

providing Form A of Compound 1 in isopropyl alcohol, isopropyl acetate, ethyl acetate, or a combination thereof, and
performing a crystallization step to obtain a crystalline solid form of Compound 1 disclosed herein, wherein the crystallization step is performed via slurry conversion, and wherein Form A of Compound 1 has an XRPD pattern comprising peaks between and including 9.3 to 9.7 degrees in 2θ , between and including 10.6 to 11.0 degrees in 2θ , between and including 13.0 to 13.4 degrees in 2θ , between and including 18.7 to 19.1 degrees in 2θ , and between and including 21.4 to 21.8 degrees in 2θ .

[0006j] In another aspect of the present disclosure, there is provided a method for preparing a crystalline solid form of Compound 1 disclosed herein, the method comprising:
providing Form A of Compound 1 in ethyl acetate, and
performing a crystallization step to obtain a crystalline solid form of Compound 1 disclosed herein, wherein Form A of Compound 1 is solubilized when in ethyl acetate, and
wherein Form A of Compound 1 has an XRPD pattern comprising peaks between and including 9.3 to 9.7 degrees in 2θ , between and including 10.6 to 11.0 degrees in 2θ , between and including 13.0 to 13.4 degrees in 2θ , between and including 18.7 to 19.1 degrees in 2θ , and between and including 21.4 to 21.8 degrees in 2θ .

[0007] In some examples, a solubilized form of the crystalline form of Compound 1 is converted to a different crystalline form of Compound 1 by slow evaporation, anti-solvent addition, slow-cooling, solution vapor diffusion, solid vapor diffusion, fast evaporation, reverse anti-solvent addition, and water activity experiments.

[0008] In some examples, a crystalline form of Compound 1 is converted to a different crystalline form of Compound 1 by slurry conversion.

In some examples, physical or chemical parameters of a solid form of Compound 1 are evaluated from one or more of the following analytical techniques: X-ray powder diffraction (XRPD) analysis, e.g., variable-temperature XRPD (VT-XRPD) analysis, single-crystal X-ray crystallography, thermogravimetric analysis (TGA), differential scanning calorimetry (DSC), nuclear magnetic resonance (NMR) spectroscopy or solid-state NMR spectroscopy, Raman spectroscopy, or dynamic vapor sorption (DVS).

[0009] In examples, each solid form is characterized and identified with parameters obtained from one or more of the aforementioned analytical methods:

X-ray diffraction patterns presented with degrees 2-theta (2θ) as the abscissa and peak intensity as the ordinate as determined by analysis with XRPD. These patterns are also referred to herein as XRPD patterns;

properties of the single-crystal structure of a solid form, e.g., unit cell, crystal system, and space group, as determined by single-crystal X-ray crystallography;

calculated XRPD patterns for a crystalline form as determined by data from single-crystal X-ray crystallography;

an endotherm specified by an onset temperature T_{onset} that indicates a loss of solvent, a transformation from one crystalline form to another, or a melting point as determined by DSC performed at a specific ramp rate;

a value for weight loss as determined by TGA;

a value for weight gain at a temperature of 25 °C and a relative humidity between 5% and 95% as determined by DVS; and

an exemplary ^1H NMR spectrum of Compound 1 dissolved in deuterated dimethyl sulfoxide (DMSO-d_6).

[0010] In examples, a solid form is determined to be crystalline by the presence of sharp, distinct peaks found in the corresponding XRPD pattern.

[0011] In some examples, XRPD is used to determine if a solid form of Compound 1 transforms to another solid form at temperatures higher than room temperature.

[0012] In some examples, crystalline Compound 1 is an anhydrate.

[0013] In some examples, crystalline Compound 1 is a solvate.

[0014] In some examples, crystalline Compound 1 can have an XRPD pattern with characteristic peaks between and including the following values of 2θ in degrees: 11.6 to 12.0 (e.g., 11.8), 13.7 to 14.1 (e.g., 13.9), 14.0 to 14.4 (e.g., 14.2), 16.6 to 17.0 (e.g., 16.8), 18.9 to 19.3 (e.g., 19.1), 19.1 to 19.5 (e.g., 19.3), 19.9 to 20.3 (e.g., 20.1), 21.1 to 21.5 (e.g., 21.3), 21.9 to 22.3 (e.g., 22.1), and 23.0 to 23.4 (e.g., 23.2).

[0015] In some examples, crystalline Compound 1 can have an XRPD pattern with characteristic peaks between and including the following values of 2θ in degrees: 11.6 to 12.0 (e.g., 11.8), 16.6 to 17.0 (e.g., 16.8), 18.9 to 19.3 (e.g., 19.1), 19.9 to 20.3 (e.g., 20.1), and 23.0 to 23.4 (e.g., 23.2).

[0016] In some examples, crystalline Compound 1 has an XRPD pattern with characteristic peaks at the following values of 2θ in degrees: 11.8, 13.9, 14.2, 16.8, 19.1, 19.3, 20.1, 21.3, 22.1, and 23.2.

[0017] In some examples, crystalline Compound 1 has an XRPD pattern with characteristic peaks at the following values of 2θ in degrees: 11.8, 16.8, 19.1, 20.1, and 23.2.

[0018] In some examples, crystalline Compound 1 has an XRPD pattern substantially as depicted in FIG. 10A.

[0019] In some examples, crystalline Compound 1 has an XRPD pattern with characteristic peaks between and including the following values of 2θ in degrees: 9.3 to 9.7 (e.g., 9.5), 10.6 to 11.0 (e.g., 10.8), 13.0 to 13.4 (e.g., 13.2), 14.7 to 15.1 (e.g., 14.9), 15.8 to 16.2 (e.g., 16.0), 18.1 to 18.5 (e.g., 18.3), 18.7 to 19.1 (e.g., 18.9), 20.9 to 21.3 (e.g., 21.1), 21.4 to 21.8 (e.g., 21.6), and 23.3 to 23.7 (e.g., 23.5).

[0020] In some examples, crystalline Compound 1 has an XRPD pattern with characteristic peaks between and including the following values of 2θ in degrees: 9.3 to 9.7 (e.g., 9.5), 10.6 to 11.0 (e.g., 10.8), 13.0 to 13.4 (e.g., 13.2), 18.7 to 19.1 (e.g., 18.9), and 21.4 to 21.8 (e.g., 21.6).

[0021] In some examples, crystalline Compound 1 has an XRPD pattern with characteristic peaks at the following values of 2θ in degrees: 9.5, 10.8, 13.2, 14.9, 16.0, 18.3, 18.9, 21.1, 21.6, and 23.5.

[0022] In some examples, crystalline Compound 1 has an XRPD pattern with characteristic peaks at the following values of 2θ in degrees: 9.5, 10.8, 13.2, 18.9, and 21.6.

[0023] In some examples, crystalline Compound 1 has an XRPD pattern substantially as depicted in FIG. 1A.

[0024] In some examples, crystalline Compound 1 comprises a unit cell substantially as depicted in FIG. 1B.

[0025] In some examples, a crystalline form of Compound 1, when subjected to a temperature from about 150 °C to about 195°C, e.g., from 157 °C to 170 °C, transforms into a different crystalline form as indicated by DSC at a ramp rate of 10 °C/min.

[0026] In some examples, crystalline Compound 1 melts at a T_{onset} from about 200 °C to about 225 °C, e.g., from about 205 °C to about 225 °C, e.g., from about 208 °C to about 215 °C, as measured by DSC at a ramp rate of 10 °C/min.

[0027] In some examples, crystalline Compound 1 can have an XRPD pattern with characteristic peaks between and including the following values of 2θ in degrees: 9.7 to 10.1 (e.g., 9.9), 11.6 to 12.0 (e.g., 11.8), 13.2 to 13.6 (e.g., 13.4), 14.2 to 14.6 (e.g., 14.4), 14.6 to 15.0 (e.g., 14.8), 16.8 to 17.2 (e.g., 17.0), 20.5 to 20.9 (e.g., 20.7), 21.3 to 21.7 (e.g., 21.5), 21.4 to 21.8 (e.g., 21.6), and 22.4 to 22.8 (e.g., 22.6).

[0028] In some examples, crystalline Compound 1 can have an XRPD pattern with characteristic peaks between and including the following values of 2θ in degrees: 9.7 to 10.1 (e.g., 9.9), 14.6 to 15.0 (e.g., 14.8), 16.8 to 17.2 (e.g., 17.0), 20.5 to 20.9 (e.g., 20.7), and 21.3 to 21.7 (e.g., 21.5).

[0029] In some examples, crystalline Compound 1 has an XRPD pattern with characteristic peaks at the following values of 2θ in degrees: 9.9, 11.8, 13.4, 14.4, 14.8, 17.0, 20.7, 21.5, 21.6, and 22.6.

[0030] In some examples, crystalline Compound 1 has an XRPD pattern with characteristic peaks at the following values of 2θ in degrees: 9.9, 14.8, 17.0, 20.7, and 21.5.

[0031] In some examples, crystalline Compound 1 has an XRPD pattern substantially as depicted in FIG. 3A.

[0032] In some examples, crystalline Compound 1 has comprises a unit cell substantially as depicted in FIG. 3B.

[0033] In some examples, a crystalline form of Compound 1, when subjected to a temperature from about 180 °C to about 200 °C, e.g., from about 184 °C to about 200 °C, e.g., from about 184 °C to about 190 °C, transforms into a different crystalline form as indicated by DSC at a ramp rate of 10 °C/min.

[0034] In some examples, crystalline Compound 1 melts at a T_{onset} from about 200 °C to about 225 °C, e.g., from about 211 °C to about 215 °C, as measured by DSC at a ramp rate of 10 °C/min.

[0035] In some examples, crystalline Compound 1 has any of the XRPD patterns substantially as depicted in FIG. 2B.

[0036] In some examples, crystalline Compound 1 has an XRPD pattern substantially as depicted in FIG. 4A.

[0037] In some examples, crystalline Compound 1 has an XRPD pattern substantially as depicted in FIG. 5.

[0038] In some examples, crystalline Compound 1 has an XRPD pattern substantially as depicted in FIG. 6A.

[0039] In some examples, crystalline Compound 1 has an XRPD pattern substantially as depicted in FIG. 7A.

[0040] In some examples, crystalline Compound 1 has an XRPD pattern substantially as depicted in FIG. 8A.

[0041] In some examples, crystalline Compound 1 has an XRPD pattern substantially as depicted in FIG. 9A.

[0042] In some examples, crystalline Compound 1 has an XRPD pattern substantially as depicted in FIG. 11A.

[0043] In some examples, crystalline Compound 1 has an XRPD pattern substantially as depicted in FIG. 12.

[0044] In some examples, crystalline Compound 1 has an XRPD pattern substantially as depicted in FIG. 13A.

[0045] In some examples, crystalline Compound 1 has an XRPD pattern substantially as depicted in FIG. 14A.

[0046] In some examples, crystalline Compound 1 has an XRPD pattern substantially as any of those depicted in FIG. 16.

[0047] In one example, the present disclosure describes a method for transforming the crystalline compound of claim 5 to the crystalline compound of claim 10, the method comprising crystallization from a solubilized form of Compound 1 or slurry conversion.

[0048] In some examples, the transformation is performed using ethyl acetate as a solvent at a temperature from about 50 °C to about 70 °C, e.g., from 60 °C to 65 °C.

[0049] In some examples, the transformation is performed in the presence of seed crystals of the crystalline compound of claim 10 at a loading from about 0.1% to about 5.0%, e.g. from 0.2% to 1.0%, of the total amount of Compound 1 present.

[0050] In one example, the present disclosure describes a pharmaceutical composition comprising a crystalline form of Compound 1, and a pharmaceutically acceptable excipient.

[0051] In one example, the present disclosure describes a method for treating a CNS-related disorder in a subject in need thereof, comprising administering to the subject an effective amount of Compound 1, *e.g.*, a crystalline solid form of Compound 1 described herein, a pharmaceutically acceptable salt thereof, or a pharmaceutical composition thereof.

[0052] In some examples, the CNS-related disorder is a sleep disorder, a mood disorder, a schizophrenia spectrum disorder, a convulsive disorder, a disorder of memory and/or cognition, a movement disorder, a personality disorder, autism spectrum disorder, pain, traumatic brain injury, a vascular disease, a substance abuse disorder and/or withdrawal syndrome, or tinnitus.

[0053] In some examples, crystalline Compound 1 is administered orally, parenterally, intradermally, intrathecally, intramuscularly, subcutaneously, vaginally, as a buccal, sublingually, rectally, as a topical, inhalation, intranasal, or transdermally.

[0054] In some examples, crystalline Compound 1 is administered chronically.

[0055] In another example, provided herein is a method of treating a neurological disorder, a psychiatric disorder, a seizure disorder, a neuroinflammatory disorder, a glaucoma or metabolic disorder, a sensory deficit disorder, in a subject in need thereof, comprising administering to the subject an effective amount of Compound 1 or a pharmaceutically acceptable composition thereof.

[0056] In another example, provided herein, is a method of using Compound 1 or a pharmaceutically acceptable composition thereof, as a neuroprotectant, comprising

administering to a subject in need thereof an effective amount of Compound 1 or a pharmaceutically acceptable composition thereof.

[0057] In another example, provided herein, is a method of using Compound 1 or a pharmaceutically acceptable composition thereof, as an analgesic or other agent for pain control, comprising administering to a subject in need thereof an effective amount of Compound 1 or a pharmaceutically acceptable composition thereof. In some examples, the compound or pharmaceutically acceptable composition is used as an analgesic or other agent for pain control to treat inflammatory pain, neuropathic pain, fibromyalgia, or peripheral neuropathy.

[0058] As used herein, “XRPD” refers to X-ray powder diffraction. As used herein, “VT-XRPD” refers to variable temperature-X-ray powder diffraction. As used herein, “TGA” refers to thermogravimetric analysis. As used herein, DSC refers to differential scanning calorimetry. As used herein, “NMR” refers to nuclear magnetic resonance. As used herein, “DVS” refers to dynamic vapor sorption. As used herein, “DCM” refers to dichloromethane. As used herein, “EtOAc” refers to ethyl acetate. As used herein, “MeOH” refers to methanol. As used herein, “MBTE” refers to methyl tert-butyl ether. As used herein, “RH” refers to relative humidity. As used herein, “RT” refers to room temperature.

[0059] As used herein, "crystalline" refers to a solid having a highly regular chemical structure, i.e., having long range structural order in the crystal lattice. The molecules are arranged in a regular, periodic manner in the 3-dimensional space of the lattice. In particular, a crystalline form may be produced as one or more single crystalline forms. For the purposes of this application, the terms "crystalline form", "single crystalline form," "crystalline solid form," "solid form," and "polymorph" are synonymous and used interchangeably; the terms distinguish between crystals that have different properties (*e.g.*, different XRPD patterns and/or different DSC scan results).

[0060] The term "substantially crystalline" refers to forms that may be at least a particular weight percent crystalline. Particular weight percentages are 70%, 75%, 80%, 85%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, 99.5%, 99.9%, or any percentage between 70% and 100%. In certain examples, the particular weight percent of crystallinity is at least 90%. In certain other examples, the particular weight percent of crystallinity is at least 95%. In some examples, Compound 1 can be a substantially crystalline sample of any of the crystalline solid forms described herein (*e.g.*, Forms, A, B, C, D, E, F, H, I, J, K, L, M, N, O, and P).

[0061] The term "substantially pure" relates to the composition of a specific crystalline solid form of Compound 1 that may be at least a particular weight percent free of impurities and/or other solid forms of Compound 1. Particular weight percentages are 70%, 75%, 80%, 85%,

90%, 95%, 99%, or any percentage between 70% and 100%. In some examples, Compound 1 can be a substantially pure sample of any of the crystalline solid forms described herein. (e.g., Forms, A, B, C, D, E, F, H, I, J, K, L, M, N, O, and P). In some examples, Compound 1 can be substantially pure Form A. In some examples, Compound 1 can be substantially pure Form B. In some examples, Compound 1 can be substantially pure Form C. In some examples, Compound 1 can be substantially pure Form D. In some examples, Compound 1 can be substantially pure Form E. In some examples, Compound 1 can be substantially pure Form F. In some examples, Compound 1 can be substantially pure Form H. In some examples, Compound 1 can be substantially pure Form I. In some examples, Compound 1 can be substantially pure Form J. In some examples, Compound 1 can be substantially pure Form K. In some examples, Compound 1 can be substantially pure Form L. In some examples, Compound 1 can be substantially pure Form M. In some examples, Compound 1 can be substantially pure Form N. In some examples, Compound 1 can be substantially pure Form O. In some examples, Compound 1 can be substantially pure Form P.

[0062] As used herein, the term “anhydrous” or “anhydrate” when referring to a crystalline form of Compound 1 means that no solvent molecules, including those of water, form a portion of the unit cell of the crystalline form. A sample of an anhydrous crystalline form may nonetheless contain solvent molecules that do not form part of the unit cell of the anhydrous crystalline form, *e.g.*, as residual solvent molecule left behind from the production of the crystalline form. In a preferred example, a solvent can make up 0.5% by weight of the total composition of a sample of an anhydrous form. In a more preferred example, a solvent can make up 0.2% by weight of the total composition of a sample of an anhydrous form. In some examples, a sample of an anhydrous crystalline form of Compound 1 contains no solvent molecules, *e.g.*, no detectable amount of solvent. The term “solvate” when referring to a crystalline form of Compound 1 means that solvent molecules, *e.g.*, organic solvents and water, form a portion of the unit cell of the crystalline form. Solvates that contain water as the solvent are also referred to herein as “hydrates.” The term “isomorphic” when referring to a crystalline form of Compound 1 means that the form can comprise different chemical constituents, *e.g.*, contain different solvent molecules in the unit cell, but have identical XRPD patterns. Isomorphic crystalline forms are sometimes referred to herein as “isomorphs.”

[0063] A crystalline form of Compound 1 described herein, *e.g.*, Form K, can melt at a specific temperature or across a range of temperatures. Such a specific temperature or range of temperatures can be represented by the onset temperature (T_{onset}) of the melting endotherm in the crystalline form’s DSC trace. In some examples, at such an onset temperature, a sample

of a crystalline form of Compound 1 melts and undergoes a concurrently occurring side-process, *e.g.*, recrystallization or chemical decomposition. In some examples, at such an onset temperature, a crystalline form of Compound 1 melts in the absence of other concurrently occurring processes.

[0064] The term “characteristic peaks” when referring to the peaks in an XRPD pattern of a crystalline form of Compound 1 refers to a collection of certain peaks whose values of 2θ across a range of 0° - 40° are, as a whole, uniquely assigned to one of the crystalline forms of Compound 1.

BRIEF DESCRIPTION OF THE DRAWINGS

[0065] FIG. 1A depicts an exemplary XRPD pattern of Form A.

[0066] FIG. 1B depicts an exemplary unit cell of Form A along the *b* axis.

[0067] FIG. 1C depicts exemplary TGA (upper) and DSC (lower) curves of Form A.

[0068] FIG. 1D depicts an overlay of exemplary VT-XRPD patterns of Form A at selected temperatures, along with an exemplary XRPD pattern of Form K.

[0069] FIG. 1E depicts an exemplary DVS isotherm of Form A at 25 °C.

[0070] FIG. 1F depicts an exemplary XRPD patterns of Form A before and after an exemplary DVS measurement at 25 °C.

[0071] FIG. 2A depicts an exemplary XRPD pattern of an isomorph of Form B.

[0072] FIG. 2B depicts exemplary XRPD patterns of three isomorphs of Form B.

[0073] FIG. 2C depicts exemplary TGA (upper) and DSC (lower) curves of an isomorph of Form B.

[0074] FIG. 2D depicts an overlay of exemplary VT-XRPD patterns of an isomorph of Form B along with an exemplary XRPD pattern of Form K.

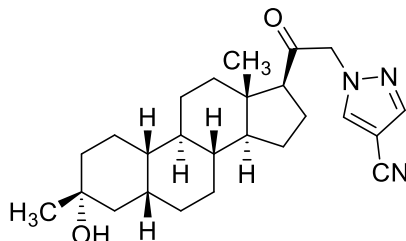
[0075] FIG. 2E depicts exemplary TGA curves of isomorphs of Form B.

[0076] FIG. 2F depicts exemplary DSC curves of isomorphs of Form B.

CLAIMS

What is claimed is:

1. A crystalline solid form of Compound 1:

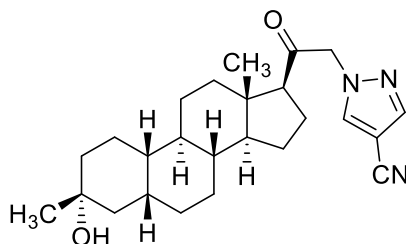


Compound 1,

having an XRPD pattern comprising peaks between and including 9.7 to 10.1 degrees in 2θ , between and including 11.6 to 12.0 degrees in 2θ , between and including 13.2 to 13.6 degrees in 2θ , between and including 14.2 to 14.6 degrees in 2θ , between and including 14.6 to 15.0 degrees in 2θ , between and including 16.8 to 17.2 degrees in 2θ , between and including 20.5 to 20.9 degrees in 2θ , between and including 21.3 to 21.7 degrees in 2θ , between and including 21.4 to 21.8 degrees in 2θ , and between and including 22.4 to 22.8 degrees in 2θ .

2. The crystalline solid form of claim 1, wherein the peak between and including 9.7 to 10.1 is 9.9 degrees in 2θ , the peak between and including 11.6 to 12.0 is 11.8 degrees in 2θ , the peak between and including 13.2 to 13.6 is 13.4 degrees in 2θ , the peak between and including 14.2 to 14.6 is 14.4 degrees in 2θ , the peak between and including 14.6 to 15.0 degrees is 14.8 in 2θ , the peak between and including 16.8 to 17.2 is 17.0 degrees in 2θ , the peak between and including 20.5 to 20.9 is 20.7 degrees in 2θ , the peak between and including 21.3 to 21.7 is 21.5 degrees in 2θ , the peak between and including 21.4 to 21.8 is 21.6 degrees in 2θ , and the peak between and including 22.4 to 22.8 is 22.6 degrees in 2θ .

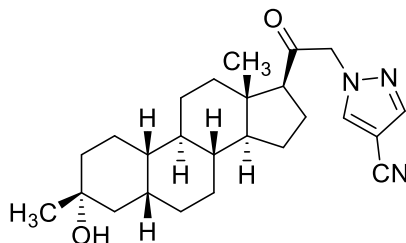
3. A crystalline solid form of Compound 1:



Compound 1,

having an XRPD pattern comprising peaks between and including 9.7 to 10.1 degrees in 2θ , between and including 14.6 to 15.0 degrees in 2θ , between and including 16.8 to 17.2 degrees in 2θ , between and including 20.5 to 20.9 degrees in 2θ , between and including 21.3 to 21.7 degrees in 2θ .

4. A crystalline solid form of Compound 1:



Compound 1,

having an XRPD pattern comprising peaks at 9.9 degrees in 2θ , 14.8 degrees in 2θ , 17.0 degrees in 2θ , 20.7 degrees in 2θ , and 21.5 degrees in 2θ .

5. A pharmaceutical composition comprising a crystalline solid form of Compound 1 of any one of claims 1-4, and a pharmaceutically acceptable excipient.

6. Use of a crystalline solid form of Compound 1 of any one of claims 1-4, or a pharmaceutical composition of claim 5, for the manufacture of a medicament for the treatment of a comorbid disorder, neurological disorder, a psychiatric disorder, a seizure disorder, a neuroinflammatory disorder, a glaucoma or metabolic disorder, or a sensory deficit disorder, in a subject in need thereof.

7. The use of claim 6, wherein the disorder is a neurological disorder.

8. The use of claim 7, wherein the neurological disorder is a neurodegenerative disorder.

9. The use of claim 8, wherein the neurodegenerative disorder is tinnitus.

10. The use of claim 7, wherein the neurological disorder is a movement disorder.

11. The use of claim 10, wherein the movement disorder is tremor.

12. The use of claim 11, wherein the tremor is essential tremor.

13. The use of claim 6, wherein the disorder is a psychiatric disorder.

14. The use of claim 13, wherein the psychiatric disorder is a mood disorder.

15. The use of claim 14, wherein the mood disorder is a major depressive disorder (MDD).
16. The use of claim 14, wherein the mood disorder is postpartum depression (PPD).
17. The use of claim 13, wherein the psychiatric disorder is an anxiety disorder.
18. The use of claim 17, wherein the anxiety disorder is generalized anxiety disorder.
19. The use of claim 13, wherein the psychiatric disorder is a psychotic disorder.
20. The use of claim 19, wherein the psychotic disorder is bipolar disorder.
21. Use of a crystalline solid form of Compound 1 of any one of claims 1-4, or a pharmaceutical composition of claim 5, for the manufacture of a medicament for the treatment of a CNS-related disorder in a subject in need thereof.
22. The use of claim 21, wherein the CNS-related disorder is a sleep disorder, a mood disorder, a schizophrenia spectrum disorder, a convulsive disorder, a disorder of memory and/or cognition, a movement disorder, a personality disorder, autism spectrum disorder, pain, traumatic brain injury, a vascular disease, a substance abuse disorder and/or withdrawal syndrome, or tinnitus.
23. Use of a crystalline solid form of Compound 1 of any one of claims 1-4, or a pharmaceutical composition of claim 5, for the manufacture of a medicament of a neuroprotectant.
24. Use of a crystalline solid form of Compound 1 of any one of claims 1-4, or a pharmaceutical composition of claim 5, for the manufacture of a medicament for use as an analgesic or other agent for pain control.
25. The use of claim 24, wherein the compound is used as an analgesic or other agent for pain control to treat inflammatory pain, neuropathic pain, fibromyalgia, or peripheral neuropathy.
26. The use of any one of claims 6-25, wherein the crystalline solid form of Compound 1 is to be administered orally, parenterally, intradermally, intrathecally, intramuscularly, subcutaneously, vaginally, as a buccal, sublingually, rectally, as a topical, inhalation, intranasal, or transdermally.
27. The use of claim 26, wherein the crystalline solid form of Compound 1 is to be administered orally.

28. The use of claim 26, wherein the crystalline solid form of Compound 1 is to be administered chronically.

29. A method for preparing a crystalline solid form of Compound 1 of any one of claims 1-4, the method comprising:

providing Form A of Compound 1 in isopropyl alcohol, isopropyl acetate, ethyl acetate, or a combination thereof, and

performing a crystallization step to obtain a crystalline solid form of Compound 1 of any one of claims 1-4,

wherein the crystallization step is performed via slurry conversion, and

wherein Form A of Compound 1 has an XRPD pattern comprising peaks between and including 9.3 to 9.7 degrees in 2θ , between and including 10.6 to 11.0 degrees in 2θ , between and including 13.0 to 13.4 degrees in 2θ , between and including 18.7 to 19.1 degrees in 2θ , and between and including 21.4 to 21.8 degrees in 2θ .

30. The method of claim 29, wherein Form A of Compound 1 is in a mixture of isopropyl alcohol and isopropyl acetate.

31. The method of claim 30, wherein the mixture is heated at a temperature of 50 °C.

32. A method for preparing a crystalline solid form of Compound 1 of any one of claims 1-4, the method comprising:

providing Form A of Compound 1 in ethyl acetate, and

performing a crystallization step to obtain a crystalline solid form of Compound 1 of any one of claims 1-4,

wherein Form A of Compound 1 is solubilized when in ethyl acetate, and

wherein Form A of Compound 1 has an XRPD pattern comprising peaks between and including 9.3 to 9.7 degrees in 2θ , between and including 10.6 to 11.0 degrees in 2θ , between and including 13.0 to 13.4 degrees in 2θ , between and including 18.7 to 19.1 degrees in 2θ , and between and including 21.4 to 21.8 degrees in 2θ .

33. The method of claim 32, wherein the solubilized Form A of Compound 1 is heated at a temperature of 65 °C.

34. The method of claim 32 or claim 33, further comprising adding seed crystals of a crystalline solid form of Compound 1 of any one of claims 1-4 at a loading from 0.1% to 5.0% of the total amount of Compound 1 present.