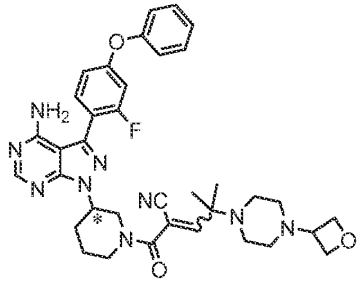
What is claimed is:

1. A solid form of Compound (**I**)



, characterized by a mean bulk density greater than 0.3 g/cc.

2. The solid form according to claim 1, characterized by a mean tapped density between 0.7 g/cc and 0.9 g/cc.

3. The solid form according to claim 1 or 2, characterized by a Hausner ratio less than or equal to 1.2.

4. The solid form according to any one of claims 1 to 3, characterized by a wet particle size distribution having a D_{10} value greater than 70 μm.

5. The solid form according to any one of claims 1 to 4, characterized by a wet particle size distribution having a D_{50} value greater than 200 μm.

6. The solid form according to any one of claims 1 to 5, characterized by a wet particle size distribution having a D_{90} value greater than 400 μm.

7. The solid form according to any one of claims 1 to 6, characterized by a mass loss of less than 5 wt. % between 20 °C and 240 °C by thermogravimetric analysis.

8. The solid form according to any one of claims 1 to 7, wherein the total level of residual solvents in the solid form is less than 1%.

9. The solid form according to any one of claims 1 to 8, characterized by a glass transition temperature (T_g) greater than 90 °C at 0% relative humidity.

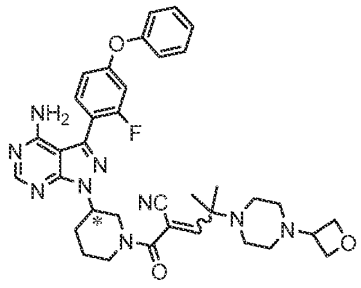
10. The solid form according to any one of claims 1 to 9, wherein:
the residual methanol level is less than 3000 ppm;
the residual isopropyl acetate level is less than 5000 ppm; and/or
the residual heptane level is less than 5000 ppm.

11. The solid form according to any one of claims 1 to 10, wherein:
the residual methanol level is less than 500 ppm;
the residual isopropyl acetate level is less than 4000 ppm; and/or
the residual heptane level is less than 500 ppm.

12. The solid form according to any one of claims 1 to 11, wherein the residual dichloromethane level is less than 1500 ppm.

13. The solid form according to any one of claims 1 to 12, wherein the solid form is substantially amorphous.

14. A solid form of Compound (**I**)



, characterized by a wet particle size distribution having a D_{10} value less than 10 μm.

15. The solid form according to claim 14, characterized by a wet particle size distribution having a D_{10} value between 5 μm and 6 μm or a D_{10} value between 1 and 2 μm.

16. The solid form according to claim 14 or 15, characterized by a wet particle size distribution having a D_{50} value less than 100 μm.

17. The solid form according to any one of claims 14 to 16, characterized by a wet particle size distribution having a D_{90} value less than 200 μm.

18. The solid form according to any one of claims 14 to 17, characterized by a mean bulk density less than 0.3 g/cc.

19. The solid form according to any one of claims 14 to 18, characterized by a mean tapped density less than 0.3 g/cc.

20. The solid form according to any one of claims 14 to 19, characterized by a mass loss of less than 5 wt. % between 20 °C and 240 °C by thermogravimetric analysis.

21. The solid form according to any one of claims 14 to 20, wherein the total level of residual solvents in the solid form is less than 1%.

22. The solid form according to any one of claims 14 to 21, characterized by a glass transition temperature (T_g) greater than 90 °C at 0% relative humidity.

23. The solid form according to any one of claims 14 to 22, wherein:
the residual methanol level is less than 3000 ppm;
the residual isopropyl acetate level is less than 5000 ppm; and/or
the residual heptane level is less than 5000 ppm.

24. The solid form according to any one of claims 14 to 23, wherein:
the residual methanol level is less than 500 ppm;
the residual isopropyl acetate level is less than 4000 ppm; and/or
the residual heptane level is less than 500 ppm.

25. The solid form according to any one of claims 14 to 24, wherein the residual dichloromethane level is less than 1500 ppm.

26. The solid form according to any one of claims 14 to 25, wherein the solid form is substantially amorphous.

27. A process for preparing a solid form of Compound (**I**) comprising:

washing a solution comprising Compound (**I**) and an organic solvent with an aqueous solution of a weak organic acid having a pKa less than or equal to 7 to create a first solution comprising a first organic layer and a first aqueous layer; and

removing the first aqueous layer, leaving behind the first organic layer comprising Compound (**I**).

28. The process according to claim 27, further comprising:

adding a strong acid to the first organic layer; and

concentrating the first organic layer by removing the organic solvent to provide a residue comprising Compound (**I**).

29. The process according to claim 27 or 28, further comprising washing the residue comprising Compound (**I**) with water or an aqueous salt solution.

30. The process according to claim 29, further comprising:

adding a water-immiscible organic solvent to provide a second organic layer, and a second aqueous layer comprising Compound (**I**); and

removing the second organic layer.

31. The process according to claim 29, wherein washing the residue comprising Compound (**I**) with water or an aqueous salt solution is repeated 1 to 3 times.

32. The process according to any one of claims 28 to 31, further comprising adjusting the pH of the first or second aqueous layer to a value between 1 and 5 by adding an aqueous base.

33. The process according to claim 32, further comprising determining a level of residual weak organic acid having a pKa less than or equal to 7 in the first or second aqueous layer, and adjusting the level of the weak organic acid having a pKa less than or equal to 7 to 0 wt. % to 8 wt. %.

34. The process according to claim 33, further comprising adding an aqueous base to the first or second aqueous layer to obtain a pH between 8 and 11 and allowing a precipitate comprising Compound (**I**) to form.

35. The process according to claim 34, further comprising isolating the precipitate comprising Compound (**I**) by filtering, and washing the precipitate comprising Compound (**I**) with water.

36. The process according to claim 35, further comprising drying the filtered and washed precipitate comprising Compound (**I**) to provide a solid form of Compound (**I**).

37. The process according to claim 35, further comprising slurrying the isolated precipitate with water and filtering to provide a solid form of Compound (**I**).

38. A process for preparing a solid form of Compound (**I**) comprising:

dissolving a crystalline form of Compound (**I**) in a solution comprising a water-immiscible organic solvent and brine;

adding one equivalent of a strong acid to create an aqueous layer and an organic layer;

removing the organic layer;

concentrating the aqueous layer;

adding an aqueous base to adjust the pH to a value between 8 and 11 to obtain a precipitate of a solid form of Compound (**I**);

isolating the precipitate of the solid form of Compound (**I**) by filtering;

rinsing the precipitate with water; and

drying the precipitate to obtain a solid form of Compound (**I**).

39. The process according to any one of claims 27 to 38, further comprising micronizing particles of Compound (**I**).

40. A process for preparing an amorphous form of Compound (**I**) comprising:

washing a solution of Compound (**I**) with a first aqueous acidic solution to create a first solution comprising a first organic layer and a first aqueous layer, wherein the solution of Compound (**I**) comprises a first organic solvent;

removing the first aqueous layer; and

performing a solvent exchange from the first organic solvent to a second organic solvent.

41. The process according to claim 40, further comprising:

washing the first organic layer with a second aqueous acidic solution to create a second solution comprising a second organic layer and a second aqueous layer, wherein the second aqueous layer comprises Compound (**I**); and

removing the second organic layer.

42. The process according to claim 41, further comprising:

adding a first base to the second aqueous layer to create a third solution comprising a third organic layer and a third aqueous layer, wherein the third organic layer comprises Compound (**I**);

extracting the third aqueous layer using a third organic solvent; and

concentrating the third organic layer.

43. The process according to claim 42, further comprising adding an antisolvent to the third organic layer to create a precipitate comprising Compound (**I**).

44. The process according to claim 43, further comprising isolating the precipitate comprising Compound (**I**).

45. The process according to claim 44, further comprising:

dissolving the precipitate comprising Compound (**I**) in a fourth organic solvent to create a fourth solution; and

spray drying the fourth solution to obtain a solid form of Compound (**I**).

46. The process according to claim 45, further comprising micronizing the solid form of Compound (**I**).

47. A pharmaceutical composition comprising:

a solid form of Compound (**I**) according to any one of claims 1 to 26; and

at least one pharmaceutically acceptable excipient.

48. A method of inhibiting Bruton's tyrosine kinase (BTK) in a mammal in need of such BTK inhibition comprising administering to the mammal a therapeutically effective amount of a solid form of Compound (**I**) according to any one of claims 1 to 26.

49. A method of treating pemphigus vulgaris or pemphigus foliaceus in a mammal in need thereof comprising administering to the mammal a therapeutically effective amount of a solid form of Compound (**I**) according to any one of claims 1 to 26.

50. A method of treating immune thrombocytopenia in a mammal in need thereof comprising administering to the mammal a therapeutically effective amount of a solid form of Compound (**I**) according any one of claims 1 to 26.