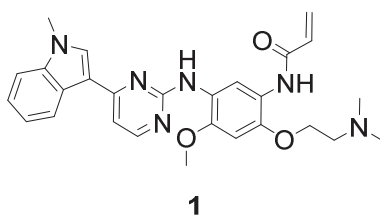


CLAIMS

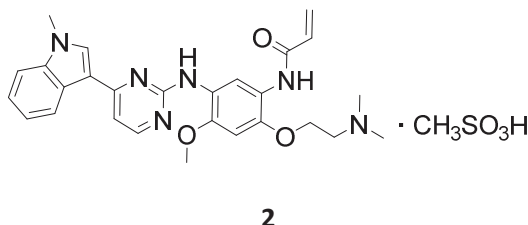
1. A crystalline form of the compound of formula **1**, namely *N*-(2-(2-(dimethylamino)ethoxy)-4-methoxy-5-((4-(1-methyl-1H-indol-3-yl)pyrimidin-2-yl)amino)-phenyl)acrylamide (free base), having an X-ray powder diffraction pattern comprising the following 2θ values measured using CuK α radiation: $8.5^{\circ}\pm 0.2^{\circ}$, $16.7^{\circ}\pm 0.2^{\circ}$, and $25.2^{\circ}\pm 0.2^{\circ}$.



2. The crystalline form of claim 1, wherein the X-ray powder diffraction pattern further comprises two or more of the following 2θ values measured using CuK α radiation: $9.5^{\circ}\pm 0.2^{\circ}$, $12.2^{\circ}\pm 0.2^{\circ}$, $12.5^{\circ}\pm 0.2^{\circ}$, $15.7^{\circ}\pm 0.2^{\circ}$, $16.0^{\circ}\pm 0.2^{\circ}$, $19.4^{\circ}\pm 0.2^{\circ}$, $19.7^{\circ}\pm 0.2^{\circ}$, $20.0^{\circ}\pm 0.2^{\circ}$, $23.2^{\circ}\pm 0.2^{\circ}$, $24.4^{\circ}\pm 0.2^{\circ}$, and $28.5^{\circ}\pm 0.2^{\circ}$.

3. The crystalline form of claim 1 or 2, having a melting point with an onset temperature at 169.6°C and/or a peak temperature at 171.7°C as measured by differential scanning calorimetry.

4. A crystalline form of *N*-(2-(2-(dimethylamino)ethoxy)-4-methoxy-5-((4-(1-methyl-1H-indol-3-yl)pyrimidin-2-yl)amino)phenyl)acrylamide methanesulfonate salt (formula **2**) having a molar ratio of 1:1 between methanesulfonic acid and free base.



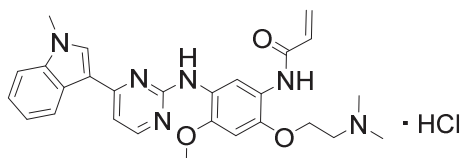
5. The crystalline form of claim 4, designated as Form **2A**, having an X-ray powder diffraction pattern comprising the following 2θ values measured using CuK α radiation: $12.6^{\circ}\pm 0.2^{\circ}$, $15.5^{\circ}\pm 0.2^{\circ}$, $17.9^{\circ}\pm 0.2^{\circ}$, $22.1^{\circ}\pm 0.2^{\circ}$, and $25.2^{\circ}\pm 0.2^{\circ}$.

6. The crystalline form of claim 5, wherein the X-ray powder diffraction pattern further comprises two or more of the following 2θ values measured using $\text{CuK}\alpha$ radiation: $11.1^\circ \pm 0.2^\circ$, $13.8^\circ \pm 0.2^\circ$, $14.7^\circ \pm 0.2^\circ$, $16.7^\circ \pm 0.2^\circ$, $19.3^\circ \pm 0.2^\circ$, $20.9^\circ \pm 0.2^\circ$, $23.2^\circ \pm 0.2^\circ$, and $25.8^\circ \pm 0.2^\circ$.

7. The crystalline form of any one of claims 5 to 6, having a melting point with an onset temperature at 233.3°C and/or a peak temperature at 238.1°C as measured by differential scanning calorimetry.

8. The crystalline form of claim 4, designated as Form 2B, having an X-ray powder diffraction pattern comprising three or more of the following 2θ values measured using $\text{CuK}\alpha$ radiation: $9.7^\circ \pm 0.2^\circ$, $12.8^\circ \pm 0.2^\circ$, $15.7^\circ \pm 0.2^\circ$, $18.2^\circ \pm 0.2^\circ$, $20.3^\circ \pm 0.2^\circ$, $25.1^\circ \pm 0.2^\circ$, $25.6^\circ \pm 0.2^\circ$, and $26.8^\circ \pm 0.2^\circ$.

9. A crystalline form of *N*-(2-(2-(dimethylamino)ethoxy)-4-methoxy-5-((4-(1-methyl-1H-indol-3-yl)pyrimidin-2-yl)amino)phenyl)acrylamide hydrochloride salt (formula **3**) having a molar ratio of 1:1 between hydrochloride acid and free base.



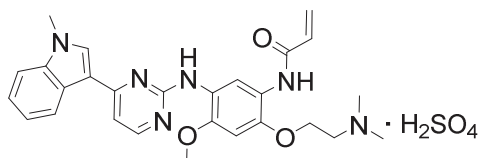
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10. The crystalline form of claim 9, having an X-ray powder diffraction pattern comprising three or more of the following 2θ values measured using $\text{CuK}\alpha$ radiation: $8.5^\circ \pm 0.2^\circ$, $11.2^\circ \pm 0.2^\circ$, $18.1^\circ \pm 0.2^\circ$, $22.4^\circ \pm 0.2^\circ$, $23.5^\circ \pm 0.2^\circ$, and $26.3^\circ \pm 0.2^\circ$.

11. The crystalline form of claim 10, wherein the X-ray powder diffraction pattern further comprises two or more of the following 2θ values measured using $\text{CuK}\alpha$ radiation: $9.0^\circ \pm 0.2^\circ$, $12.7^\circ \pm 0.2^\circ$, $16.1^\circ \pm 0.2^\circ$, $17.3^\circ \pm 0.2^\circ$, $18.7^\circ \pm 0.2^\circ$, $20.6^\circ \pm 0.2^\circ$, $21.8^\circ \pm 0.2^\circ$, and $25.4^\circ \pm 0.2^\circ$.

12. The crystalline form of any one of claims 9 to 11, having a melting point with an onset temperature at 266.6°C and/or a peak temperature at 269.5°C as measured by differential scanning calorimetry.

13. A crystalline form of *N*-(2-(2-(dimethylamino)ethoxy)-4-methoxy-5-((4-(1-methyl-1H-indol-3-yl)pyrimidin-2-yl)amino)phenyl)acrylamide sulfate salt (formula 4) having a molar ratio of 1:1 between sulfuric acid and free base.

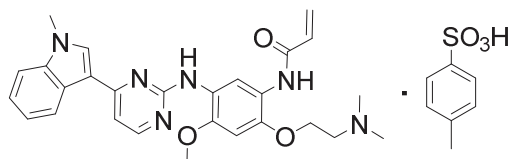


4

14. The crystalline form of claim 13, having an X-ray powder diffraction pattern comprising three or more of the following 2θ values measured using $\text{CuK}\alpha$ radiation: $5.6^\circ \pm 0.2^\circ$, $7.3^\circ \pm 0.2^\circ$, $11.0^\circ \pm 0.2^\circ$, $11.9^\circ \pm 0.2^\circ$, $14.3^\circ \pm 0.2^\circ$, $18.1^\circ \pm 0.2^\circ$, $19.0^\circ \pm 0.2^\circ$, $19.6^\circ \pm 0.2^\circ$, $19.9^\circ \pm 0.2^\circ$, $22.2^\circ \pm 0.2^\circ$, $24.9^\circ \pm 0.2^\circ$, and $26.3^\circ \pm 0.2^\circ$.

15. The crystalline form of claim 13 or 14, having a melting point with an onset temperature at 152.3°C and/or a peak temperature at 167.1°C as measured by differential scanning calorimetry.

16. A crystalline form of *N*-(2-(2-(dimethylamino)ethoxy)-4-methoxy-5-((4-(1-methyl-1H-indol-3-yl)pyrimidin-2-yl)amino)phenyl)acrylamide p-toluenesulfonate (p-tosylate) salt (formula 5) having a molar ratio of 1:1 between p-toluenesulfonic acid and free base.



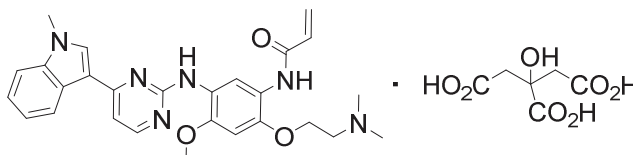
5

17. The crystalline form of claim 16, having an X-ray powder diffraction pattern comprising three or more of the following 2θ values measured using $\text{CuK}\alpha$ radiation: $6.8^\circ \pm 0.2^\circ$, $7.3^\circ \pm 0.2^\circ$, $10.3^\circ \pm 0.2^\circ$, $11.3^\circ \pm 0.2^\circ$, $13.1^\circ \pm 0.2^\circ$, $15.6^\circ \pm 0.2^\circ$, $18.2^\circ \pm 0.2^\circ$, $20.5^\circ \pm 0.2^\circ$, $19.9^\circ \pm 0.2^\circ$, $22.7^\circ \pm 0.2^\circ$, $23.3^\circ \pm 0.2^\circ$, $27.1^\circ \pm 0.2^\circ$, and $29.7^\circ \pm 0.2^\circ$.

18. The crystalline form of claim 16 or 17, having a melting point with an onset temperature at 152.3°C and/or a peak temperature at 167.1°C as measured by differential

scanning calorimetry.

19. A crystalline form of *N*-(2-(2-(dimethylamino)ethoxy)-4-methoxy-5-((4-(1-methyl-1H-indol-3-yl)pyrimidin-2-yl)amino)phenyl)acrylamide citrate salt (formula **6**) having a molar ratio of 1:1 between citric acid and free base.



6

20. The crystalline form of claim 19, having an X-ray powder diffraction pattern comprising three or more of the following 2θ values measured using $\text{CuK}\alpha$ radiation: $5.9^\circ \pm 0.2^\circ$, $8.0^\circ \pm 0.2^\circ$, $13.2^\circ \pm 0.2^\circ$, $19.0^\circ \pm 0.2^\circ$, $25.6^\circ \pm 0.2^\circ$, and $26.5^\circ \pm 0.2^\circ$.

21. The crystalline form of claim 20, wherein the X-ray powder diffraction pattern further comprises two or more of the following 2θ values measured using $\text{CuK}\alpha$ radiation: $12.6^\circ \pm 0.2^\circ$, $16.0^\circ \pm 0.2^\circ$, $16.6^\circ \pm 0.2^\circ$, $17.0^\circ \pm 0.2^\circ$, $18.5^\circ \pm 0.2^\circ$, $20.3^\circ \pm 0.2^\circ$, $23.2^\circ \pm 0.2^\circ$, and $25.8^\circ \pm 0.2^\circ$.

22. A pharmaceutical composition comprising a crystalline form of any one of claims 1 to 21, and a pharmaceutically acceptable carrier, adjuvant, diluent, and/or vehicle.

23. A crystalline form according to any one of claims 1 to 21 or a pharmaceutical composition of claim 22, for use in the treatment of cancer.

24. The crystalline form or pharmaceutical composition for use of claim 23, wherein said cancer is associated with one or more mutants of EGFR selected from L858R activating mutants L858R, delE746-A750, G719S; the Exon 19 deletion activating mutant; and the T790M resistance mutant.

25. The crystalline form or pharmaceutical composition for use of claim 23 or 24, wherein said cancer is selected from brain cancer, lung cancer, kidney cancer, bone cancer, liver cancer, bladder cancer, head and neck cancer, esophageal cancer, stomach cancer, colon cancer,

rectum cancer, breast cancer, ovarian cancer, melanoma, skin cancer, adrenal cancer, cervical cancer, lymphoma, and thyroid tumors and their complications.

26. The crystalline form or pharmaceutical composition for use of any one of claims 23 to 25, wherein said cancer is brain cancer or lung cancer.

27. The crystalline form or pharmaceutical composition for use of any one of claims 23 to 25, wherein said cancer is a metastatic brain cancer.

28. Use of a crystalline form according to any one of claims 1 to 21, in the manufacture of a medicament for treatment of a cancer associated with an EGFR activity.

29. The use of claim 28, wherein said cancer is selected from the group consisting of brain cancer, lung cancer, kidney cancer, bone cancer, liver cancer, bladder cancer, head and neck cancer, esophageal cancer, stomach cancer, colon cancer, rectum cancer, breast cancer, ovarian cancer, melanoma, skin cancer, adrenal cancer, cervical cancer, lymphoma, and thyroid tumors and their complications.

30. The use of claim 28 or 29, wherein said cancer is brain cancer or lung cancer.