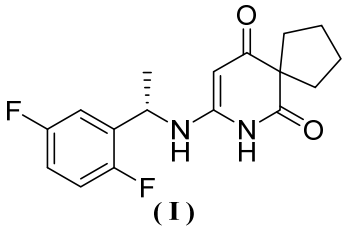
CLAIMS

1. A crystal form A of a compound of formula (I), which is characterized by X-ray powder diffraction pattern (XRPD) with characteristic diffraction peaks at 2θ angles of 18.283±0.200°, 19.662±0.200°, and 22.420±0.200°;



(I)

2. The crystal form A according to claim 1, which is characterized by X-ray powder diffraction pattern (XRPD) with characteristic diffraction peaks at 2θ angles of 11.143±0.200°, 18.283±0.200°, 19.662±0.200°, 22.420±0.200°, 26.259±0.200°, and 28.056±0.200°.

3. The crystal form A according to claim 2, which is characterized by X-ray powder diffraction pattern with characteristic diffraction peaks at 2θ angles of 11.143±0.200°, 18.283±0.200°, 19.662±0.200°, 22.420±0.200°, 26.259±0.200°, 27.261±0.200°, 28.056±0.200°, and 30.256±0.200°.

4. The crystal form A according to claim 3, which is characterized by X-ray powder diffraction pattern with characteristic diffraction peaks at 2θ angles of 11.143±0.200°, 16.522±0.200°, 17.053±0.200°, 18.283±0.200°, 19.662±0.200°, 22.420±0.200°, 23.909±0.200°, 26.259±0.200°, 27.261±0.200°, 28.056±0.200°, 30.256±0.200°, and 33.761±0.200°.

5. The crystal form A according to claim 1, which is characterized by X-ray powder diffraction pattern comprising at least 5, 6, 7 or 8 characteristic diffraction peaks represented by 2θ angles selected from the following: 11.143±0.200°, 18.283±0.200°, 19.662±0.200°, 22.420±0.200°, 26.259±0.200°, 27.261±0.200°, 28.056±0.200°, and 30.256±0.200°.

6. The crystal form A according to claim 5, which is characterized by X-ray powder diffraction pattern with characteristic diffraction peaks at 2θ angles of 11.143°, 13.260°, 14.860°, 16.163°, 16.522°, 17.053°, 17.537°, 18.283°, 19.662°, 22.420°, 23.568°, 23.909°, 26.259°, 26.726°, 27.261°, 28.056°, 29.008°, 30.256°, 31.219°, 31.646°, 32.037°, 32.438°, 32.807°, 33.761°, 34.534°, 35.404°, 36.856°,

37.813°, and 39.456°.

7. The crystal form A according to claim 1, which has an XRPD pattern substantially as shown in Fig. 1.

8. The crystal form A according to any one of claims 1 to 7, which has a differential scanning calorimetry (DSC) curve with peak values of the endothermic peaks at 249.53±3 ºC and 306.12±3 ºC.

9. The crystal form A according to any one of claims 1 to 7, which has a differential scanning calorimetry (DSC) curve with peak values of the endothermic peaks at 249.53±8 ºC and 306.12±8 ºC.

10. The crystal form A according to any one of claims 1 to 7, which has a DSC curve substantially as shown in Fig. 2.

11. The crystal form A according to any one of claims 1 to 10, which has a thermogravimetric analysis (TGA) curve with a weight loss of up to 0.075% at 200±3 ºC, and a weight loss of up to 0.164% at 250±3 ºC.

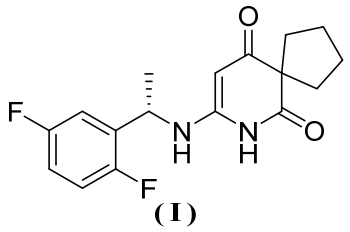
12. The crystal form A according to any one of claims 1 to 10, which has a TGA curve substantially as shown in Fig. 3.

13. The crystal form A according to any one of claims 1 to 12, which is prepared by the following method:

1) adding the compound of formula (I) into an alcohol solvent, ethyl acetate, tert-butyl methyl ether, tetrahydrofuran, or dichloromethane; optionally, wherein the alcohol solvent is selected from methanol and ethanol;

2) stirring at 15 to 100 ºC for 1 to 168 hours;

3) filtering, collecting the filter cake, and vacuum drying the filter cake at 30 to 45 ºC for 0.5 to 2 hours, alternatively vacuum drying the filter cake at 35 ºC for 1 hour;

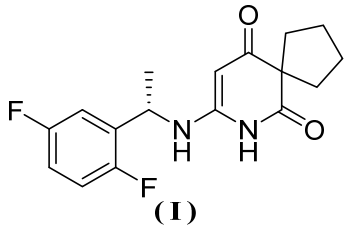
wherein the compound of formula (I) is  .

14. A method of preparing the crystal form A of the compound of formula (I) according to any one of claims 1 to 12, comprising:

1) adding the compound of formula (I) into an alcohol solvent, ethyl acetate, tert-butyl methyl ether, tetrahydrofuran, or dichloromethane; optionally, wherein the alcohol solvent is selected from methanol and ethanol;

2) stirring at 15 to 100 ºC for 1 to 168 hours;

3) filtering, collecting the filter cake, and vacuum drying the filter cake at 30 to 45 ºC for 0.5 to 2 hours, alternatively vacuum drying the filter cake at 35 ºC for 1 hour;

wherein the compound of formula (I) is  .

15. A pharmaceutical composition, comprising a therapeutically effective amount of the compound of formula (I) or the crystal form A of the compound of formula (I) according to any one of claims 1 to 13, or the crystal form A of the compound of formula (I) prepared according to claim 14, and a pharmaceutically acceptable carrier.

16. Use of the compound of formula (I) or the crystal form A of the compound of formula (I) according to any one of claims 1 to 13, or the crystal form A of the compound of formula (I) prepared according to claim 14, or the pharmaceutical composition according to claim 15 in the manufacture of a medicament as a cardiac myosin inhibitor.

17. Use of the compound of formula (I) or the crystal form A of the compound of formula (I) according to any one of claims 1 to 13, or the crystal form A of the compound of formula (I) prepared according to claim 14, or the pharmaceutical composition according to claim 15 in the manufacture

of a medicament for treating heart failure or hypertrophic cardiomyopathy.

18. The compound of formula (I) or the crystal form A of the compound of formula (I) according to any one of claims 1 to 13, or the crystal form A of the compound of formula (I) prepared according to claim 14, or the pharmaceutical composition according to claim 15, for use as a cardiac myosin inhibitor.

19. The compound of formula (I) or the crystal form A of the compound of formula (I) according to any one of claims 1 to 13, or the crystal form A of the compound of formula (I) prepared according to claim 14, or the pharmaceutical composition according to claim 15, for use in treating heart failure or hypertrophic cardiomyopathy.