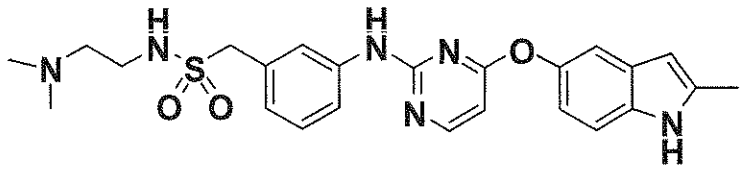
COMPOUND, CERTAIN NOVEL FORMS THEREOF, PHARMACEUTICAL COMPOSITIONS THEREOF AND METHODS FOR PREPARATION AND USE

[001] Angiogenesis is a process wherein new blood vessels can grow from existing vasculature. That process can occur in wound healing of the body, such as the restoration of blood flow in tissue injury, for example, an injury of the hand. Excess angiogenesis, however, might be initiated under specific pathological conditions, for example tumor, AMD (age-related macular degeneration), rheumatoid arthritis, psoriasis, etc. Under such circumstances, new blood vessels may undesirably tend to provide pathological tissues with nutrition and injure the normal tissues. For example, cancer cells may enter into blood circulation through new blood vessels and invade normal tissues.

[002] VEGF (Vascular Endothelial Growth Factor) and its receptor VEGFR-2 (also called KDR, kinase insert domain-containing receptor) can form the major pathway for the formation of new blood vessels. It has been indicated that inhibition of KDR can cause apoptosis of endothelial cells, which consequently block the angiogenesis process (Rubin M. Tuder, Chest, 2000; 117:281). Thus, KDR inhibitors can be used for the treatment of angiogenesis- related diseases.

[003] FGF (Fibroblast Growth Factor) is a pro-angiogenesis molecule as is VEGF. During angiogenesis, VEGF is thought to be critical in the neovascularization process, and the FGF (Fibroblast Growth Factor)/FGFR (Fibroblast Growth Factor Receptor) axis plays roles in functionally maturing newly formed vessels. In addition, aberrant activation of FGF family members and their cognate receptors have been found in multiple cancers, such as breast, bladder and prostate cancers. FGFR1 and its binding partners FGF1, FGF2, FGF8b and FGF17 are also elevated. In other tumor types, FGFR1 is implicated as an oncogene whose expression is increased compared with normal tissue. Therefore, blockade of FGF/FGFR signaling may be beneficial for treatment of cancers associated with FGF/FGFR activation.

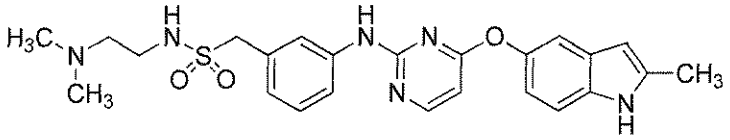
[003a] In one aspect, there is provided *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide,



and/or a pharmaceutically acceptable salt thereof.

[004] Disclosed herein is a compound of Formula A, e.g., *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-

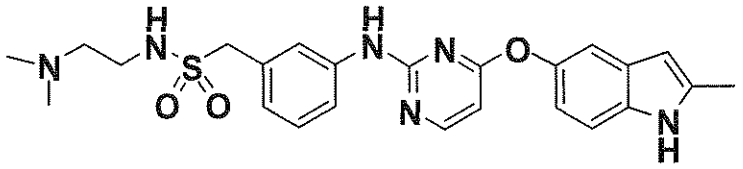
yl)amino)phenyl)-methanesulfonamide, and/or a pharmaceutically acceptable salt thereof.



Formula A

N-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)-methanesulfonamide

[004a] In another aspect, there is provided a pharmaceutical composition, comprising at least one pharmaceutically acceptable carrier and *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide



and/or a pharmaceutically acceptable salt thereof.

[005] Also disclosed herein is a pharmaceutical composition, comprising at least one pharmaceutically acceptable carrier and the compound of formula A, and/or at least one pharmaceutically acceptable salt thereof.

[005a] In another aspect, there is provided the use of at least one active pharmaceutical ingredient chosen from *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide, pharmaceutically acceptable salts thereof, Form I N-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1H-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide, having

(a) an X-ray powder diffractogram having peaks (2θ) having about the following values: 7.0, 8.0, and 8.6, each of the diffraction angles being ± 0.2 degrees (2θ); and/or

(b) an FT-IR spectrum showing peaks at about 2781.4, 1218.2, 1163.1, 1124.5, 1114.8, 1085.7, 984.9, 705.0, 500.7, and 434.8 cm-1; and/or

(c) a DSC with an endothermic peak at about 167-169°C, and Form II N-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1H-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide, having

(a) an X-ray powder diffractogram having peaks (2θ) having about the following values: 6.8, 9.8, 10.5, and 10.7, each of the diffraction angles being ± 0.2 degrees (2θ); and/or

(b) an FT-IR spectrum showing peaks at about 2770.3, 1216.3, 1166.3, 1115.8, 1089.8, 986.5, 872.5, 695.5, 520.5, 456.0 cm-1; and/or

(c) a DSC with an endothermic peak at about 160-162°C,

in the manufacture of a medicament for treatment for at least one angiogenesis-related disorder.

[006] Also disclosed herein is a method of treating a subject in recognized need of treatment for at least one disease responsive to FTFR1 inhibition, such as cancer, and/or at least one disease responsive to KDR inhibition, such as angiogenesis-related disorders, comprising administering to said subject in need thereof an effective amount of the compound of Formula A and/or a pharmaceutically acceptable salt thereof.

[007] Solid-state crystalline forms I and II of the compound of Formula A have been discovered and are disclosed herein. The ability of a compound to exist in more than one crystal structure or form is known as polymorphism. Many compounds may exist unexpectedly as polymorph crystals and those compounds may also exist in a solid amorphous state. Until polymorphism is discovered, it is highly unpredictable (1) whether a particular compound will exhibit polymorphism, (2) how to make any such unknown polymorphs, and (3) what the properties, such as stability, will be of any such unknown polymorphs. See, e.g., J. Bernstein "Polymorphism in Molecular Crystals", Oxford University Press, (2002).

[008] Because the properties of any solid material depend on the structure as well as on the nature of the compound itself, different solid state forms of a compound can and often do exhibit different physical and chemical properties. Differences in chemical properties can be determined through a variety of analytical techniques to be used to characterize, analyze, and compare. And those differences in chemical properties may ultimately be used to differentiate

among different solid state forms that may be discovered to exist. Furthermore, differences in physical properties, such as solubility or bioavailability, of solid sate forms can be important when formulating a pharmaceutical compound. As such, novel crystalline and amorphous solid state forms of pharmaceutically useful compounds, such as the compound of Formula A, can be important in the development of such useful compounds.

[009] Also disclosed herein is a novel form of the compound of Formula A, designated Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)-methanesulfonamide.

[009a] Thus, in one aspect, there is provided Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide, having

(a) an X-ray powder diffractogram having peaks (2θ) having about the following values: 7.0, 8.0, and 8.6, each of the diffraction angles being ± 0.2 degrees (2θ); and/or

(b) an FT-IR spectrum showing peaks at about 2781.4, 1218.2, 1163.1, 1124.5, 1114.8, 1085.7, 984.9, 705.0, 500.7, and 434.8 cm-1; and/or

(c) a DSC with an endothermic peak at about 167-169°C.

[010] Also disclosed herein are methods of preparing Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-*1H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide.

[010a] In another aspect, there is provided a method of preparing Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide, comprising:

(1) mixing *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide with at least one dissolution organic solvent, then heating the mixture to reflux to obtain a solution;

(2) cooling the solution to ambient temperature; and

(3) isolating Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide,

wherein the Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide has

(a) an X-ray powder diffractogram having peaks (2θ) having about the following values: 7.0, 8.0, and 8.6, each of the diffraction angles being ± 0.2 degrees (2θ); and/or

(b) an FT-IR spectrum showing peaks at about 2781.4, 1218.2, 1163.1, 1124.5, 1114.8, 1085.7, 984.9, 705.0, 500.7, and 434.8 cm-1; and/or

(c) a DSC with an endothermic peak at about 167-169°C.

[010b] In yet another aspect, there is provided a method of preparing Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide, comprising:

(1) mixing *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide with at least one dissolution solvent, then heating the mixture to reflux to obtain a first solution;

(2) adding at least one anti-dissolution organic solvent to the first solution at refluxing temperature to obtain a second solution;

(3) leaving the second solution to cool at ambient temperature; and

(4) isolating Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide,

wherein the Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide has

(a) an X-ray powder diffractogram having peaks (2θ) having about the following values: 7.0, 8.0, and 8.6, each of the diffraction angles being ± 0.2 degrees (2θ); and/or

(b) an FT-IR spectrum showing peaks at about 2781.4, 1218.2, 1163.1, 1124.5, 1114.8, 1085.7, 984.9, 705.0, 500.7, and 434.8 cm-1; and/or

(c) a DSC with an endothermic peak at about 167-169°C.

[011] Also disclosed herein is a pharmaceutical composition, comprising at least one pharmaceutically acceptable carrier and Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)-methanesulfonamide.

[011a] In one aspect, there is provided a pharmaceutical composition, comprising at least one pharmaceutically acceptable carrier and Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide,

wherein the Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide has

(a) an X-ray powder diffractogram having peaks (2θ) having about the following values: 7.0, 8.0, and 8.6, each of the diffraction angles being ± 0.2 degrees (2θ); and/or

(b) an FT-IR spectrum showing peaks at about 2781.4, 1218.2, 1163.1, 1124.5, 1114.8, 1085.7, 984.9, 705.0, 500.7, and 434.8 cm-1; and/or

(c) a DSC with an endothermic peak at about 167-169°C.

[012] Also disclosed herein is a method of treating a subject in recognized need of treatment for at least one disease responsive to FTFR1 inhibition, such as cancer, and/or at least one disease responsive to KDR inhibition, such as angiogenesis-related disorders, comprising administering to said subject in need thereof an effective amount of Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide.

[012a] In another aspect, there is provided the use of Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide in the manufacture of a medicament for treatment for at least one angiogenesis-related disorder

wherein the Form I N-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1H-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide has

(a) an X-ray powder diffractogram having peaks (2θ) having about the following values: 7.0, 8.0, and 8.6, each of the diffraction angles being ± 0.2 degrees (2θ); and/or

(b) an FT-IR spectrum showing peaks at about 2781.4, 1218.2, 1163.1, 1124.5, 1114.8, 1085.7, 984.9, 705.0, 500.7, and 434.8 cm-1; and/or

(c) a DSC with an endothermic peak at about 167-169°C.

[012b] In yet another aspect, there is provided the use of at least one active pharmaceutical ingredient chosen from *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide, pharmaceutically acceptable salts thereof, Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide, having

(a) an X-ray powder diffractogram having peaks (2θ) having about the following values: 7.0, 8.0, and 8.6, each of the diffraction angles being ± 0.2 degrees (2θ); and/or

(b) an FT-IR spectrum showing peaks at about 2781.4, 1218.2, 1163.1, 1124.5, 1114.8, 1085.7, 984.9, 705.0, 500.7, and 434.8 cm-1; and/or

(c) a DSC with an endothermic peak at about 167-169°C, and

Form II *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide, having

(a) an X-ray powder diffractogram having peaks (2θ) having about the following values: 6.8, 9.8, 10.5, and 10.7, each of the diffraction angles being ± 0.2 degrees (2θ); and/or

(b) an FT-IR spectrum showing peaks at about 2770.3, 1216.3, 1166.3, 1115.8, 1089.8, 986.5, 872.5, 695.5, 520.5, 456.0 cm-1; and/or

(c) a DSC with an endothermic peak at about 160-162°C,

in the manufacture of a medicament for treatment for at least one disease responsive to FGFR1 inhibition, wherein the at least one disease responsive to FGFR1 inhibition is chosen from cancers.

[012c] In yet another aspect, there is provided the use of Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)-methanesulfonamide in the manufacture of a medicament for at least one disease responsive to FGFR1 inhibition,

wherein the Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide has

(a) an X-ray powder diffractogram having peaks (2θ) having about the following values: 7.0, 8.0, and 8.6, each of the diffraction angles being ± 0.2 degrees (2θ); and/or

(b) an FT-IR spectrum showing peaks at about 2781.4, 1218.2, 1163.1, 1124.5, 1114.8, 1085.7, 984.9, 705.0, 500.7, and 434.8 cm-1; and/or

(c) a DSC with an endothermic peak at about 167-169°C,

wherein the at least one disease responsive to FGFR1 inhibition is chosen from cancers.

[013] Also disclosed herein is another novel form of the compound of Formula A, designated Form II *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-*1H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide.

[013a] Thus, in one aspect, there is provided Form II *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide, having

(a) an X-ray powder diffractogram having peaks (2θ) having about the following values: 6.8, 9.8, 10.5, and 10.7, each of the diffraction angles being ± 0.2 degrees (2θ); and/or

(b) an FT-IR spectrum showing peaks at about 2770.3, 1216.3, 1166.3, 1115.8, 1089.8, 986.5, 872.5, 695.5, 520.5, 456.0 cm-1; and/or

(c) a DSC with an endothermic peak at about 160-162°C.

[014] Also disclosed herein are methods of preparing Form II *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide.

[014a] In one aspect, there is provided a method of preparing Form II *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide, comprising:

(1) mixing *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide with at least one dissolution solvent, and heating the mixture to reflux to obtain a first solution;

(2) adding at least one anti-dissolution solvent to the first solution at reflux temperature to obtain a second solution;

(3) cooling the second solution to 0-5 °C at a cooling rate of 1-40 °C/minute; and

(4) isolating Form II *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide,

wherein the Form II *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide has

(a) an X-ray powder diffractogram having peaks (2θ) having about the following values: 6.8, 9.8, 10.5, and 10.7, each of the diffraction angles being ±0.2 degrees (2θ); and/or

(b) an FT-IR spectrum showing peaks at about 2770.3, 1216.3, 1166.3, 1115.8, 1089.8, 986.5, 872.5, 695.5, 520.5, 456.0 cm-1; and/or

(c) a DSC with an endothermic peak at about 160-162°C.

[014b] In yet another aspect, there is provided a method of preparing Form II *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide, comprising:

(1) mixing *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide with at least one dissolution solvent, and heating the mixture to reflux to obtain a solution;

(2) cooling the solution, then seeding said cooled solution with Form II;

(3) cooling said seeded solution to ambient temperature, and

(4) isolating Form II *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide,

wherein the Form II *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide has

(a) an X-ray powder diffractogram having peaks (2θ) having about the following values: 6.8, 9.8, 10.5, and 10.7, each of the diffraction angles being ± 0.2 degrees (2θ); and/or

(b) an FT-IR spectrum showing peaks at about 2770.3, 1216.3, 1166.3, 1115.8, 1089.8, 986.5, 872.5, 695.5, 520.5, 456.0 cm-1; and/or

(c) a DSC with an endothermic peak at about 160-162°C.

[015] Also disclosed herein is a pharmaceutical composition, comprising at least one pharmaceutically acceptable carrier and Form II *N*-(2-(dimethylamino)

ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)-methanesulfonamide.

[015a] In one aspect, there is provided a pharmaceutical composition, comprising at least one pharmaceutically acceptable carrier and Form II *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide,

wherein the Form II *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide has

(a) an X-ray powder diffractogram having peaks (2θ) having about the following values: 6.8, 9.8, 10.5, and 10.7, each of the diffraction angles being ± 0.2 degrees (2θ); and/or

(b) an FT-IR spectrum showing peaks at about 2770.3, 1216.3, 1166.3, 1115.8, 1089.8, 986.5, 872.5, 695.5, 520.5, 456.0 cm-1; and/or

(c) a DSC with an endothermic peak at about 160-162°C.

[016] Also disclosed herein is a method of treating a subject in recognized need of treatment for at least one disease responsive to FTFR1 inhibition, such as cancer, and/or at least one disease responsive to KDR inhibition, such as angiogenesis-related disorders, comprising administering to said subject in need thereof an effective amount of Form II *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methane- sulfonamide.

[016a] In one aspect, there is provided the use of Form II *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)-methanesulfonamide in the manufacture of a medicament for need of treatment for at least one disease responsive to FGFR1 inhibition,

wherein the Form II *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide has

(a) an X-ray powder diffractogram having peaks (2θ) having about the following values: 6.8, 9.8, 10.5, and 10.7, each of the diffraction angles being ± 0.2 degrees (2θ); and/or

(b) an FT-IR spectrum showing peaks at about 2770.3, 1216.3, 1166.3, 1115.8, 1089.8, 986.5, 872.5, 695.5, 520.5, 456.0 cm-1; and/or

(c) a DSC with an endothermic peak at about 160-162°C,

wherein the at least one disease responsive to FGFR1 inhibition is chosen from cancers.

BRIEF DESCRIPTION OF THE DRAWINGS

[017] Figure 1 shows a powder X-ray diffractogram of Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide, the horizontal axis (x-axis) plots the diffraction 2 theta, and the vertical axis (y-axis) plots the intensity (counts).

[018] Figure 2 shows a differential scanning calorimeter (DSC) thermogram of Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide, the horizontal axis (x-axis) plots the temperature (°C), and the vertical axis (y-axis) plots the heat flow (mW).

[019] Figure 3 shows a Fourier Transform-Infrared (FT-IR) spectrum of Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide, the horizontal axis (x-axis) plots the wave number (cm^{-1}), and the vertical axis (y-axis) plots the transmission intensity.

[020] Figure 4 shows a Thermogravimetric (TG) curve of Form I *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide, the horizontal axis (x-axis) plots the temperature (°C), and the vertical axis (y-axis) plots the weight percentage (%).

[021] Figure 5 shows a powder X-ray diffractogram of Form II *N*-(2-(dimethylamino) ethyl)-1-(3-((4-((2-methyl-1*H*-indol-5-yl)oxy)pyrimidin-2-yl)amino)phenyl)methanesulfonamide, the horizontal axis (x-axis) plots the diffraction 2 theta, and the vertical axis (y-axis) plots the intensity (counts).