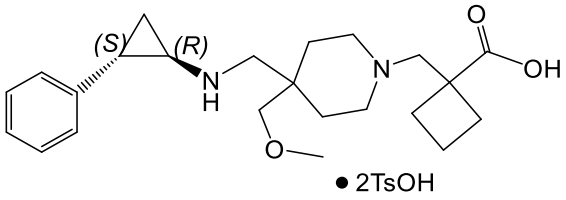
WHAT IS CLAIMED IS:

1. A pharmaceutical formulation in solid oral dosage form comprising:

(a) an inhibitor of LSD1 which is Compound 1 di-tosylate salt of the formula:



or a solvate or hydrate thereof, and

(b) an organic acid.

2. The pharmaceutical formulation of claim 1, further comprising a diluent.

3. The pharmaceutical formulation of claim 1 or claim 2, wherein the organic acid is fumaric acid.

4. The pharmaceutical formulation of claim 1 or claim 2, wherein the organic acid is citric acid.

5. The pharmaceutical formulation of claim 3, comprising 1 wt% to 50 wt% of fumaric acid.

6. The pharmaceutical formulation of claim 3, comprising 1 wt% to 15 wt% of fumaric acid.

7. The pharmaceutical formulation of claim 3, comprising 5 wt% to 15 wt% of fumaric acid.

8. The pharmaceutical formulation of claim 3, comprising 9 wt% to 11 wt% of fumaric acid.

9. The pharmaceutical formulation of claim 3, comprising 10 wt% of fumaric acid.

10. The pharmaceutical formulation of any one of claims 1-9, comprising 1 wt% to 5 wt% of the LSD1 inhibitor.

11. The pharmaceutical formulation of any one of claims 1-9, comprising 2 wt% to 4 wt% of the LSD1 inhibitor.

12. The pharmaceutical formulation of any one of claims 1-9, comprising 3 wt% of the LSD1 inhibitor.

13. The pharmaceutical formulation of any one of claim 2-12, wherein the diluent is lactose or mannitol.

14. The pharmaceutical formulation of claim 13, wherein the lactose is lactose monohydrate or lactose-316 Fast Flo®.

15. The pharmaceutical formulation of claim 14, comprising 80 wt% to 97 wt% of lactose monohydrate.

16. The pharmaceutical formulation of claim 14, comprising 85 wt% to 97 wt% of lactose monohydrate.

17. The pharmaceutical formulation of any one of claims 1-16 further comprising a lubricant, glidant, or both.

18. The pharmaceutical formulation of claim 17, wherein the lubricant is sodium stearyl fumarate or stearic acid.

19. The pharmaceutical formulation of claim 18, comprising 1 wt% to 5 wt% of sodium stearyl fumarate.

20. The pharmaceutical formulation of claim 18, comprising 2 wt% of sodium stearyl fumarate.

21. The pharmaceutical formulation of claim 18, comprising 1 wt% to 5 wt% of stearic acid.

22. The pharmaceutical formulation of claim 18, comprising 2 wt% of stearic acid.

23. The pharmaceutical formulation of claim 17, wherein the glidant is colloidal silica.

24. The pharmaceutical formulation of claim 1, further comprising lactose or mannitol, or a solvate or hydrate thereof; wherein the organic acid is fumaric acid.

25. The pharmaceutical formulation of claim 24, wherein:

(a) said Compound 1 di-tosylate salt, or a solvate of hydrate thereof, is 1 wt% to 5 wt% of said formulation;

(b) said fumaric acid is 1 wt% to 15 wt% of said formulation; and

(c) said lactose, or a solvate or hydrate thereof, is 80 wt% to 97 wt% of said formulation.

26. The pharmaceutical formulation of claim 24 or claim 25 further comprising sodium stearyl fumarate or stearic acid.

27. The pharmaceutical formulation of claim 26, wherein:

(a) said Compound 1 di-tosylate salt, or a solvate of hydrate thereof, is 1 wt% to 5 wt% of said formulation;

(b) said fumaric acid is 1 wt% to 15 wt% of said formulation;

(c) said lactose, or a solvate or hydrate thereof, is lactose monohydrate and is 80 wt% to 97 wt% of said formulation; and

(d) said sodium stearyl fumarate is 1 wt% to 5 wt% of said formulation.

28. The pharmaceutical formulation of claim 16, wherein:

(a) said Compound 1 di-tosylate salt, or a solvate of hydrate thereof, is 1 wt% to 5 wt% of said formulation;

(b) said fumaric acid is 1 wt% to 15 wt% of said formulation;

(c) said lactose, or a solvate or hydrate thereof, is lactose monohydrate and is 80 wt% to 97 wt% of said formulation; and

(d) said stearic acid is 1 wt% to 5 wt% of said formulation.

29. The pharmaceutical formulation of any one of claims 1-28, further comprising a disintegrant.

30. The pharmaceutical formulation of claim 29, wherein the disintegrant is croscarmellose sodium, sodium starch glycolate or crospovidone.

31. The pharmaceutical formulation of any one of claims 1-30, wherein the Compound 1 di-tosylate salt, or hydrate or solvate thereof, is in crystalline form.

32. The pharmaceutical formulation of claim 31, wherein the crystalline form comprises Form I or Form HI.

33. The pharmaceutical formulation of any one of claims 1-32, wherein the dosage form is a tablet or capsule.

34. Use of a pharmaceutical formulation of any one of claims 1-33 in the manufacture of a medicament for the treatment of a disease, wherein said disease is cancer.

35. Use of a pharmaceutical formulation of any one of claims 1-33 in the manufacture of a medicament for the treatment of a disease, wherein said disease is a viral disease or beta-globinopathy.

36. The use of claim 34, wherein said cancer is selected from hematological cancers, sarcomas, lung cancers, gastrointestinal cancers, genitourinary tract cancers, liver cancers, bone cancers, nervous system cancers, gynecological cancers, and skin cancers.

37. The use of claim 36, wherein the cancer is hematological cancer and said hematological cancer is selected from acute lymphoblastic leukemia (ALL), acute myelogenous leukemia (AML), acute promyelocytic leukemia (APL), chronic lymphocytic leukemia (CLL), chronic myelogenous leukemia (CML), diffuse large B-cell lymphoma (DLBCL), mantle cell lymphoma, non-Hodgkin lymphoma, Hodgkin lymphoma, primary myelofibrosis (PMF), polycythemia vera (PV), essential thrombocytosis (ET), myelodysplasia syndrome (MDS), and multiple myeloma.

38. A method for preparing a pharmaceutical formulation suitable for oral administration comprising 1-{[4-(methoxymethyl)-4-({[(1R,2S)-2-phenylcyclopropyl]amino}methyl)piperidin-1-yl]methyl}cyclobutanecarboxylic acid di-tosylate salt, said method comprising blending 1-{[4-(methoxymethyl)-4-({[(1R,2S)-2-

phenylcyclopropyl]amino}methyl)piperidin-1-yl]methyl}cyclobutanecarboxylic acid di-tosylate salt, fumaric acid and one or more portions of lactose monohydrate to form the pharmaceutical formulation suitable for oral administration.

39. The method of claim 38, said method comprising:

i) blending 1-{[4-(methoxymethyl)-4-({[(1R,2S)-2-phenylcyclopropyl]amino}methyl)piperidin-1-yl]methyl}cyclobutanecarboxylic acid di-tosylate salt with one or more portions of lactose monohydrate to form a first homogeneous mixture;

ii) blending the first mixture with fumaric acid to form a second homogeneous mixture; and

iii) blending the second mixture with sodium stearyl fumarate or steric acid to form the pharmaceutical formulation suitable for oral administration.

40. The method of claim 38, said method comprising:

i) blending 1-{[4-(methoxymethyl)-4-({[(1R,2S)-2-phenylcyclopropyl]amino}methyl)piperidin-1-yl]methyl}cyclobutanecarboxylic acid di-tosylate salt, fumaric acid and one or more portions of lactose monohydrate to form a homogeneous mixture; and

ii) blending the homogeneous mixture with sodium stearyl fumarate or steric acid to form the pharmaceutical formulation suitable for oral administration.

41. The method of claim 38, said method comprising:

i) blending fumaric acid and lactose monohydrate to form a first homogeneous mixture;

ii) wet granulating the first mixture and drying to afford a dried mixture;

iii) blending the dried mixture with 1-{[4-(methoxymethyl)-4-({[(1R,2S)-2-phenylcyclopropyl]amino}methyl)piperidin-1-yl]methyl}cyclobutanecarboxylic acid di-tosylate salt form a second homogeneous mixture; and

iv) blending the second mixture with sodium stearyl fumarate or steric acid to form the pharmaceutical formulation suitable for oral administration.

42. The method of any one of claims 38-41, further comprising compressing the pharmaceutical formulation to afford a tablet.

43. The pharmaceutical formulation of any one of claims 2-33, prepared by the method of any one of claims 38-41.