CLAIMS

1. Crystalline Form A of (1R,5S)-1-(naphthalen-2-yl)-3-azabicyclo[3.1.0]hexane hydrochloride belonging to the $P2_12_12_1$ space group and having the following unit cell parameters:

a = 5.7779(2) Å, b = 8.6633(2) Å, c = 25.7280(8) Å, $\alpha = \beta = \gamma = 90°$, or

Crystalline Form B of (1R,5S)-1-(naphthalen-2-yl)-3-azabicyclo[3.1.0]hexane hydrochloride belonging to the $P2_12_12_1$ space group and having the following unit cell parameters:

a = 5.9055(2) Å, b = 7.4645(3) Å, c = 29.1139(13) Å, $\alpha = \beta = \gamma = 90°$.

2. The Crystalline Form A of claim 1 having an X-ray powder diffraction (XRPD) pattern measured using an incident beam of Cu Kα radiation of wavelength 1.54059 Å comprising five peaks selected from those shown in ~~Figure~~ FIG. 1.

3. The Crystalline Form A of claim 1 ~~or 2~~ having an X-ray powder diffraction (XRPD) pattern measured using an incident beam of Cu Kα radiation of wavelength 1.54059 Å substantially as shown in ~~Figure~~ FIG. 1.

4. The Crystalline Form A of ~~any one of~~ claim~~s~~ 1~~-3~~ having an X-ray powder diffraction (XRPD) pattern measured using an incident beam of Cu Kα radiation of wavelength 1.54059 Å as shown in ~~Figure~~ FIG. 1.

5. Crystalline Form A of (1R,5S)-1-(naphthalen-2-yl)-3-azabicyclo[3.1.0]hexane hydrochloride, wherein the Crystalline Form A exhibits an X-ray powder diffraction (XRPD) pattern comprising 2-theta (°) values of 15.4, 16.6, 17.2, 18.5, 19.5, 20.5, 20.7, 22.9, and 25.7, wherein the XRPD is measured using an incident beam of Cu Kα radiation of wavelength 1.54059 Å.

~~6. The Crystalline Form A of any one of claims 1-5, wherein the Crystalline Form A exhibits an XRPD pattern comprising the 2-theta (°) values set forth in Table A below:~~

~~**Table A.**~~

˚2θ	*d* space (Å)	Intensity (%)
15.42 ± 0.20	5.741 ± 0.074	26
16.55 ± 0.20	5.352 ± 0.064	40
17.15 ± 0.20	5.167 ± 0.060	29
18.50 ± 0.20	4.792 ± 0.051	100
19.45 ± 0.20	4.560 ± 0.046	38
20.46 ± 0.20	4.338 ± 0.042	43
20.68 ± 0.20	4.291 ± 0.041	80
22.90 ± 0.20	3.880 ± 0.033	22
25.69 ± 0.20	3.466 ± 0.027	70

~~wherein the XRPD is measured using radiation of wavelength 1.54059 Å.~~

~~7~~6. The Crystalline Form A of ~~any one of~~ claim 5~~s 1-6~~, wherein the Crystalline Form A exhibits an X-ray powder diffraction (X~~P~~RPD) pattern comprising 2-theta (°) values of 12.3, 13.8, 15.4, 16.6, 17.2, 18.2, 18.5, 19.5, 20.5, 20.7, 22.9, and 25.7, wherein the XRPD is measured using an incident beam of Cu Kα radiation of wavelength 1.54059 Å.

~~8. The Crystalline Form A of any one of claims 1-7, wherein the Crystalline Form A exhibits an XRPD pattern comprising the 2-theta (°) values set forth in Table B below:~~

~~**Table B.**~~

˚2θ	*d* space (Å)	Intensity (%)
12.26 ± 0.20	7.211 ± 0.117	22
13.78 ± 0.20	6.421 ± 0.093	36
15.42 ± 0.20	5.741 ± 0.074	26
16.55 ± 0.20	5.352 ± 0.064	40
17.15 ± 0.20	5.167 ± 0.060	29
~~18.19 ± 0.20~~	~~4.873 ± 0.053~~	~~100~~
18.50 ± 0.20	4.792 ± 0.051	100
19.45 ± 0.20	4.560 ± 0.046	38
20.46 ± 0.20	4.338 ± 0.042	43
20.68 ± 0.20	4.291 ± 0.041	80
22.90 ± 0.20	3.880 ± 0.033	22
25.69 ± 0.20	3.466 ± 0.027	70

~~wherein the XRPD is measured radiation of wavelength 1.54059 Å.~~

~~9~~7. The Crystalline Form A of ~~any one of~~ claim 5~~s 1-8~~, wherein the Crystalline Form A exhibits an X-ray powder diffraction (X~~P~~RPD) pattern comprising the following 2-theta (°) values:

6.9, 12.3, 13.8, 14.5, 15.4, 16.6, 17.2, 18.2, 18.5, 19.5, 20.1, 20.5, 20.7, 21.0, 21.5, 22.9, 24.7, 25.2, 25.4, 25.7, 26.4, 27.5, and 27.8,

wherein the XRPD is measured using an incident beam of Cu Kα radiation of wavelength 1.54059 Å.

~~10. The Crystalline Form A of any one of claims 1-9, wherein the Crystalline Form A exhibits an XPRD pattern comprising the 2-theta (°) values set forth in Table C below:~~

~~Table C.~~

˚2θ	*d* space (Å)	Intensity (%)
6.87 ± 0.20	12.859 ± 0.374	6
12.26 ± 0.20	7.211 ± 0.117	22
13.78 ± 0.20	6.421 ± 0.093	36
14.49 ± 0.20	6.106 ± 0.084	6
15.42 ± 0.20	5.741 ± 0.074	26
16.55 ± 0.20	5.352 ± 0.064	40
17.15 ± 0.20	5.167 ± 0.060	29
18.19 ± 0.20	4.873 ± 0.053	100
18.50 ± 0.20	4.792 ± 0.051	100
19.45 ± 0.20	4.560 ± 0.046	38
20.06 ± 0.20	4.422 ± 0.044	9
20.46 ± 0.20	4.338 ± 0.042	43
20.68 ± 0.20	4.291 ± 0.041	80
20.96 ± 0.20	4.236 ± 0.040	11
21.54 ± 0.20	4.123 ± 0.038	10
22.90 ± 0.20	3.880 ± 0.033	22
24.69 ± 0.20	3.602 ± 0.029	3
25.17 ± 0.20	3.535 ± 0.028	14
25.44 ± 0.20	3.499 ± 0.027	13
25.69 ± 0.20	3.466 ± 0.027	70
26.36 ± 0.20	3.378 ± 0.025	13
27.52 ± 0.20	3.239 ± 0.023	23
27.76 ± 0.20	3.211 ± 0.023	7

~~wherein the XRPD is measured using radiation of wavelength 1.54059 Å.~~

~~11~~8. Crystalline Form A of (1R,5S)-1-(naphthalen-2-yl)-3-azabicyclo[3.1.0]hexane hydrochloride~~The Crystalline Form A of any one of claims 1-10~~, wherein the Crystalline Form A exhibits an X-ray powder diffraction (XRPD) pattern comprising d-spacing (Å) values of 5.7, 5.4, 5.2, 4.8, 4.6, 4.3, 3.9, and 3.5.

~~12~~9. The Crystalline Form A of ~~any one of~~ claim 8~~s 1-11~~, wherein the Crystalline Form A exhibits an X-ray powder diffraction (XRPD) pattern comprising the d-spacing (Å) values ~~set forth in~~selected from Table A, B and C below:

Table A.

˚2θ	*d* space (Å)	Intensity (%)
15.42 ± 0.20	5.741 ± 0.074	26
16.55 ± 0.20	5.352 ± 0.064	40
17.15 ± 0.20	5.167 ± 0.060	29
18.50 ± 0.20	4.792 ± 0.051	100
19.45 ± 0.20	4.560 ± 0.046	38
20.46 ± 0.20	4.338 ± 0.042	43
20.68 ± 0.20	4.291 ± 0.041	80
22.90 ± 0.20	3.880 ± 0.033	22
25.69 ± 0.20	3.466 ± 0.027	70

~~13. The Crystalline Form A of any one of claims 1-12, wherein the Crystalline Form A exhibits an XRPD pattern comprising d-spacing (Å) values of 7.2, 6.4, 5.7, 5.4, 5.2, 4.9, 4.8, 4.6, 4.3, 3.9, and 3.5.~~

~~14. The Crystalline Form A of any one of claims 1-13, wherein the Crystalline Form A exhibits an XRPD pattern comprising d-spacing (Å) values as set forth in Table B below:~~

Table B.

˚2θ	*d* space (Å)	Intensity (%)
12.26 ± 0.20	7.211 ± 0.117	22
13.78 ± 0.20	6.421 ± 0.093	36
15.42 ± 0.20	5.741 ± 0.074	26
16.55 ± 0.20	5.352 ± 0.064	40
17.15 ± 0.20	5.167 ± 0.060	29
18.19 ± 0.20	4.873 ± 0.053	100
18.50 ± 0.20	4.792 ± 0.051	100
19.45 ± 0.20	4.560 ± 0.046	38
20.46 ± 0.20	4.338 ± 0.042	43
20.68 ± 0.20	4.291 ± 0.041	80
22.90 ± 0.20	3.880 ± 0.033	22
25.69 ± 0.20	3.466 ± 0.027	70

~~15. The Crystalline Form A of any one of claims 1-14, wherein the Crystalline Form A exhibits an XRPD pattern comprising d-spacing (Å) values of 6.9, 12.3, 13.8, 14.5, 15.4, 16.6, 17.2, 18.2, 18.5, 19.5, 20.1, 20.5, 20.7, 21.0, 21.5, 22.9, 24.7, 25.2, 25.4, 25.7, 26.4, 27.5, and 27.8.~~

~~16. The Crystalline Form A of any one of claims 1-15, wherein the Crystalline Form A exhibits an XRPD pattern comprising the d-spacing (Å) values set forth in Table C below:~~

Table C.

˚2θ	*d* space (Å)	Intensity (%)
6.87 ± 0.20	12.859 ± 0.374	6
12.26 ± 0.20	7.211 ± 0.117	22
13.78 ± 0.20	6.421 ± 0.093	36
14.49 ± 0.20	6.106 ± 0.084	6
15.42 ± 0.20	5.741 ± 0.074	26
16.55 ± 0.20	5.352 ± 0.064	40
17.15 ± 0.20	5.167 ± 0.060	29
18.19 ± 0.20	4.873 ± 0.053	100
18.50 ± 0.20	4.792 ± 0.051	100
19.45 ± 0.20	4.560 ± 0.046	38
20.06 ± 0.20	4.422 ± 0.044	9
20.46 ± 0.20	4.338 ± 0.042	43
20.68 ± 0.20	4.291 ± 0.041	80
20.96 ± 0.20	4.236 ± 0.040	11
21.54 ± 0.20	4.123 ± 0.038	10
22.90 ± 0.20	3.880 ± 0.033	22
24.69 ± 0.20	3.602 ± 0.029	3
25.17 ± 0.20	3.535 ± 0.028	14
25.44 ± 0.20	3.499 ± 0.027	13
25.69 ± 0.20	3.466 ± 0.027	70
26.36 ± 0.20	3.378 ± 0.025	13
27.52 ± 0.20	3.239 ± 0.023	23
27.76 ± 0.20	3.211 ± 0.023	7

<u>10. The Crystalline Form A of claim 8, wherein the Crystalline Form A exhibits an X-ray powder diffraction (XRPD) pattern comprising d-spacing (Å) values of 7.2, 6.4, 5.7, 5.4, 5.2, 4.9, 4.8, 4.6, 4.3, 3.9, and 3.5.</u>

<u>11. The Crystalline Form A of claim 8, wherein the Crystalline Form A exhibits an X-ray powder diffraction (XRPD) pattern comprising d-spacing (Å) values of 12.9, 7.2, 6.4, 6.1, 5.7, 5.4, 5.2, 4.9, 4.8, 4.6, 4.4, 4.3, 4.2, 4.1, 3.9, 3.6, 3.5, 3.4, and 3.2.</u>

~~17. The Crystalline Form A of any one of claims 1-16, wherein the Crystalline Form A has a differential scanning calorimetry (DSC) thermogram or thermogravimetric analysis (TGA) thermogram as shown in Figure 2.~~

182. The Crystalline Form A of ~~any one of~~ claim 8~~s 1-17~~, wherein the Crystalline Form A exhibits an X-ray powder diffraction (XRPD) pattern measured using radiation of wavelength 1.54059 Å, substantially as shown in any ~~of Figures~~ figure selected from FIGS. 35, 37, and 47.

~~19~~13. The Crystalline Form A of ~~any one of~~ claim 8~~s 1-18~~, wherein the Crystalline Form A exhibits an X-ray powder diffraction (XRPD) pattern measured using radiation of wavelength 1.54059 Å as shown in any ~~of Figures~~ figure selected from FIGS. 35, 37, and 47.

~~20~~14. Crystalline Form B of (1R,5S)-1-(naphthalen-2-yl)-3-azabicyclo[3.1.0]hexane hydrochloride, wherein the Crystalline Form B exhibits an X-ray powder diffraction (XRPD) pattern comprising d-spacing (Å) values of 14.6, 5.1, 4.7, 4.6, and 3.6 ~~belonging to the $P2_12_12_1$ space group and having the following unit cell parameters: a = 5.9055(2) Å, b = 7.4645(3) Å, c = 29.1139(13) Å, $\alpha = \beta = \gamma = 90°$~~.

~~21. The Crystalline Form B of claim 20, wherein the Crystalline Form B exhibits an XRPD pattern comprising 2-theta (°) values of 6.0, 17.4, 18.9, 19.2, and 24.4, wherein the XRPD is measured using an incident beam of Cu Kα radiation.~~

~~22~~15. The Crystalline Form B of claim ~~20 or 21~~14, wherein the Crystalline Form B exhibits an X-ray powder diffraction (XRPD) pattern comprising d-spacing (Å) values selected from ~~the 2-theta (°) values set forth in~~ Table D, E, and F below:

Table D.

˚2θ	*d* space (Å)	Intensity (%)
6.04 ± 0.20	14.620 ± 0.484	13
17.41 ± 0.20	5.089 ± 0.058	14
18.94 ± 0.20	4.681 ± 0.049	79
19.19 ± 0.20	4.622 ± 0.048	100
24.39 ± 0.20	3.646 ± 0.029	23

~~wherein the XRPD is measured using radiation of wavelength 1.54059 Å.~~

~~23. The Crystalline Form B of any one of claims 20-22, wherein the Crystalline Form B exhibits an XRPD pattern comprising 2-theta (°) values of 6.0, 13.2, 17.4, 18.9, 19.2, 23.6, 23.8, 24.4, and 28.2, wherein the XRPD is measured using an incident beam of Cu Kα radiation.~~

~~24. The Crystalline Form B of any one of claims 20-23, wherein the Crystalline Form B exhibits an XRPD pattern comprising the 2-theta (°) values set forth in Table E below:~~

Table E.

˚2θ	*d* space (Å)	Intensity (%)
6.04 ± 0.20	14.620 ± 0.484	13
13.21 ± 0.20	6.699 ± 0.101	21
17.41 ± 0.20	5.089 ± 0.058	14
18.94 ± 0.20	4.681 ± 0.049	79
19.19 ± 0.20	4.622 ± 0.048	100
23.59 ± 0.20	3.769 ± 0.032	16
23.79 ± 0.20	3.737 ± 0.031	43
24.39 ± 0.20	3.646 ± 0.029	23
28.15 ± 0.20	3.168 ± 0.022	24

~~wherein the XRPD is measured using radiation of wavelength 1.54059 Å.~~

~~25. The Crystalline Form B of any one of claims 20-24, wherein the Crystalline Form B exhibits an XRPD pattern comprising 2-theta (°) values of 6.0, 12.1, 13.2, 14.9, 15.1, 16.0, 16.9, 17.4, 18.2, 18.9, 19.2, 19.9, 21.1, 21.3, 21.7, 22.6, 23.6, 23.8, 24.4, 25.3, 26.1, 26.6, 27.2, 28.2, 28.7, and 29.5, wherein the XRPD is measured using an incident beam of Cu Kα radiation.~~

~~26. The Crystalline Form B of any one of claims 20-25, wherein the Crystalline Form B exhibits an XRPD pattern comprising the 2-theta (°) values selected from those set forth in Table F below:~~

Table F.

˚2θ	*d* space (Å)	Intensity (%)
6.04 ± 0.20	14.620 ± 0.484	13
12.12 ± 0.20	7.296 ± 0.120	6
13.21 ± 0.20	6.699 ± 0.101	21
14.86 ± 0.20	5.958 ± 0.080	8
15.13 ± 0.20	5.853 ± 0.077	5
16.02 ± 0.20	5.529 ± 0.069	1
16.90 ± 0.20	5.242 ± 0.062	4
17.41 ± 0.20	5.089 ± 0.058	14
18.23 ± 0.20	4.861 ± 0.053	10
18.94 ± 0.20	4.681 ± 0.049	79
19.19 ± 0.20	4.622 ± 0.048	100
19.91 ± 0.20	4.457 ± 0.044	4
21.05 ± 0.20	4.217 ± 0.040	11
21.27 ± 0.20	4.173 ± 0.039	2
21.74 ± 0.20	4.085 ± 0.037	4
22.55 ± 0.20	3.939 ± 0.034	6
23.59 ± 0.20	3.769 ± 0.032	16
23.79 ± 0.20	3.737 ± 0.031	43
24.39 ± 0.20	3.646 ± 0.029	23
25.34 ± 0.20	3.512 ± 0.027	1
26.06 ± 0.20	3.416 ± 0.026	2
26.61 ± 0.20	3.347 ± 0.025	1
27.15 ± 0.20	3.282 ± 0.024	2
28.15 ± 0.20	3.168 ± 0.022	24
28.66 ± 0.20	3.112 ± 0.021	13
29.47 ± 0.20	3.028 ± 0.020	13

~~wherein the XRPD is measured using radiation of wavelength 1.54059 Å.~~

~~27. The Crystalline Form B of any one of claims 20-26, wherein the Crystalline Form B exhibits an XRPD pattern comprising d-spacing (Å) values of 14.6, 5.1, 4.7, 4.6, and 3.6.~~

~~28. The Crystalline Form B of any one of claims 20-27, wherein the Crystalline Form B exhibits an XRPD pattern comprising the d-spacing (Å) values set forth in Table D below:~~

~~Table D.~~

˚2θ	*d* space (Å)	Intensity (%)
6.04 ± 0.20	14.620 ± 0.484	13
17.41 ± 0.20	5.089 ± 0.058	14
18.94 ± 0.20	4.681 ± 0.049	79
19.19 ± 0.20	4.622 ± 0.048	100
24.39 ± 0.20	3.646 ± 0.029	23

~~29~~16. The Crystalline Form B of ~~any one of~~ claim 14~~s 20-28~~, wherein the Crystalline Form B wherein the Crystalline Form B exhibits an X-ray powder diffraction (XRPD) pattern comprising d-spacing (Å) values of 14.6, 6.7, 5.1, 4.7, 4.6, 3.8, 3.7, 3.6, and 3.2.

~~30. The Crystalline Form B of any one of claims 20-29, wherein the Crystalline Form B wherein the Crystalline Form B exhibits an XRPD comprising the d-spacing (Å) values set forth in Table E below:~~

~~**Table E.**~~

˚2θ	*d* space (Å)	Intensity (%)
6.04 ± 0.20	14.620 ± 0.484	13
13.21 ± 0.20	6.699 ± 0.101	21
17.41 ± 0.20	5.089 ± 0.058	14
18.94 ± 0.20	4.681 ± 0.049	79
~~19.19 ± 0.20~~	~~4.622 ± 0.048~~	~~100~~
23.59 ± 0.20	3.769 ± 0.032	16
23.79 ± 0.20	3.737 ± 0.031	43
24.39 ± 0.20	3.646 ± 0.029	23
28.15 ± 0.20	3.168 ± 0.022	24

~~31~~17. The Crystalline Form B of ~~any one of~~ claim 14~~s 20-30~~, wherein the Crystalline Form B exhibits an X-ray powder diffraction (XRPD) pattern comprising ~~the~~ d-spacing (Å) values of 14.6, 7.3, 6.7, 6.0, 5.9, 5.5, 5.2, 5.1, 4.9, 4.7, 4.6, 4.5, 4.2, 4.1, 3.9, 3.8, 3.7, 3.6, 3.5, 3.4, 3.3, 3.2, 3.1, and 3.0.

~~32. The Crystalline Form B of any one of claims 20-31, wherein the Crystalline Form B wherein the Crystalline Form B exhibits an XRPD comprising the d-spacing (Å) values set forth in Table F below:~~

~~**Table F.**~~

˚2θ	*d* space (Å)	Intensity (%)
6.04 ± 0.20	14.620 ± 0.484	13
12.12 ± 0.20	7.296 ± 0.120	6
13.21 ± 0.20	6.699 ± 0.101	21
14.86 ± 0.20	5.958 ± 0.080	8
15.13 ± 0.20	5.853 ± 0.077	5
16.02 ± 0.20	5.529 ± 0.069	1
16.90 ± 0.20	5.242 ± 0.062	4
17.41 ± 0.20	5.089 ± 0.058	14
18.23 ± 0.20	4.861 ± 0.053	10
18.94 ± 0.20	4.681 ± 0.049	79
19.19 ± 0.20	4.622 ± 0.048	100
19.91 ± 0.20	4.457 ± 0.044	4
~~21.05 ± 0.20~~	~~4.217 ± 0.040~~	~~11~~
21.27 ± 0.20	4.173 ± 0.039	2
21.74 ± 0.20	4.085 ± 0.037	4
22.55 ± 0.20	3.939 ± 0.034	6
23.59 ± 0.20	3.769 ± 0.032	16
23.79 ± 0.20	3.737 ± 0.031	43
24.39 ± 0.20	3.646 ± 0.029	23
25.34 ± 0.20	3.512 ± 0.027	1
26.06 ± 0.20	3.416 ± 0.026	2
26.61 ± 0.20	3.347 ± 0.025	1
27.15 ± 0.20	3.282 ± 0.024	2
28.15 ± 0.20	3.168 ± 0.022	24
28.66 ± 0.20	3.112 ± 0.021	13
29.47 ± 0.20	3.028 ± 0.020	13

~~33. The Crystalline Form B of any one of claims 20-32, wherein the Crystalline Form B exhibits an XRPD pattern measured using radiation of wavelength 1.541871 Å, substantially as shown in Figure 5.~~

~~34. The Crystalline Form B of any one of claims 20-33, wherein the Crystalline Form B exhibits an XRPD pattern measured using radiation of wavelength 1.541871 Å, as shown in Figure 5.~~

~~35~~18. The Crystalline Form B of ~~any one of~~ claim~~s~~ 14~~20-34~~, wherein the Crystalline Form B exhibits an X-ray powder diffraction (XRPD) pattern measured using radiation of wavelength 1.54059 Å substantially as shown in any ~~of Figures~~ figure selected from FIGS. ~~7,~~ 40~~,~~ and 48.

~~36~~19. The Crystalline Form B of ~~any one of~~ claim~~s~~ ~~20-35~~14, wherein the Crystalline Form B exhibits an X-ray powder diffraction (XRPD) pattern measured using radiation

of wavelength 1.54059 Å as shown in any ~~of Figures~~ figure selected from FIGS. ~~7,~~ 40~~,~~ and 48.

~~37~~20. A pharmaceutical composition comprising Crystalline Form A of ~~any one of~~ claim~~s~~ 1~~-19~~ and a pharmaceutically acceptable diluent or carrier.

~~38. A method for the prophylaxis or treatment of attention deficit hyperactivity disorder, e.g., in a patient with a fragile-X associated disorder, comprising administering to a patient in need thereof a therapeutically effective amount of any of Crystalline Form A of any one of claims 1-19 or a pharmaceutical composition of claim 37.~~

~~39~~21. Use of the Crystalline Form A of claim 1 in the manufacture of a medicament for treatment of~~A method for the prophylaxis or treatment of a substance abuse disorder, a fragile-X-associated disorder, autism spectrum disorder, e.g., in a patient with a fragile-X associated disorder, co-morbid~~ attention deficit hyperactivity disorder~~ and depression, co-morbid attention deficit hyperactivity disorder and substance abuse, or co-morbid attention deficit hyperactivity disorder and anxiety, comprising administering to a patient in need thereof a therapeutically effective amount of any of Crystalline Form A of any one of claims 1-19 or a pharmaceutical composition of claim 37~~.

~~40~~22. A pharmaceutical composition comprising Crystalline Form B of ~~any one of~~ claim 14~~s 20-36~~ and a pharmaceutically acceptable diluent or carrier.

23. The Crystalline Form A of claim 8, wherein the Crystalline Form A exhibits an X-ray powder diffraction (XRPD) pattern comprising d-spacing (Å) values of 5.74, 5.35, 5.17, 4.79, 4.56, 4.34, 4.29, 3.88, and 3.47.

24. The Crystalline Form A of claim 8, wherein the Crystalline Form A exhibits an X-ray powder diffraction (XRPD) pattern comprising d-spacing (Å) values of 7.21, 6.42, 5.74, 5.35, 5.17, 4.87, 4.79, 4.56, 4.34, 4.29, 3.88, and 3.47.

25. The Crystalline Form A of claim 8, wherein the Crystalline Form A exhibits an X-ray powder diffraction (XRPD) pattern comprising d-spacing (Å) values of 12.86, 7.21, 6.42, 6.11, 5.74, 5.35, 5.17, 4.87, 4.79, 4.56, 4.42, 4.34, 4.29, 4.24, 4.12, 3.88, 3.60, 3.54, 3.50, 3.47, 3.38, 3.24, and 3.21.

26. A pharmaceutical composition comprising Crystalline Form A of claim 5 and a pharmaceutically acceptable diluent or carrier.

27. A pharmaceutical composition comprising Crystalline Form A of claim 6 and a pharmaceutically acceptable diluent or carrier.

28. A pharmaceutical composition comprising Crystalline Form A of claim 9 and a pharmaceutically acceptable diluent or carrier.

29. A pharmaceutical composition comprising Crystalline Form A of claim 23 and a pharmaceutically acceptable diluent or carrier.

30. A pharmaceutical composition comprising Crystalline Form A of claim 24 and a pharmaceutically acceptable diluent or carrier.

31. A pharmaceutical composition comprising Crystalline Form A of claim 8 and a pharmaceutically acceptable diluent or carrier.

32. Use of the Crystalline Form A of claim 8 in the manufacture of a medicament for treatment of attention deficit hyperactivity disorder.

33. The Crystalline Form A of claim 1 or 8 for use in treatment of attention deficit hyperactivity disorder.

~~41. A method for the prophylaxis or treatment of attention deficit hyperactivity disorder, e.g., in a patient with a fragile-X associated disorder, comprising administering to a patient in need thereof a therapeutically effective amount of any of Crystalline Form B of any one of claims 20-36 or a pharmaceutical composition of claim 40.~~

~~42. A method for the prophylaxis or treatment of a substance abuse disorder, a fragile X-associated disorder, autism spectrum disorder, e.g., in a patient with a fragile-X associated disorder, co-morbid attention deficit hyperactivity disorder and depression, co-morbid attention deficit hyperactivity disorder and substance abuse, or co-morbid attention deficit hyperactivity disorder and anxiety, comprising administering to a~~

~~patient in need thereof a therapeutically effective amount of any of Crystalline Form A of any one of claims 20-36 or a pharmaceutical composition of claim 40.~~