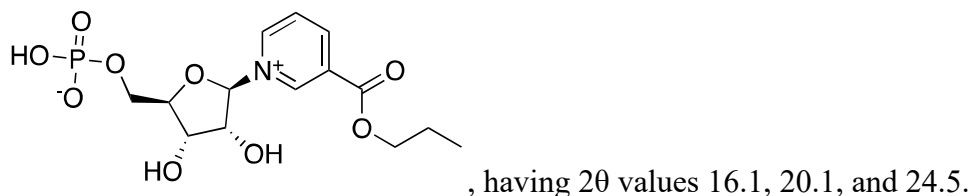
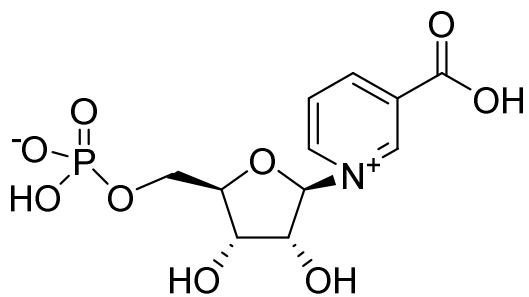


Claims:

1. A crystalline solid comprising Compound 1:



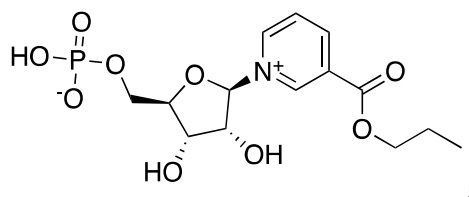
2. The crystalline solid of claim 1, wherein the solid is anhydrous.
3. The crystalline solid of claim 1 or 2, wherein said crystalline solid contains residual non-solvated solvent or residual non-hydrated water.
4. The crystalline solid of claim 1, wherein said crystalline solid is non-hygroscopic.
5. A composition comprising the crystalline solid of any one of claims 1-4, wherein the composition comprises less than about 5% by weight propyl nicotinate.
6. A composition comprising the crystalline solid of any one of claims 1-4, wherein the composition comprises less than about 5% by weight Compound 2:



7. A composition comprising the crystalline solid of any one of claims 1-4, said crystalline solid comprising at least about 90% by weight of Compound 1.
8. A method for preparing the crystalline solid of any one of claims 1-4, comprising:
- dissolving Compound 1 in a solvent to form a solution; and
 - crystallizing Compound 1 from the solution to form the crystalline solid;

wherein the solvent is methanol or ethanol.

9. The method of claim 8, wherein the solvent is methanol.
10. The method of claim 8 or 9, wherein the solution is anhydrous.
11. The method of any one of claims 8-10, wherein the solvent is heated to a temperature of from about 30 to about 40 °C during the dissolving step.
12. The method of any one of claims 8-11, wherein crystallizing comprises forming a supersaturated solution from the solution, wherein the supersaturated solution is supersaturated with respect to Compound 1.
13. The method of claim 12, wherein forming the supersaturated solution comprises adding an anti-solvent to the solution, lowering the temperature of the solution, reducing the volume of the solution, or any combination thereof.
14. The method of any one of claims 8-13, wherein crystallizing comprises adding a seed crystal to the solution, wherein the seed crystal comprises Compound 1.
15. A method of purifying Compound 1:

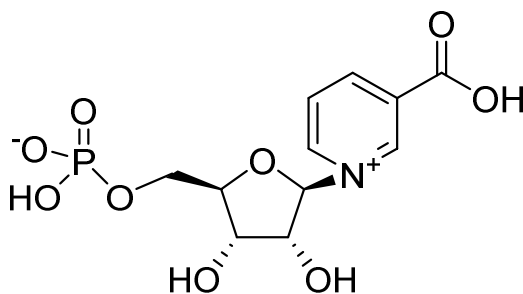


said method comprising:

- a) dissolving Compound 1 in a solvent to form a solution; and
 - b) crystallizing the compound from the solution to form a solid of greater purity than the purity of Compound 1 dissolved in step (a), wherein said solid of greater purity is the crystalline solid of claim 1;
- wherein the solvent is methanol or ethanol.

16. The method of claim 15, where step (a) is performed with amorphous Compound 1, and wherein said solid of greater purity in step (b) is greater than about 95% purity by weight.

17. A crystalline solid comprising Compound 2:



, having 2θ values 21.5, 24.2, 26.7, and 19.6.

18. The crystalline solid of claim 17, wherein Compound 2 is a hydrate.

19. The crystalline solid of claim 17, wherein said crystalline solid contains residual non-solvated solvent or residual non-hydrated water.

20. A composition comprising the crystalline solid of any one of claims 17-19, wherein the composition comprises less than about 5% by weight nicotinic acid.

21. A composition comprising the crystalline solid of any one of claims 17-19, wherein the composition comprises less than about 1% nicotinic acid riboside.

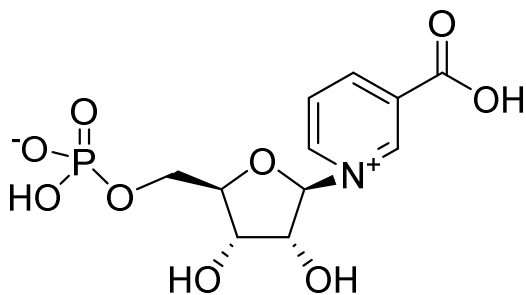
22. A composition comprising the crystalline solid of any one of claims 17-19, wherein the composition comprises at least about 90% of Compound 2.

23. A method for preparing a crystalline solid of any one of claims 17-19, comprising:

- a) dissolving Compound 2 in a solvent to form a solution; and
- b) crystallizing Compound 2 from the solution to form the crystalline solid, wherein the solvent comprises water.

24. The method of claim 23, wherein the solvent further comprises an alcohol.

25. The method of claim 24, wherein the alcohol is 1-propanol.
26. The method of any one of claims 23-25, wherein the temperature of the solvent during the dissolving step is ambient temperature.
27. The method of any one of claims 23-26, wherein crystallizing comprises forming a supersaturated solution from the solution, wherein the supersaturated solution is supersaturated with respect to Compound 2.
28. The method of claim 27, wherein forming the supersaturated solution comprises adding an anti-solvent to the solution, lowering the temperature of the solution, reducing the volume of the solution, or any combination thereof.
29. The method of any one of claims 23-28, wherein crystallizing comprises adding a seed crystal to the solution, wherein the seed crystal comprises Compound 2.
30. A method of purifying Compound 2:



said method comprising:

- dissolving a solid comprising Compound 2 in a solvent to form a solution; and
 - crystallizing the compound from the solution to form a solid of greater purity than the compound dissolved in step (a) , wherein the solvent comprises water.
31. The method of claim 30, where step (a) is performed with amorphous solid and wherein said solid of greater purity in step (b) is greater than about 95% pure with respect to Compound 2.

32. A pharmaceutical composition comprising the crystalline solid of any one of claims 1-4 or 17-19 and one or more pharmaceutically acceptable excipients.

33. The crystalline solid of any one of claims 1-4 or 17-19 or the composition of any one of claims 5-7, 20-22, or 32 for use in increasing NAD levels in a subject.

34. The crystalline solid of any one of claims 1-4 or 17-19 or the composition of any one of claims 5-7, 20-22, or 32 for use as a medicament.