, and 22.7 degrees;

Form Va, having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 8.7, 16.5, 17.3, 19.9, and 21.6 degrees;

Form VI, having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 8.5, 9.6, 11.4, 12.1, 13.5, 14.5, 15.2, 17.1, 17.7, 18.1, 19.2, and 20.7 degrees;

Form VII, having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 9.9, 12.2, 14.8, 15.7, 17.0, 17.5, and 18.8 degrees;

Form VIII, having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 8.1, 8.5, 16.2, 16.6, 17.0, 17.5, 18.0, 18.9, 19.6, and 20.1 degrees;

Form IX, having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 8.6, 9.1, 11.4, 13.4, 15.2, 18.2, 22.1, 22.8, and 23.9 degrees;

Form X, having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 14.9, 15.3, 15.8, 17.0, 17.7, 18.3, and 19.7 degrees;

Form XI, having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 8.9, 12.8, 18.0 21.5, 22.6, and 23.3 degrees;

Form XII, having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 5.6, 11.7, 13.8, 14.5, 16.9, 17.7, 18.7, 23.5, 24.6, 34.3, 44.2, and 44.6 degrees;

Form XIII, having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 5.7, 8.6, 9.8, 11.8, 12.6, 13.4, 14.1, 14.8, 16.6, and 19.1 degrees;

Form XIV, having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 4.0, 11.2, 11.9, 14.1, 14.8, and 15.9 degrees; and

Form XV having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 7.4, 9.6, 12.4, 13.4, 15.5, 16.9, 17.7, 19.0, 19.5, 20.6, and 22.5 degrees.

2. The solid form of claim 1, wherein the solid form has Form Ia having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 8.8, 10.0, 11.7, 12.8, 13.5, 20.0, 21.5, 22.6, and 23.3 degrees.

3. The solid form of claim 1, wherein the solid form has Form III having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 7.8, 12.4, 13.1, 15.2, 15.5, 16.9, 17.5, and 20.3 degrees.

4. The solid form of claim 1, wherein the solid form has Form IV having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 11.2, 16.3, 18.7, and 22.1 degrees.

5. The solid form of claim 1, wherein the solid form has Form V having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 8.2, 8.5, 14.1, 16.3, 17.1, 18.9, 19.8, 21.8, and 22.7 degrees.

6. The solid form of claim 1, wherein the solid form has Form Va having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 8.7, 16.5, 17.3, 19.9, and 21.6 degrees.

7. The solid form of claim 1, wherein the solid form has Form VI having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 8.5, 9.6, 11.4, 12.1, 13.5, 14.5, 15.2, 17.1, 17.7, 18.1, 19.2, and 20.7 degrees.

8. The solid form of claim 1, wherein the solid form has Form VII having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 9.9, 12.2, 14.8, 15.7, 17.0, 17.5, and 18.8 degrees.

9. The solid form of claim 1, wherein the solid form has Form VIII having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 8.1, 8.5, 16.2, 16.6, 17.0, 17.5, 18.0, 18.9, 19.6, and 20.1 degrees.

10. The solid form of claim 1, wherein the solid form has Form IX having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 8.6, 9.1, 11.4, 13.4, 15.2, 18.2, 22.1, 22.8, and 23.9 degrees.

11. The solid form of claim 1, wherein the solid form has Form X having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 14.9, 15.3, 15.8, 17.0, 17.7, 18.3, and 19.7 degrees.

12. The solid form of claim 1, wherein the solid form has Form XI having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 8.9, 12.8, 18.0 21.5, 22.6, and 23.3 degrees.

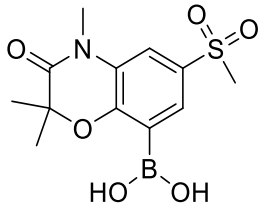
13. The solid form of claim 1, wherein the solid form has Form XII having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 5.6, 11.7, 13.8, 14.5, 16.9, 17.7, 18.7, 23.5, 24.6, 34.3, 44.2, and 44.6 degrees.

14. The solid form of claim 1, wherein the solid form has Form XIII having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 5.7, 8.6, 9.8, 11.8, 12.6, 13.4, 14.1, 14.8, 16.6, and 19.1 degrees.

15. The solid form of claim 1, wherein the solid form has Form XIV having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 4.0, 11.2, 11.9, 14.1, 14.8, and 15.9 degrees.

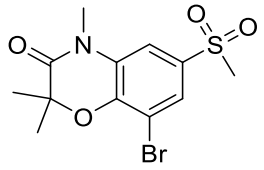
16. The solid form of claim 1, wherein the solid form has Form XV having three or more characteristic XRPD peaks, in terms of 2-theta (± 0.2°), selected from 7.4, 9.6, 12.4, 13.4, 15.5, 16.9, 17.7, 19.0, 19.5, 20.6, and 22.5 degrees.

17. A process of preparing Compound 7:



Compound 7

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.

18. The process of claim 17, wherein P3 is a palladium catalyst.

19. The process of claim 18, wherein the palladium catalyst is [1,1′-bis(diphenylphosphino)ferrocene]dichloropalladium(II).

20. The process of claim 18, wherein the palladium catalyst is selected from [1,1′-bis(diphenylphosphino)ferrocene]dichloropalladium(II), dichloro(bis{di-*tert*-butyl[4-(dimethylamino)phenyl]-phosphoranyl})palladium (Pd-132), $Pd(PPh_3)_4$, and tetrakis(tri(*o*-tolyl)phosphine)palladium(0).

21. The process of claim 17, wherein B3 is an alkali metal acetate base.

22. The process of claim 21, wherein the alkali metal acetate base is potassium acetate.

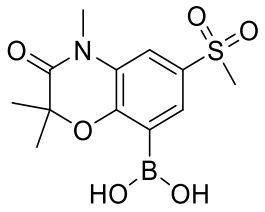
23. The process of claim 17, wherein the reacting of Compound 6 with 4,4,4',4',5,5,5',5'-octamethyl-2,2'-bi(1,3,2-dioxaborolane) is carried out in a third solvent.

24. The process of claim 17, wherein the reacting of Compound 6 with 4,4,4',4',5,5,5',5'-octamethyl-2,2'-bi(1,3,2-dioxaborolane) is carried out at a temperature of about 70 ºC to about 90 ºC.

25. The process of claim 17, wherein about 0.01 to about 0.05 equivalent of P3 is used based on 1 equivalent of Compound 6.

26. The process of claim 17, wherein about 3 to about 3.5 equivalent of B3 are used based on 1 equivalent of Compound 6.

27. A compound which is



Compound 7

or a salt thereof.

28. The compound of claim 27, wherein Compound 7 is a salt thereof.