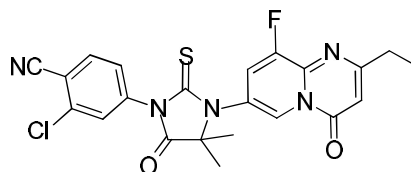


CLAIMS

1. A crystal of a compound of formula I,



Formula I

~~2. The crystal of the compound of formula I according to claim 1, wherein, in an X-ray powder diffraction pattern using Cu K α radiation, diffraction peaks exist at the following 2 θ of 13.47° $\pm$ 0.2°, 15.32° $\pm$ 0.2°, 15.98° $\pm$ 0.2°, 18.68° $\pm$ 0.2°, 23.11° $\pm$ 0.2° and 26.41° $\pm$ 0.2°.~~

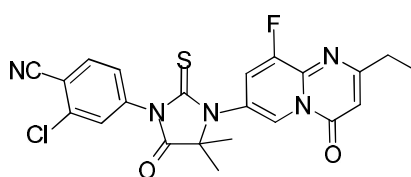
~~2. The crystal of the compound of formula I according to claim 1, wherein, in an X-ray powder diffraction pattern using Cu K α radiation, ~~or~~ diffraction peaks exist at the following 2 θ of 13.01° $\pm$ 0.2°, 13.47° $\pm$ 0.2°, 14.00° $\pm$ 0.2°, 15.32° $\pm$ 0.2°, 15.98° $\pm$ 0.2°, 18.68° $\pm$ 0.2°, 22.78° $\pm$ 0.2°, 23.11° $\pm$ 0.2°, 24.49° $\pm$ 0.2° and 26.41° $\pm$ 0.2°.~~

~~3. The crystal of the compound of formula I according to claim 1 or 2, wherein, in an X-ray powder diffraction pattern using Cu K α radiation, ~~or~~ diffraction peaks exist at the following 2 θ of 9.34° $\pm$ 0.2°, 13.01° $\pm$ 0.2°, 13.47° $\pm$ 0.2°, 14.00° $\pm$ 0.2°, 15.32° $\pm$ 0.2°, 15.98° $\pm$ 0.2°, 18.68° $\pm$ 0.2°, 22.78° $\pm$ 0.2°, 23.11° $\pm$ 0.2°, 24.49° $\pm$ 0.2°, 25.85° $\pm$ 0.2°, 26.41° $\pm$ 0.2° and 30.73° $\pm$ 0.2°.~~

~~2.4. The crystal of the compound of formula I according to any one of claims 1 to 3, wherein, in an X-ray powder diffraction pattern using Cu K α radiation, ~~or~~ diffraction peaks exist at the following 2 θ of 9.34° $\pm$ 0.2°, 13.01° $\pm$ 0.2°, 13.47° $\pm$ 0.2°, 13.78° $\pm$ 0.2°, 14.00° $\pm$ 0.2°, 15.32° $\pm$ 0.2°, 15.72° $\pm$ 0.2°, 15.98° $\pm$ 0.2°, 18.68° $\pm$ 0.2°, 22.31° $\pm$ 0.2°, 22.78° $\pm$ 0.2°, 23.11° $\pm$ 0.2°, 24.49° $\pm$ 0.2°, 25.85° $\pm$ 0.2°, 26.05° $\pm$ 0.2°, 26.41° $\pm$ 0.2°, 26.65° $\pm$ 0.2° and 30.73° $\pm$ 0.2°.~~

~~3.5. The crystal of the compound of formula I according to claim 1, wherein an X-ray powder diffraction pattern of the crystal is shown in FIG. 1.~~

~~4.6. A crystal of a compound of formula I, having an absorption peak at 238.92 °C according to differential scanning calorimetry analysis thereof~~



Formula I

~~5.7. The crystal of the compound of formula I according to claim 46, wherein a differential scanning calorimetry pattern of the crystal is shown in FIG. 2.~~

~~6.8. A preparation method for the crystal of the compound of formula I according to any one of claims 1 to 57, comprising mixing the compound of formula I with a solvent to precipitate the crystal.~~

~~7.9. The preparation method for the crystal of the compound of formula I according to claim 68, wherein the solvent is selected from the group consisting of methanol, ethanol, ethyl acetate, tetrahydrofuran, acetonitrile, acetone, a combination of methanol and water, a combination of ethanol and water, and a combination of acetone and water.~~

~~8.10. The preparation method for the crystal of the compound of formula I according to claim 69, wherein the volume of the solvent required is 5-50 mL for 1 g of the compound of formula I.~~

9.—

11. A crystalline composition, comprising no less than 50 wt% or more, preferably no less than 80 wt%, more preferably no less than 90 wt%, most preferably no less than 95 wt% of the crystal of the compound of formula I according to any one of claims 1 to 57.

12. A crystalline composition, comprising 80 wt% or more of the crystal of the compound of formula I according to any one of claims 1 to 7.

13. A crystalline composition, comprising 90 wt% or more of the crystal of the compound of formula I according to any one of claims 1 to 7.

14. A crystalline composition, comprising 95 wt% or more of the crystal of the compound of formula I according to any one of claims 1 to 7.

15. A pharmaceutical composition, comprising a therapeutically effective amount of the crystal of the compound of formula I according to any one of claims 1 to 57 or the crystalline composition according to any one of claims 11 to 14, and optionally further comprising a pharmaceutically acceptable excipient.

16. Use of the crystal of the compound of formula I according to any one of claims 1 to 57 or the crystalline composition according to any one of claims 11 to 14 or the pharmaceutical composition according to claim 15 in the preparation of medicaments for treating androgen-mediated diseases, wherein the diseases include a cell proliferative disease.

17. Use of the crystal of the compound of formula I according to any one of claims 1 to 57 or the crystalline composition according to any one of claims 11 to 14 or the pharmaceutical composition according to claim 15 in the treatment of androgen-mediated diseases, wherein the diseases include a cell proliferative disease.

18. The crystal of the compound of formula I according to any one of claims 1 to 57 or the crystalline composition according to any one of claims 11 to 14 or the pharmaceutical composition according to claim 15 for use in treating androgen-mediated diseases, wherein the diseases include a cell proliferative disease.

19. The use according to claim 16 or 17 or the crystal, the crystalline composition or the pharmaceutical composition according to claim 18, wherein the cell proliferative disease is selected from prostate cancer.