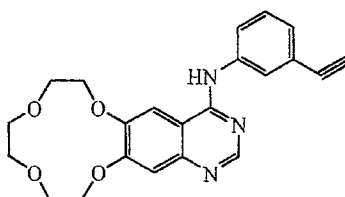


WHAT IS CLAIMED IS

1. A polymorph form of the compound of Formula I,



Formula I

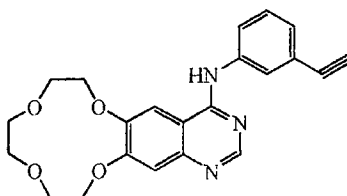
wherein the polymorph form is of Form I and its X-ray powder diffraction pattern has characteristic peaks at diffraction angles 2θ of 7.6° , 14.7° , 20.9° , 23.1° and $27.5^\circ \pm 0.2^\circ$.

2. The polymorph form of Claim 1, wherein the X-ray powder diffraction pattern has characteristic peaks at diffraction angles 2θ of 7.6° , 14.7° , 20.9° , 23.1° , 24.2° , 27.5° , 29.8° and $30.9^\circ \pm 0.2^\circ$.

3. The polymorph form of either Claim 1 or Claim 2, wherein the X-ray powder diffraction pattern is as shown in Figure 1.

4. The polymorph form of any one of Claims 1 to 3, wherein the melting point is $175-177^\circ\text{C}$.

5. A polymorph form of the compound of Formula I,



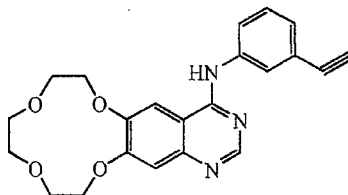
Formula I

wherein the polymorph form is of Form II and its X-ray powder diffraction pattern has characteristic peaks at diffraction angles 2θ of 5.5° , 11.0° , 19.7° , 20.9° and $22.6^\circ \pm 0.2^\circ$.

6. The polymorph form of Claim 5, wherein its X-ray powder diffraction pattern has characteristic peaks at diffraction angles 2θ of 5.5° , 8.8° , 11.0° , 16.5° , 19.7° , 20.9° , 22.6° and $23.7^\circ \pm 0.2^\circ$.

7. The polymorph form of either Claim 5 or Claim 6, wherein the X-ray powder diffraction pattern is as shown in Figure 2.

8. The polymorph form of any one of Claims 5 to 7, wherein the melting point is 176-178°C.
9. A polymorph form of the compound of Formula I,



Formula I

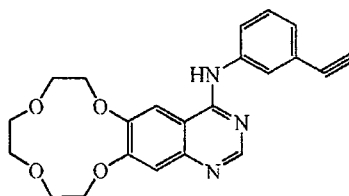
wherein the polymorph form is of Form III and its X-ray powder diffraction pattern has characteristic peaks at diffraction angles 2θ of 5.1°, 16.7°, 20.9°, 21.7° and 23.9°±0.2°.

10. The polymorph form of Claim 9, wherein its X-ray powder diffraction pattern has characteristic peaks at diffraction angles 2θ of 5.1°, 7.6°, 16.7°, 19.8°, 20.9°, 21.7°, 23.9° and 24.7°±0.2°.

11. The polymorph form of either Claim 9 or Claim 10, wherein the X-ray powder diffraction pattern is as shown in Figure 3.

12. The polymorph form of any one of Claims 9 to 11, wherein the melting point is 175-178°C.

13. A polymorph form of the compound of Formula I,



Formula I

wherein the polymorph form is of Form IV and its X-ray powder diffraction pattern has characteristic peaks at diffraction angles 2θ of 6.1°, 11.2°, 15.8°, 19.5° and 22.5°±0.2°.

14. The polymorph form of Claim 13, wherein its X-ray powder diffraction pattern has characteristic peaks at diffraction angles 2θ of 6.1°, 11.2°, 12.9°, 14.2°, 15.8°, 18.3°, 19.5° and 22.5°±0.2°.

15. The polymorph form of either Claim 13 or Claim 14, wherein the X-ray powder diffraction pattern is as shown in Figure 4.

16. The polymorph form of any one of Claims 13 to 15, wherein the melting point is

175-177°C.

17. A method of preparing a polymorph form of Claims 1 to 16, comprising:

a) dissolving Icotinib hydrochloride in a mixture of ethanol and water, warming the mixture to 40-60°C and adding a solution of base; then stirring the solution for 1hr, cooling down to room temperature and recovering the resultant polymorph form of any one of Claims 1 to 4; or

b) heating the polymorph form of any one of Claims 1 to 4 to a temperature of 150-180°C under N₂, then cooling down to room temperature naturally to obtain the resultant polymorph form of any one of Claims 5 to 8; or

c) placing the polymorph form of any one of Claims 1 to 4 in a saturated vapor of acetonitrile at room temperature, and recovering the resultant polymorph form of any one of Claims 9 to 12; or

d) placing the polymorph form of any one of Claims 1 to 4 in a saturated vapor of methanol at room temperature, and recovering the resultant polymorph form of any one of Claims 13 to 16.

18. The method of Claim 17, wherein the temperature of b) is 160-170°C.

19. The method of Claim 18, wherein the temperature is 165°C.

20. A pharmaceutical composition comprising a therapeutically effective amount of the polymorph of any one of Claims 1 to 16, and a pharmaceutically acceptable excipient, adjuvant or carrier.

21. The pharmaceutical composition of Claim 20, wherein the polymorph form of any one of Claims 1 to 16 has a purity of $\geq 85\text{wt}\%$.

22. The pharmaceutical composition of Claim 20, wherein the polymorph form of any one of Claims 1 to 16 has a purity of $\geq 99\text{wt}\%$.

23. The pharmaceutical composition of any one of Claims 20 to 22, further comprising a second therapeutically active ingredient.

24. The pharmaceutical composition of any one of Claims 20 to 23, wherein the pharmaceutical composition is suitable for oral administration.

25. The pharmaceutical composition according to any one of Claims 20 to 24, wherein the pharmaceutical composition is in the form of tablet or capsule.

26. The pharmaceutical composition of any one of Claims 20 to 25, wherein the composition comprises 0.01wt% to 99wt% of the polymorph form of any one of Claims 1 to 16.

27. The pharmaceutical composition of Claim 26, wherein the composition comprises 10wt%

to 50wt% of the polymorph form of any one of Claims 1 to 16.

28. Use of a polymorph form of any one of Claims 1 to 16 or the pharmaceutical composition of any one of Claims 20 to 27 in the manufacture of a medicament for treating a disease related to EGFR-mediated tyrosine kinase dysfunction.

29. The use of Claim 28, wherein the disease related to EGFR-mediated tyrosine kinase dysfunction is brain, lung, liver, bladder, chest, head and neck, esophagus, gastrointestinal tract, breast, ovary, cervix or thyroid tumors or their complications.

30. Use of a polymorph form of any one of Claims 1 to 16 or the pharmaceutical composition of any one of Claims 20 to 27 in the manufacture of a medicament for the prevention or treatment of cancer associated with EGFR-mediated tyrosine kinase dysfunction in mammals.

31. The use of Claim 30, wherein the cancer is selected from: hemangionma, glioma, Kaposiinternal tumor, ovarian cancer, breast cancer, lung cancer, pancreatic cancer, lymphoma, prostate, colon and skin tumors and their complications.