What is Claimed is:

~~1. A crystalline compound or cocrystal comprising fasoracetam and a conformer, wherein the coformer is a non-aromatic organic compound and contains at least one moiety selected from $-NH_2$, $-NO_2$, and $-C(=O)-X$, $C(=O)-OR_1$, wherein R_1 is alkyl and X is a nitrogen containing moiety.~~

~~2. A crystalline compound or a cocrystal comprising fasoracetam, and a coformer wherein the coformer is an aromatic compound,~~

~~wherein the aromatic compound has at least one substituent chosen from –OH, NH_2, alkyl, $-NO_2$, C_1-C_5 esters, and –COOH.~~

~~3~~1. A crystalline compound or cocrystal comprising fasoracetam ~~((R)-5-(piperidine-1-carbonyl)pyrrolidin-2-one) or (S)-5-(piperidine-1-carbonyl)pyrrolidin-2-one~~ and 4-aminobenzoic acid, wherein the cocrystal has an onset melting temperature of about 114 ℃.

~~4~~2. A crystalline compound or cocrystal comprising fasoracetam and trimesic acid, wherein the cocrystal has an onset melting temperature of about 96 ℃.

~~5~~3. A crystalline compound or cocrystal comprising fasoracetam and R-ibuprofen, wherein the cocrystal has an onset melting temperature of about 115 ℃.

~~6. A crystalline compound or cocrystal comprising fasoracetam and phloroglucinol.~~

~~7. A crystalline compound or cocrystal comprising fasoracetam and methyl-3,4,5-trihydroxybenzoate.~~

~~8~~4. A crystalline compound or cocrystal comprising fasoracetam and ethyl gallate, wherein the stoichiometric ratio of fasoracetam to ethyl gallate is about 1:1, and the cocrystal has an onset melting temperature of about 112 ℃.

~~9. A crystalline compound or cocrystal comprising fasoracetam and phthalic acid.~~

~~10~~5. A crystalline compound or cocrystal comprising fasoracetam and 6-hydroxy-2-napthoic acid, wherein the cocrystal has an onset melting temperature of about 120 ℃.

~~11~~6. A crystalline compound or cocrystal comprising fasoracetam and 4-nitrobenzoic acid, wherein the cocrystal has an onset melting temperature of about 146 ℃.

~~12~~7. A crystalline compound or cocrystal comprising fasoracetam and 2-indole-3-acetic acid, wherein the cocrystal has an onset melting temperature of about 69 ℃.

~~13~~8. A crystalline compound or cocrystal comprising fasoracetam and urea, wherein the cocrystal has an onset melting temperature of about 91 ℃, and wherein the cocrystal has an x-ray powder diffraction pattern comprising a peak at about 12.2°θ or about 16.1°2θ, and one or more peaks chosen from peaks at about 10.4°2θ, about 10.8°2θ, about 12.2°2θ, about 14.1°2θ, about 18.9°2θ, about 22.3°2θ, and about 22.9°2θ.

9. The crystalline compound or cocrystal of claim 1, wherein the cocrystal has an x-ray diffraction powder diffraction comprising one or more peaks chosen from peaks at about 6.5°2θ, about 10.5°2θ, about 11.3°2θ, and about 12.0°2θ.

10. The crystalline compound or cocrystal of claim 2, wherein the cocrystal has an x-ray powder diffraction pattern comprising one or more peaks chosen from peaks at about 9.7°2θ, about 10.9°2θ, about 11.4°2θ, about 14.6°2θ, about 16.5°2θ, about 17.5°2θ, about 18.6°2θ, about 19.4°2θ, about 19.8°2θ, about 21.8°2θ, about 23.5°2θ, about 26.7°2θ, and about 27.3°2θ.

11. The crystalline compound or cocrystal of claim 3, wherein the cocrystal has an x-ray powder diffraction pattern comprising one or more peaks chosen from peaks at about 5.6°2θ, about 10.5°2θ, about 11.2°2θ, about 12.3°2θ, about 17.4°2θ, about 20.1°2θ, and about 20.6°2θ.

12. A crystalline compound or cocrystal comprising fasoracetam and ethyl gallate, wherein the stoichiometric ratio of fasoracetam to ethyl gallate is about 1:2, and the cocrystal has an onset melting temperature of about 106 ℃.

13. The crystalline compound or cocrystal of claim 4, wherein the cocrystal has an x-ray powder diffraction pattern comprising one or more peaks chosen from peaks at about 5.8°2θ, about 11.3°2θ, about 12.4°2θ, about 15.5°2θ, about 15.8°2θ, about 18.2°2θ, about 19.4°2θ, about 22.0°2θ, and about 24.8°2θ.

14. The crystalline compound or cocrystal of claim 12, wherein the cocrystal has an x-ray powder diffraction pattern comprising one or more peaks chosen from peaks at about 5.8°2θ, about 7.2°2θ, about 14.8°2θ, about 20.4°2θ, about 21.9°2θ, and about 23.5°2θ.

15. The crystalline compound or cocrystal of claim 5, wherein the cocrystal has an x-ray powder diffraction pattern comprising one or more peaks chosen from peaks at about 11.2°2θ, about 14.9°2θ, about 15.7°2θ, about 20.1°2θ, about 21.1°2θ, about 23.6°2θ, about 24.1°2θ, about 25.0°2θ, and about 25.5°2θ.

16. The crystalline compound or cocrystal of claim 6, wherein the cocrystal has an x-ray powder diffraction pattern comprising one or more peaks chosen from peaks at about 6.5°2θ, about 6.7°2θ, about 8.9°2θ, about 14.5°2θ, about 15.6°2θ, about 17.9°2θ, about 18.6°2θ, about 19.8°2θ, about 23.4°2θ, and about 26.4°2θ.

17. The crystalline compound or cocrystal of claim 7, wherein the cocrystal has an x-ray powder diffraction pattern comprising one or more peaks chosen from peaks at about 5.3°2θ, about 7.9°2θ, about 10.7°2θ, about 11.8°2θ, about 14.7°2θ, about 15.8°2θ, about 18.0°2θ, about 21.9°2θ, about 23.1°2θ, and about 23.5°2θ.

18. The crystalline compound or cocrystal of claim 8, wherein the cocrystal has an x-ray powder diffraction pattern comprising a peak at about 12.2°θ or about 16.1°2θ, and one or more peaks chosen from peaks at about 10.4°2θ, about 10.8°2θ, about 12.2°2θ, about 14.1°2θ, about 18.9°2θ, about 22.3°2θ, and about 22.9°2θ.

19. A crystalline compound or cocrystal comprising fasoracetam and urea, wherein the cocrystal has an onset melting temperature of about 102 °C, and wherein the cocrystal has an x-ray powder diffraction pattern comprising a peak at about 11.4°2θ and one or more peaks chosen from the peaks at about 10.4°2θ, about 14.0°2θ, about 14.5°2θ, about 14.9°2θ, about 17.5°2θ, about 18.4°2θ, about 18.7°2θ, about 19.4°2θ, about 20.1°2θ, and about 21.1°2θ.

~~14~~20. A pharmaceutical composition comprising a crystalline compound ~~of any one of claims 1-13,~~ or a cocrystal of any one of claims 1-19~~13~~, and one or more pharmaceutically acceptable excipients.

~~15. Use of a crystalline compound of any of claims 1-13, a cocrystal of any of claims 1-13, or the pharmaceutical composition of claim 14, in the manufacture of a medicament for the treatment of attention-deficit hyperactive disorder in a human subject in need thereof.~~

~~16~~21. A process for preparing ~~a~~ the fasoracetam:urea cocrystal of claim 19 ~~Form B~~ comprising:

combining fasoracetam in a suitable solvent with urea to form a solution wherein the molar amount of urea to fasoracetam ranges from 0.7 to 1.2;

cooling the solution to form cocrystals of the fasoracetam:urea cocrystal ~~Form B~~,

wherein the fasoracetam is selected from the group consisting of fasoracetam Form I, fasoracetam Form II, the amorphous form of fasoracetam, anhydrate fasoracetam, and the Forms Mixture of fasoracetam.