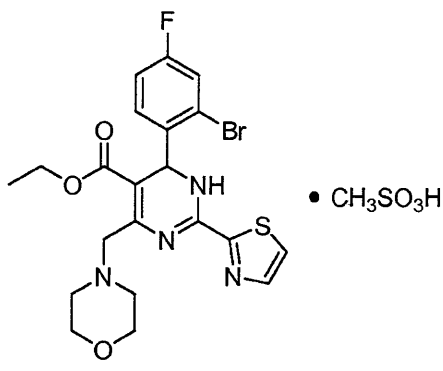


CLAIMS

1. A crystalline form of the compound of formula (I):



or a tautomer or a combination thereof.

2. The crystalline form of claim 1, wherein the crystalline form is form A, form B, form C, form G, form H, form I or a combination thereof.

3. The crystalline form of claim 2, wherein the crystalline form is form A having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $6.57^\circ \pm 0.2^\circ$, $13.13^\circ \pm 0.2^\circ$, $13.38^\circ \pm 0.2^\circ$, $19.73^\circ \pm 0.2^\circ$, $20.18^\circ \pm 0.2^\circ$, $20.90^\circ \pm 0.2^\circ$, $24.90^\circ \pm 0.2^\circ$, $26.63^\circ \pm 0.2^\circ$ and $29.01^\circ \pm 0.2^\circ$.

4. The crystalline form of claim 2, wherein the crystalline form is form A having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $6.57^\circ \pm 0.2^\circ$, $13.13^\circ \pm 0.2^\circ$, $13.38^\circ \pm 0.2^\circ$, $19.73^\circ \pm 0.2^\circ$, $20.18^\circ \pm 0.2^\circ$, $20.90^\circ \pm 0.2^\circ$, $22.43^\circ \pm 0.2^\circ$, $24.38^\circ \pm 0.2^\circ$, $24.90^\circ \pm 0.2^\circ$, $26.63^\circ \pm 0.2^\circ$, $27.93^\circ \pm 0.2^\circ$ and $29.01^\circ \pm 0.2^\circ$.

5. The crystalline form of claim 2, wherein the crystalline form is form A having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $6.57^\circ \pm 0.2^\circ$, $9.73^\circ \pm 0.2^\circ$, $11.14^\circ \pm 0.2^\circ$, $13.13^\circ \pm 0.2^\circ$, $13.38^\circ \pm 0.2^\circ$, $19.73^\circ \pm 0.2^\circ$, $20.18^\circ \pm 0.2^\circ$, $20.90^\circ \pm 0.2^\circ$, $22.43^\circ \pm 0.2^\circ$, $23.20^\circ \pm 0.2^\circ$, $24.38^\circ \pm 0.2^\circ$, $24.90^\circ \pm 0.2^\circ$, $26.63^\circ \pm 0.2^\circ$, $27.93^\circ \pm 0.2^\circ$, $29.01^\circ \pm 0.2^\circ$, $29.84^\circ \pm 0.2^\circ$, $30.78^\circ \pm 0.2^\circ$ and $31.68^\circ \pm 0.2^\circ$.

0.2°.

6. The crystalline form of claim 2, wherein the crystalline form is form A having an X-ray powder diffraction (XRPD) pattern substantially the same as shown in Figure 1.

7. The crystalline form of claim 2, wherein the crystalline form is form A having a differential scanning calorimetry (DSC) thermogram comprising an endothermic peak at about $162.3^{\circ}\text{C} \pm 3^{\circ}\text{C}$.

8. The crystalline form of claim 2, wherein the crystalline form is form A having a differential scanning calorimetry (DSC) thermogram substantially the same as shown in Figure 2.

9. The crystalline form of claim 2, wherein the crystalline form is form B having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $6.68^{\circ} \pm 0.2^{\circ}$, $13.39^{\circ} \pm 0.2^{\circ}$, $19.65^{\circ} \pm 0.2^{\circ}$, $20.26^{\circ} \pm 0.2^{\circ}$, $22.45^{\circ} \pm 0.2^{\circ}$, $24.80^{\circ} \pm 0.2^{\circ}$, $25.01^{\circ} \pm 0.2^{\circ}$, $26.19^{\circ} \pm 0.2^{\circ}$, $26.61^{\circ} \pm 0.2^{\circ}$ and $28.79^{\circ} \pm 0.2^{\circ}$.

10. The crystalline form of claim 2, wherein the crystalline form is form B having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $6.68^{\circ} \pm 0.2^{\circ}$, $9.77^{\circ} \pm 0.2^{\circ}$, $9.98^{\circ} \pm 0.2^{\circ}$, $11.88^{\circ} \pm 0.2^{\circ}$, $13.39^{\circ} \pm 0.2^{\circ}$, $16.65^{\circ} \pm 0.2^{\circ}$, $17.66^{\circ} \pm 0.2^{\circ}$, $19.08^{\circ} \pm 0.2^{\circ}$, $19.65^{\circ} \pm 0.2^{\circ}$, $20.26^{\circ} \pm 0.2^{\circ}$, $20.81^{\circ} \pm 0.2^{\circ}$, $20.97^{\circ} \pm 0.2^{\circ}$, $22.45^{\circ} \pm 0.2^{\circ}$, $24.80^{\circ} \pm 0.2^{\circ}$, $25.01^{\circ} \pm 0.2^{\circ}$, $26.19^{\circ} \pm 0.2^{\circ}$, $26.61^{\circ} \pm 0.2^{\circ}$, $28.79^{\circ} \pm 0.2^{\circ}$, $29.78^{\circ} \pm 0.2^{\circ}$, $30.13^{\circ} \pm 0.2^{\circ}$, $31.61^{\circ} \pm 0.2^{\circ}$, $31.92^{\circ} \pm 0.2^{\circ}$ and $32.45^{\circ} \pm 0.2^{\circ}$.

11. The crystalline form of claim 2, wherein the crystalline form is form B having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $6.68^{\circ} \pm 0.2^{\circ}$, $9.77^{\circ} \pm 0.2^{\circ}$, $9.98^{\circ} \pm 0.2^{\circ}$, $11.88^{\circ} \pm 0.2^{\circ}$, $13.39^{\circ} \pm 0.2^{\circ}$, $14.62^{\circ} \pm 0.2^{\circ}$, $16.65^{\circ} \pm 0.2^{\circ}$, $17.66^{\circ} \pm 0.2^{\circ}$, $19.08^{\circ} \pm 0.2^{\circ}$, $19.65^{\circ} \pm 0.2^{\circ}$, $20.26^{\circ} \pm 0.2^{\circ}$, $20.81^{\circ} \pm 0.2^{\circ}$, $20.97^{\circ} \pm 0.2^{\circ}$, $22.07^{\circ} \pm 0.2^{\circ}$, $22.45^{\circ} \pm 0.2^{\circ}$, $24.80^{\circ} \pm 0.2^{\circ}$, $25.01^{\circ} \pm 0.2^{\circ}$, $25.45^{\circ} \pm 0.2^{\circ}$, $26.19^{\circ} \pm 0.2^{\circ}$, $26.61^{\circ} \pm 0.2^{\circ}$, $27.85^{\circ} \pm 0.2^{\circ}$, $28.15^{\circ} \pm 0.2^{\circ}$, $28.79^{\circ} \pm 0.2^{\circ}$, $29.35^{\circ} \pm 0.2^{\circ}$, $29.78^{\circ} \pm 0.2^{\circ}$, $30.13^{\circ} \pm 0.2^{\circ}$, $30.51^{\circ} \pm 0.2^{\circ}$, $31.29^{\circ} \pm 0.2^{\circ}$, $31.61^{\circ} \pm 0.2^{\circ}$, $31.92^{\circ} \pm 0.2^{\circ}$,

$32.45^{\circ} \pm 0.2^{\circ}$ and $35.41^{\circ} \pm 0.2^{\circ}$.

12. The crystalline form of claim 2, wherein the crystalline form is form B having an X-ray powder diffraction (XRPD) pattern substantially the same as shown in Figure 3.

13. The crystalline form of claim 2, wherein the crystalline form is form B having a differential scanning calorimetry (DSC) thermogram comprising an endothermic peak at about $165.8^{\circ}\text{C} \pm 3^{\circ}\text{C}$.

14. The crystalline form of claim 2, wherein the crystalline form is form B having a differential scanning calorimetry (DSC) thermogram substantially the same as shown in Figure 4.

15. The crystalline form of claim 2, wherein the crystalline form is form C having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $5.39^{\circ} \pm 0.2^{\circ}$, $13.25^{\circ} \pm 0.2^{\circ}$, $16.00^{\circ} \pm 0.2^{\circ}$, $17.27^{\circ} \pm 0.2^{\circ}$, $21.33^{\circ} \pm 0.2^{\circ}$, $21.92^{\circ} \pm 0.2^{\circ}$, $22.53^{\circ} \pm 0.2^{\circ}$, $23.47^{\circ} \pm 0.2^{\circ}$, $26.56^{\circ} \pm 0.2^{\circ}$, $26.87^{\circ} \pm 0.2^{\circ}$, $29.41^{\circ} \pm 0.2^{\circ}$ and $32.22^{\circ} \pm 0.2^{\circ}$.

16. The crystalline form of claim 2, wherein the crystalline form is form C having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $5.39^{\circ} \pm 0.2^{\circ}$, $13.25^{\circ} \pm 0.2^{\circ}$, $16.00^{\circ} \pm 0.2^{\circ}$, $17.27^{\circ} \pm 0.2^{\circ}$, $20.31^{\circ} \pm 0.2^{\circ}$, $21.33^{\circ} \pm 0.2^{\circ}$, $21.92^{\circ} \pm 0.2^{\circ}$, $22.53^{\circ} \pm 0.2^{\circ}$, $23.47^{\circ} \pm 0.2^{\circ}$, $23.58^{\circ} \pm 0.2^{\circ}$, $26.56^{\circ} \pm 0.2^{\circ}$, $26.87^{\circ} \pm 0.2^{\circ}$, $29.41^{\circ} \pm 0.2^{\circ}$, $30.52^{\circ} \pm 0.2^{\circ}$, $31.35^{\circ} \pm 0.2^{\circ}$, $32.05^{\circ} \pm 0.2^{\circ}$ and $32.22^{\circ} \pm 0.2^{\circ}$.

17. The crystalline form of claim 2, wherein the crystalline form is form C having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $5.39^{\circ} \pm 0.2^{\circ}$, $10.42^{\circ} \pm 0.2^{\circ}$, $10.69^{\circ} \pm 0.2^{\circ}$, $12.04^{\circ} \pm 0.2^{\circ}$, $13.25^{\circ} \pm 0.2^{\circ}$, $13.56^{\circ} \pm 0.2^{\circ}$, $16.00^{\circ} \pm 0.2^{\circ}$, $17.27^{\circ} \pm 0.2^{\circ}$, $19.61^{\circ} \pm 0.2^{\circ}$, $19.86^{\circ} \pm 0.2^{\circ}$, $20.02^{\circ} \pm 0.2^{\circ}$, $20.31^{\circ} \pm 0.2^{\circ}$, $21.33^{\circ} \pm 0.2^{\circ}$, $21.92^{\circ} \pm 0.2^{\circ}$, $22.17^{\circ} \pm 0.2^{\circ}$, $22.29^{\circ} \pm 0.2^{\circ}$, $22.53^{\circ} \pm 0.2^{\circ}$, $23.47^{\circ} \pm 0.2^{\circ}$, $23.58^{\circ} \pm 0.2^{\circ}$, $24.35^{\circ} \pm 0.2^{\circ}$, $24.96^{\circ} \pm 0.2^{\circ}$, $25.10^{\circ} \pm 0.2^{\circ}$, $26.39^{\circ} \pm 0.2^{\circ}$, $26.56^{\circ} \pm 0.2^{\circ}$, $26.87^{\circ} \pm 0.2^{\circ}$, $27.25^{\circ} \pm 0.2^{\circ}$, $27.64^{\circ} \pm 0.2^{\circ}$, $29.41^{\circ} \pm 0.2^{\circ}$, $29.90^{\circ} \pm 0.2^{\circ}$, $30.31^{\circ} \pm 0.2^{\circ}$,

30.52° ± 0.2°, 31.35° ± 0.2°, 32.05° ± 0.2°, 32.22° ± 0.2°, 32.96° ± 0.2°, 33.71° ± 0.2°, 34.11° ± 0.2°, 34.88° ± 0.2°, 36.23° ± 0.2° and 36.46° ± 0.2°.

18. The crystalline form of claim 2, wherein the crystalline form is form C having an X-ray powder diffraction (XRPD) pattern substantially the same as shown in Figure 5.

19. The crystalline form of claim 2, wherein the crystalline form is form C having a differential scanning calorimetry (DSC) thermogram comprising an endothermic peak at about 172.6 °C ± 3 °C.

20. The crystalline form of claim 2, wherein the crystalline form is form C having a differential scanning calorimetry (DSC) thermogram substantially the same as shown in Figure 6.

21. The crystalline form of claim 2, wherein the crystalline form is form G having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at 16.47° ± 0.2°, 19.40° ± 0.2°, 20.61° ± 0.2°, 22.37° ± 0.2°, 22.82° ± 0.2°, 23.21° ± 0.2°, 25.66° ± 0.2°, 25.94° ± 0.2°, 26.87° ± 0.2°, 27.02° ± 0.2°, 28.11° ± 0.2° and 30.27° ± 0.2°.

22. The crystalline form of claim 2, wherein the crystalline form is form G having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at 9.99° ± 0.2°, 10.30° ± 0.2°, 16.47° ± 0.2°, 17.30° ± 0.2°, 19.40° ± 0.2°, 20.61° ± 0.2°, 21.26° ± 0.2°, 22.37° ± 0.2°, 22.82° ± 0.2°, 23.21° ± 0.2°, 23.58° ± 0.2°, 25.66° ± 0.2°, 25.94° ± 0.2°, 26.87° ± 0.2°, 27.02° ± 0.2°, 27.18° ± 0.2°, 28.11° ± 0.2°, 28.40° ± 0.2°, 29.98° ± 0.2°, 30.27° ± 0.2°, 31.14° ± 0.2°, 32.42° ± 0.2°, 33.11° ± 0.2° and 33.34° ± 0.2°.

23. The crystalline form of claim 2, wherein the crystalline form is form G having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at 7.07° ± 0.2°, 7.80° ± 0.2°, 9.99° ± 0.2°, 10.30° ± 0.2°, 11.14° ± 0.2°, 14.20° ± 0.2°, 15.36° ± 0.2°, 16.47° ± 0.2°, 17.30° ± 0.2°, 19.40° ± 0.2°, 19.73° ± 0.2°, 19.85° ± 0.2°,

20.40° ± 0.2°, 20.61° ± 0.2°, 21.26° ± 0.2°, 22.37° ± 0.2°, 22.82° ± 0.2°, 23.21° ± 0.2°, 23.58° ± 0.2°, 23.83° ± 0.2°, 24.58° ± 0.2°, 25.66° ± 0.2°, 25.94° ± 0.2°, 26.87° ± 0.2°, 27.02° ± 0.2°, 27.18° ± 0.2°, 27.79° ± 0.2°, 28.11° ± 0.2°, 28.40° ± 0.2°, 29.98° ± 0.2°, 30.27° ± 0.2°, 30.66° ± 0.2°, 31.14° ± 0.2°, 32.11° ± 0.2°, 32.42° ± 0.2°, 32.76° ± 0.2°, 33.11° ± 0.2° and 33.34° ± 0.2°.

24. The crystalline form of claim 2, wherein the crystalline form is form G having an X-ray powder diffraction (XRPD) pattern substantially the same as shown in Figure 7.

25. The crystalline form of claim 2, wherein the crystalline form is form G having a differential scanning calorimetry (DSC) thermogram comprising an endothermic peak at about 134.3 °C ± 3 °C.

26. The crystalline form of claim 2, wherein the crystalline form is form G having a differential scanning calorimetry (DSC) thermogram substantially the same as shown in Figure 8.

27. The crystalline form of claim 2, wherein the crystalline form is form H having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at 7.58° ± 0.2°, 10.29° ± 0.2°, 12.00° ± 0.2°, 19.07° ± 0.2°, 19.93° ± 0.2°, 20.78° ± 0.2°, 21.33° ± 0.2°, 21.48° ± 0.2°, 24.76° ± 0.2°, 25.59° ± 0.2°, 25.82° ± 0.2°, 26.01° ± 0.2° and 26.58° ± 0.2°.

28. The crystalline form of claim 2, wherein the crystalline form is form H having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at 7.58° ± 0.2°, 10.29° ± 0.2°, 12.00° ± 0.2°, 14.78° ± 0.2°, 17.69° ± 0.2°, 18.32° ± 0.2°, 19.07° ± 0.2°, 19.93° ± 0.2°, 20.13° ± 0.2°, 20.78° ± 0.2°, 21.33° ± 0.2°, 21.48° ± 0.2°, 22.60° ± 0.2°, 24.40° ± 0.2°, 24.58° ± 0.2°, 24.76° ± 0.2°, 25.59° ± 0.2°, 25.82° ± 0.2°, 26.01° ± 0.2°, 26.58° ± 0.2°, 27.15° ± 0.2°, 27.31° ± 0.2°, 27.49° ± 0.2°, 27.78° ± 0.2°, 31.69° ± 0.2° and 31.98° ± 0.2°.

29. The crystalline form of claim 2, wherein the crystalline form is form H having an

X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $7.58^\circ \pm 0.2^\circ$, $10.29^\circ \pm 0.2^\circ$, $12.00^\circ \pm 0.2^\circ$, $14.78^\circ \pm 0.2^\circ$, $15.83^\circ \pm 0.2^\circ$, $16.49^\circ \pm 0.2^\circ$, $17.69^\circ \pm 0.2^\circ$, $18.32^\circ \pm 0.2^\circ$, $19.07^\circ \pm 0.2^\circ$, $19.24^\circ \pm 0.2^\circ$, $19.93^\circ \pm 0.2^\circ$, $20.13^\circ \pm 0.2^\circ$, $20.78^\circ \pm 0.2^\circ$, $21.33^\circ \pm 0.2^\circ$, $21.48^\circ \pm 0.2^\circ$, $21.88^\circ \pm 0.2^\circ$, $22.35^\circ \pm 0.2^\circ$, $22.60^\circ \pm 0.2^\circ$, $23.37^\circ \pm 0.2^\circ$, $23.77^\circ \pm 0.2^\circ$, $24.40^\circ \pm 0.2^\circ$, $24.58^\circ \pm 0.2^\circ$, $24.76^\circ \pm 0.2^\circ$, $25.59^\circ \pm 0.2^\circ$, $25.82^\circ \pm 0.2^\circ$, $26.01^\circ \pm 0.2^\circ$, $26.58^\circ \pm 0.2^\circ$, $27.15^\circ \pm 0.2^\circ$, $27.31^\circ \pm 0.2^\circ$, $27.49^\circ \pm 0.2^\circ$, $27.78^\circ \pm 0.2^\circ$, $29.28^\circ \pm 0.2^\circ$, $29.77^\circ \pm 0.2^\circ$, $30.17^\circ \pm 0.2^\circ$, $31.69^\circ \pm 0.2^\circ$, $31.98^\circ \pm 0.2^\circ$, $32.30^\circ \pm 0.2^\circ$ and $33.28^\circ \pm 0.2^\circ$.

30. The crystalline form of claim 2, wherein the crystalline form is form H having an X-ray powder diffraction (XRPD) pattern substantially the same as shown in Figure 9.

31. The crystalline form of claim 2, wherein the crystalline form is form H having a differential scanning calorimetry (DSC) thermogram comprising an endothermic peak at about $132.1^\circ\text{C} \pm 3^\circ\text{C}$.

32. The crystalline form of claim 2, wherein the crystalline form is form H having a differential scanning calorimetry (DSC) thermogram substantially the same as shown in Figure 10.

33. The crystalline form of claim 2, wherein the crystalline form is form I having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $9.41^\circ \pm 0.2^\circ$, $17.59^\circ \pm 0.2^\circ$, $21.37^\circ \pm 0.2^\circ$, $21.72^\circ \pm 0.2^\circ$, $22.15^\circ \pm 0.2^\circ$, $22.50^\circ \pm 0.2^\circ$, $23.90^\circ \pm 0.2^\circ$, $24.59^\circ \pm 0.2^\circ$, $24.99^\circ \pm 0.2^\circ$, $26.32^\circ \pm 0.2^\circ$, $27.09^\circ \pm 0.2^\circ$, $29.68^\circ \pm 0.2^\circ$ and $30.53^\circ \pm 0.2^\circ$.

34. The crystalline form of claim 2, wherein the crystalline form is form I having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $9.41^\circ \pm 0.2^\circ$, $10.13^\circ \pm 0.2^\circ$, $12.64^\circ \pm 0.2^\circ$, $13.04^\circ \pm 0.2^\circ$, $17.59^\circ \pm 0.2^\circ$, $21.37^\circ \pm 0.2^\circ$, $21.72^\circ \pm 0.2^\circ$, $21.90^\circ \pm 0.2^\circ$, $22.15^\circ \pm 0.2^\circ$, $22.50^\circ \pm 0.2^\circ$, $23.76^\circ \pm 0.2^\circ$, $23.90^\circ \pm 0.2^\circ$, $24.59^\circ \pm 0.2^\circ$, $24.99^\circ \pm 0.2^\circ$, $26.32^\circ \pm 0.2^\circ$, $26.95^\circ \pm 0.2^\circ$, $27.09^\circ \pm 0.2^\circ$, $27.90^\circ \pm 0.2^\circ$, $28.54^\circ \pm 0.2^\circ$, $29.10^\circ \pm 0.2^\circ$, $29.68^\circ \pm 0.2^\circ$, $30.53^\circ \pm 0.2^\circ$, $32.18^\circ \pm 0.2^\circ$ and $33.03^\circ \pm 0.2^\circ$.

0.2°.

35. The crystalline form of claim 2, wherein the crystalline form is form I having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $4.41^\circ \pm 0.2^\circ$, $9.26^\circ \pm 0.2^\circ$, $9.41^\circ \pm 0.2^\circ$, $10.13^\circ \pm 0.2^\circ$, $11.25^\circ \pm 0.2^\circ$, $12.64^\circ \pm 0.2^\circ$, $13.04^\circ \pm 0.2^\circ$, $17.59^\circ \pm 0.2^\circ$, $18.29^\circ \pm 0.2^\circ$, $20.17^\circ \pm 0.2^\circ$, $20.29^\circ \pm 0.2^\circ$, $21.37^\circ \pm 0.2^\circ$, $21.72^\circ \pm 0.2^\circ$, $21.90^\circ \pm 0.2^\circ$, $22.15^\circ \pm 0.2^\circ$, $22.50^\circ \pm 0.2^\circ$, $23.76^\circ \pm 0.2^\circ$, $23.90^\circ \pm 0.2^\circ$, $24.59^\circ \pm 0.2^\circ$, $24.99^\circ \pm 0.2^\circ$, $25.71^\circ \pm 0.2^\circ$, $26.32^\circ \pm 0.2^\circ$, $26.95^\circ \pm 0.2^\circ$, $27.09^\circ \pm 0.2^\circ$, $27.66^\circ \pm 0.2^\circ$, $27.90^\circ \pm 0.2^\circ$, $28.54^\circ \pm 0.2^\circ$, $29.10^\circ \pm 0.2^\circ$, $29.68^\circ \pm 0.2^\circ$, $30.53^\circ \pm 0.2^\circ$, $30.93^\circ \pm 0.2^\circ$, $32.18^\circ \pm 0.2^\circ$, $33.03^\circ \pm 0.2^\circ$ and $33.56^\circ \pm 0.2^\circ$.

36. The crystalline form of claim 2, wherein the crystalline form is form I having an X-ray powder diffraction (XRPD) pattern substantially the same as shown in Figure 11.

37. The crystalline form of claim 2, wherein the crystalline form is form I having a differential scanning calorimetry (DSC) thermogram comprising an endothermic peak at about $82.0^\circ\text{C} \pm 3^\circ\text{C}$.

38. The crystalline form of claim 2, wherein the crystalline form is form I having a differential scanning calorimetry (DSC) thermogram substantially the same as shown in Figure 12.

39. A pharmaceutical composition comprising the crystalline form of any one of claims 1 to 38; and a pharmaceutically acceptable carrier, excipient, diluent, adjuvant, vehicle or a combination thereof.

40. Use of the crystalline form of any one of claims 1 to 38 or the pharmaceutical composition of claim 39 for the manufacture of a medicament for preventing, managing, treating or lessening a viral disease in a patient.

41. The use according to claim 40, wherein the viral disease is hepatitis B infection or a disease caused by hepatitis B infection.

42. The use according to claim 40, wherein the disease caused by hepatitis B infection is cirrhosis or hepatocellular carcinoma.

43. A method of preventing, managing, treating or lessening the severity of viral diseases in a patient comprising administering to the patient with a therapeutically effective amount of the crystalline form of any one of claims 1-38 or the pharmaceutical composition of claim 39.

44. The method of claim 43, wherein the viral diseases are hepatitis B infection or a disease caused by hepatitis B infection.

45. The method of claim 44, wherein the disease caused by hepatitis B infection is cirrhosis or hepatocellular carcinoma.

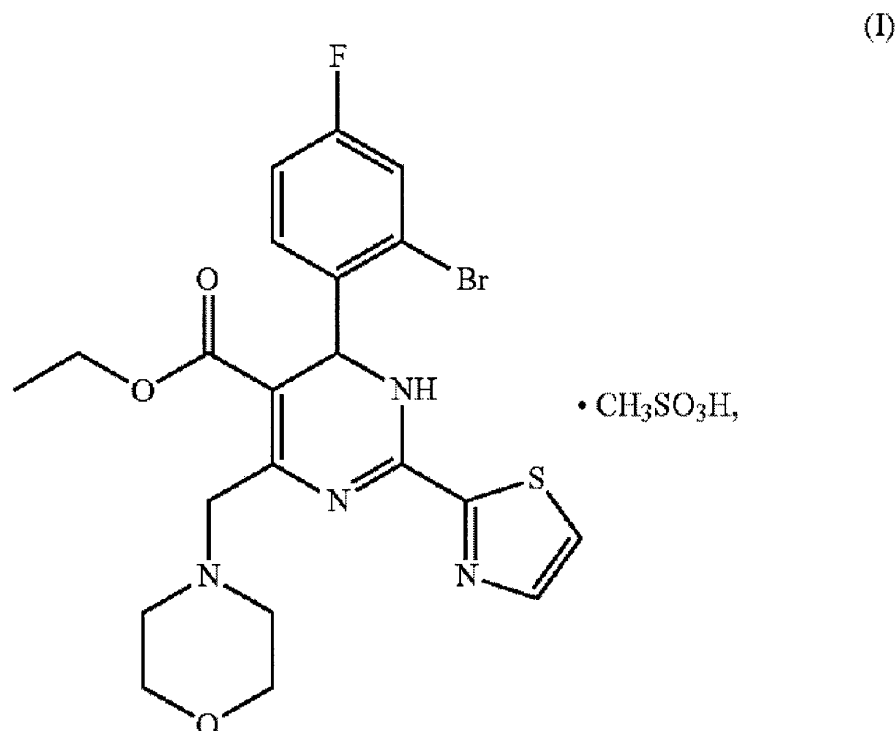
46. The crystalline form according to any one of claims 1-38 or the pharmaceutical composition according to claim 39 for use in preventing, managing, treating or lessening a viral disease.

47. The crystalline form or the pharmaceutical composition according to claim 46, wherein the viral disease is hepatitis B infection or a disease caused by hepatitis B infection.

48. The crystalline form or the pharmaceutical composition according to claim 47, wherein the disease caused by hepatitis B infection is cirrhosis or hepatocellular carcinoma.

CLAIMS

1. A crystalline form of the compound of formula (I):



or a tautomer or a combination thereof, wherein the crystalline form is form A, form B, form C, form G, form H, form I or a combination thereof.

2. The crystalline form of claim 1, wherein the crystalline form is form A having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $6.57^\circ \pm 0.2^\circ$, $13.13^\circ \pm 0.2^\circ$, $13.38^\circ \pm 0.2^\circ$, $19.73^\circ \pm 0.2^\circ$, $20.18^\circ \pm 0.2^\circ$, $20.90^\circ \pm 0.2^\circ$, $24.90^\circ \pm 0.2^\circ$, $26.63^\circ \pm 0.2^\circ$ and $29.01^\circ \pm 0.2^\circ$.

3. The crystalline form of claim 1, wherein the crystalline form is form A having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $6.57^\circ \pm 0.2^\circ$, $13.13^\circ \pm 0.2^\circ$, $13.38^\circ \pm 0.2^\circ$, $19.73^\circ \pm 0.2^\circ$,

20.18°±0.2°, 20.90°±0.2°, 22.43°±0.2°, 24.38°±0.2°, 24.90°±0.2°, 26.63°±0.2°, 27.93°±0.2° and 29.01°±0.2°.

4. The crystalline form of claim 1, wherein the crystalline form is form A having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at 6.57°±0.2°, 9.73°±0.2°, 11.14°±0.2°, 13.13°±0.2°, 13.38°±0.2°, 19.73°±0.2°, 20.18°±0.2°, 20.90°±0.2°, 22.43°±0.2°, 23.20°±0.2°, 24.38°±0.2°, 24.90°±0.2°, 26.63°±0.2°, 27.93°±0.2°, 29.01°±0.2°, 29.84°±0.2°, 30.78°±0.2° and 31.68°±0.2°.

5. The crystalline form of claim 1, wherein the crystalline form is form A having a differential scanning calorimetry (DSC) thermogram comprising an endothermic peak at about 162.3° C.±3° C.

6. The crystalline form of claim 1, wherein the crystalline form is form B having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at 6.68°±0.2°, 13.39°±0.2°, 19.65°±0.2°, 20.26°±0.2°, 22.45°±0.2°, 24.80°±0.2°, 25.01°±0.2°, 26.19°±0.2°, 26.61°±0.2° and 28.79°±0.2°.

7. The crystalline form of claim 1, wherein the crystalline form is form B having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at 6.68°±0.2°, 9.77°±0.2°, 9.98°±0.2°, 11.88°±0.2°, 13.39°±0.2°, 16.65°±0.2°, 17.66°±0.2°, 19.08°±0.2°, 19.65°±0.2°, 20.26°±0.2°, 20.81°±0.2°, 20.97°±0.2°, 22.45°±0.2°, 24.80°±0.2°, 25.01°±0.2°, 26.19°±0.2°, 26.61°±0.2°, 28.79°±0.2°, 29.78°±0.2°, 30.13°±0.2°, 31.61°±0.2°, 31.92°±0.2° and 32.45°±0.2°.

8. The crystalline form of claim 1, wherein the crystalline form is form B having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $6.68^\circ \pm 0.2^\circ$, $9.77^\circ \pm 0.2^\circ$, $9.98^\circ \pm 0.2^\circ$, $11.88^\circ \pm 0.2^\circ$, $13.39^\circ \pm 0.2^\circ$, $14.62^\circ \pm 0.2^\circ$, $16.65^\circ \pm 0.2^\circ$, $17.66^\circ \pm 0.2^\circ$, $19.08^\circ \pm 0.2^\circ$, $19.65^\circ \pm 0.2^\circ$, $20.26^\circ \pm 0.2^\circ$, $20.81^\circ \pm 0.2^\circ$, $20.97^\circ \pm 0.2^\circ$, $22.07^\circ \pm 0.2^\circ$, $22.45^\circ \pm 0.2^\circ$, $24.80^\circ \pm 0.2^\circ$, $25.01^\circ \pm 0.2^\circ$, $25.45^\circ \pm 0.2^\circ$, $26.19^\circ \pm 0.2^\circ$, $26.61^\circ \pm 0.2^\circ$, $27.85^\circ \pm 0.2^\circ$, $28.15^\circ \pm 0.2^\circ$, $28.79^\circ \pm 0.2^\circ$, $29.35^\circ \pm 0.2^\circ$, $29.78^\circ \pm 0.2^\circ$, $30.13^\circ \pm 0.2^\circ$, $30.51^\circ \pm 0.2^\circ$, $31.29^\circ \pm 0.2^\circ$, $31.61^\circ \pm 0.2^\circ$, $31.92^\circ \pm 0.2^\circ$, $32.45^\circ \pm 0.2^\circ$ and $35.41^\circ \pm 0.2^\circ$.

9. The crystalline form of claim 1, wherein the crystalline form is form B having a differential scanning calorimetry (DSC) thermogram comprising an endothermic peak at about $165.8^\circ \text{C} \pm 3^\circ \text{C}$.

10. The crystalline form of claim 1, wherein the crystalline form is form C having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $5.39^\circ \pm 0.2^\circ$, $13.25^\circ \pm 0.2^\circ$, $16.00^\circ \pm 0.2^\circ$, $17.27^\circ \pm 0.2^\circ$, $21.33^\circ \pm 0.2^\circ$, $21.92^\circ \pm 0.2^\circ$, $22.53^\circ \pm 0.2^\circ$, $23.47^\circ \pm 0.2^\circ$, $26.56^\circ \pm 0.2^\circ$, $26.87^\circ \pm 0.2^\circ$, $29.41^\circ \pm 0.2^\circ$ and $32.22^\circ \pm 0.2^\circ$.

11. The crystalline form of claim 1, wherein the crystalline form is form C having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $5.39^\circ \pm 0.2^\circ$, $13.25^\circ \pm 0.2^\circ$, $16.00^\circ \pm 0.2^\circ$, $17.27^\circ \pm 0.2^\circ$, $20.31^\circ \pm 0.2^\circ$, $21.33^\circ \pm 0.2^\circ$, $21.92^\circ \pm 0.2^\circ$, $22.53^\circ \pm 0.2^\circ$, $23.47^\circ \pm 0.2^\circ$, $23.58^\circ \pm 0.2^\circ$, $26.56^\circ \pm 0.2^\circ$, $26.87^\circ \pm 0.2^\circ$, $29.41^\circ \pm 0.2^\circ$, $30.52^\circ \pm 0.2^\circ$, $31.35^\circ \pm 0.2^\circ$, $32.05^\circ \pm 0.2^\circ$ and $32.22^\circ \pm 0.2^\circ$.

12. The crystalline form of claim 1, wherein the crystalline form is form C having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $5.39^\circ \pm 0.2^\circ$, $10.42^\circ \pm 0.2^\circ$, $10.69^\circ \pm 0.2^\circ$, $12.04^\circ \pm 0.2^\circ$, $13.25^\circ \pm 0.2^\circ$, $13.56^\circ \pm 0.2^\circ$, $16.00^\circ \pm 0.2^\circ$, $17.27^\circ \pm 0.2^\circ$, $19.61^\circ \pm 0.2^\circ$, $19.86^\circ \pm 0.2^\circ$, $20.02^\circ \pm 0.2^\circ$, $20.31^\circ \pm 0.2^\circ$, $21.33^\circ \pm 0.2^\circ$, $21.92^\circ \pm 0.2^\circ$, $22.17^\circ \pm 0.2^\circ$, $22.29^\circ \pm 0.2^\circ$, $22.53^\circ \pm 0.2^\circ$, $23.47^\circ \pm 0.2^\circ$, $23.58^\circ \pm 0.2^\circ$, $24.35^\circ \pm 0.2^\circ$, $24.96^\circ \pm 0.2^\circ$, $25.10^\circ \pm 0.2^\circ$, $26.39^\circ \pm 0.2^\circ$, $26.56^\circ \pm 0.2^\circ$,

26.87°±0.2°, 27.25°±0.2°, 27.64°±0.2°, 29.41°±0.2°,
29.90°±0.2°, 30.31°±0.2°, 30.52°±0.2°, 31.35°±0.2°,
32.05°±0.2°, 32.22°±0.2°, 32.96°±0.2°, 33.71°±0.2°,
34.11°±0.2°, 34.88°±0.2°, 36.23°±0.2° and 36.46°±0.2°.

13. The crystalline form of claim 1, wherein the crystalline form is form C having a differential scanning calorimetry (DSC) thermogram comprising an endothermic peak at about 172.6° C.±3° C.

14. The crystalline form of claim 1, wherein the crystalline form is form G having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at 16.47°±0.2°, 19.40°±0.2°, 20.61°±0.2°, 22.37°±0.2°, 22.82°±0.2°, 23.21°±0.2°, 25.66°±0.2°, 25.94°±0.2°, 26.87°±0.2°, 27.02°±0.2°, 28.11°±0.2° and 30.27°±0.2°.

15. The crystalline form of claim 1, wherein the crystalline form is form G having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at 9.99°±0.2°, 10.30°±0.2°, 16.47°±0.2°, 17.30°±0.2°, 19.40°±0.2°, 20.61°±0.2°, 21.26°±0.2°, 22.37°±0.2°, 22.82°±0.2°, 23.21°±0.2°, 23.58°±0.2°, 25.66°±0.2°, 25.94°±0.2°, 26.87°±0.2°, 27.02°±0.2°, 27.18°±0.2°, 28.11°±0.2°, 28.40°±0.2°, 29.98°±0.2°, 30.27°±0.2°, 31.14°±0.2°, 32.42°±0.2°, 33.11°±0.2° and 33.34°±0.2°.

16. The crystalline form of claim 1, wherein the crystalline form is form G having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at 7.07°±0.2°, 7.80°±0.2°, 9.99°±0.2°, 10.30°±0.2°, 11.14°±0.2°, 14.20°±0.2°, 15.36°±0.2°, 16.47°±0.2°, 17.30°±0.2°, 19.40°±0.2°, 19.73°±0.2°, 19.85°±0.2°, 20.40°±0.2°, 20.61°±0.2°, 21.26°±0.2°, 22.37°±0.2°, 22.82°±0.2°, 23.21°±0.2°, 23.58°±0.2°, 23.83°±0.2°, 24.58°±0.2°, 25.66°±0.2°, 25.94°±0.2°, 26.87°±0.2°, 27.02°±0.2°, 27.18°±0.2°, 27.79°±0.2°, 28.11°±0.2°, 28.40°±0.2°, 29.98°±0.2°, 30.27°±0.2°, 30.66°±0.2°, 31.14°±0.2°, 32.11°±0.2°, 32.42°±0.2°, 32.76°±0.2°, 33.11°±0.2° and 33.34°±0.2°.

17. The crystalline form of claim 1, wherein the crystalline form is form G having a differential scanning calorimetry (DSC) thermogram comprising an endothermic peak at about $134.3^{\circ}\text{C} \pm 3^{\circ}\text{C}$.

18. The crystalline form of claim 1, wherein the crystalline form is form H having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $7.58^{\circ} \pm 0.2^{\circ}$, $10.29^{\circ} \pm 0.2^{\circ}$, $12.00^{\circ} \pm 0.2^{\circ}$, $19.07^{\circ} \pm 0.2^{\circ}$, $19.93^{\circ} \pm 0.2^{\circ}$, $20.78^{\circ} \pm 0.2^{\circ}$, $21.33^{\circ} \pm 0.2^{\circ}$, $21.48^{\circ} \pm 0.2^{\circ}$, $24.76^{\circ} \pm 0.2^{\circ}$, $25.59^{\circ} \pm 0.2^{\circ}$, $25.82^{\circ} \pm 0.2^{\circ}$, $26.01^{\circ} \pm 0.2^{\circ}$ and $26.58^{\circ} \pm 0.2^{\circ}$.

19. The crystalline form of claim 1, wherein the crystalline form is form H having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $7.58^{\circ} \pm 0.2^{\circ}$, $10.29^{\circ} \pm 0.2^{\circ}$, $12.00^{\circ} \pm 0.2^{\circ}$, $14.78^{\circ} \pm 0.2^{\circ}$, $17.69^{\circ} \pm 0.2^{\circ}$, $18.32^{\circ} \pm 0.2^{\circ}$, $19.07^{\circ} \pm 0.2^{\circ}$, $19.93^{\circ} \pm 0.2^{\circ}$, $20.13^{\circ} \pm 0.2^{\circ}$, $20.78^{\circ} \pm 0.2^{\circ}$, $21.33^{\circ} \pm 0.2^{\circ}$, $21.48^{\circ} \pm 0.2^{\circ}$, $22.60^{\circ} \pm 0.2^{\circ}$, $24.40^{\circ} \pm 0.2^{\circ}$, $24.58^{\circ} \pm 0.2^{\circ}$, $24.76^{\circ} \pm 0.2^{\circ}$, $25.59^{\circ} \pm 0.2^{\circ}$, $25.82^{\circ} \pm 0.2^{\circ}$, $26.01^{\circ} \pm 0.2^{\circ}$, $26.58^{\circ} \pm 0.2^{\circ}$, $27.15^{\circ} \pm 0.2^{\circ}$, $27.31^{\circ} \pm 0.2^{\circ}$, $27.49^{\circ} \pm 0.2^{\circ}$, $27.78^{\circ} \pm 0.2^{\circ}$, $31.69^{\circ} \pm 0.2^{\circ}$ and $31.98^{\circ} \pm 0.2^{\circ}$.

20. The crystalline form of claim 1, wherein the crystalline form is form H having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $7.58^{\circ} \pm 0.2^{\circ}$, $10.29^{\circ} \pm 0.2^{\circ}$, $12.00^{\circ} \pm 0.2^{\circ}$, $14.78^{\circ} \pm 0.2^{\circ}$, $15.83^{\circ} \pm 0.2^{\circ}$, $16.49^{\circ} \pm 0.2^{\circ}$, $17.69^{\circ} \pm 0.2^{\circ}$, $18.32^{\circ} \pm 0.2^{\circ}$, $19.07^{\circ} \pm 0.2^{\circ}$, $19.24^{\circ} \pm 0.2^{\circ}$, $19.93^{\circ} \pm 0.2^{\circ}$, $20.13^{\circ} \pm 0.2^{\circ}$, $20.78^{\circ} \pm 0.2^{\circ}$, $21.33^{\circ} \pm 0.2^{\circ}$, $21.48^{\circ} \pm 0.2^{\circ}$, $21.88^{\circ} \pm 0.2^{\circ}$, $22.35^{\circ} \pm 0.2^{\circ}$, $22.60^{\circ} \pm 0.2^{\circ}$, $23.37^{\circ} \pm 0.2^{\circ}$, $23.77^{\circ} \pm 0.2^{\circ}$, $24.40^{\circ} \pm 0.2^{\circ}$, $24.58^{\circ} \pm 0.2^{\circ}$, $24.76^{\circ} \pm 0.2^{\circ}$, $25.59^{\circ} \pm 0.2^{\circ}$, $25.82^{\circ} \pm 0.2^{\circ}$, $26.01^{\circ} \pm 0.2^{\circ}$, $26.58^{\circ} \pm 0.2^{\circ}$, $27.15^{\circ} \pm 0.2^{\circ}$,

27.31°±0.2°, 27.49°±0.2°, 27.78°±0.2°, 29.28°±0.2°, 29.77°±0.2°, 30.17°±0.2°, 31.69°±0.2°, 31.98°±0.2°, 32.30°±0.2° and 33.28°±0.2°.

21. The crystalline form of claim 1, wherein the crystalline form is form H having a differential scanning calorimetry (DSC) thermogram comprising an endothermic peak at about 132.1° C.±3° C.

22. The crystalline form of claim 1, wherein the crystalline form is form I having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at 9.41°±0.2°, 17.59°±0.2°, 21.37°±0.2°, 21.72°±0.2°, 22.15°±0.2°, 22.50°±0.2°, 23.90°±0.2°, 24.59°±0.2°, 24.99°±0.2°, 26.32°±0.2°, 27.09°±0.2°, 29.68°±0.2° and 30.53°±0.2°.

23. The crystalline form of claim 1, wherein the crystalline form is form I having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at 9.41°±0.2°, 10.13°±0.2°, 12.64°±0.2°, 13.04°±0.2°, 17.59°±0.2°, 21.37°±0.2°, 21.72°±0.2°, 21.90°±0.2°, 22.15°±0.2°, 22.50°±0.2°, 23.76°±0.2°, 23.90°±0.2°, 24.59°±0.2°, 24.99°±0.2°, 26.32°±0.2°, 26.95°±0.2°, 27.09°±0.2°, 27.90°±0.2°, 28.54°±0.2°, 29.10°±0.2°, 29.68°±0.2°, 30.53°±0.2°, 32.18°±0.2° and 33.03°±0.2°.

24. The crystalline form of claim 1, wherein the crystalline form is form I having an X-ray powder diffraction (XRPD) pattern comprising peaks expressed in degrees 2θ at $4.41^\circ \pm 0.2^\circ$, $9.26^\circ \pm 0.2^\circ$, $9.41^\circ \pm 0.2^\circ$, $10.13^\circ \pm 0.2^\circ$, $11.25^\circ \pm 0.2^\circ$, $12.64^\circ \pm 0.2^\circ$, $13.04^\circ \pm 0.2^\circ$, $17.59^\circ \pm 0.2^\circ$, $18.29^\circ \pm 0.2^\circ$, $20.17^\circ \pm 0.2^\circ$, $20.29^\circ \pm 0.2^\circ$, $21.37^\circ \pm 0.2^\circ$, $21.72^\circ \pm 0.2^\circ$, $21.90^\circ \pm 0.2^\circ$, $22.15^\circ \pm 0.2^\circ$, $22.50^\circ \pm 0.2^\circ$, $23.76^\circ \pm 0.2^\circ$, $23.90^\circ \pm 0.2^\circ$, $24.59^\circ \pm 0.2^\circ$, $24.99^\circ \pm 0.2^\circ$, $25.71^\circ \pm 0.2^\circ$, $26.32^\circ \pm 0.2^\circ$, $26.95^\circ \pm 0.2^\circ$, $27.09^\circ \pm 0.2^\circ$, $27.66^\circ \pm 0.2^\circ$, $27.90^\circ \pm 0.2^\circ$, $28.54^\circ \pm 0.2^\circ$, $29.10^\circ \pm 0.2^\circ$, $29.68^\circ \pm 0.2^\circ$, $30.53^\circ \pm 0.2^\circ$, $30.93^\circ \pm 0.2^\circ$, $32.18^\circ \pm 0.2^\circ$, $33.03^\circ \pm 0.2^\circ$ and $33.56^\circ \pm 0.2^\circ$.

25. The crystalline form of claim 1, wherein the crystalline form is form I having a differential scanning calorimetry (DSC) thermogram comprising an endothermic peak at about $82.0^\circ \text{ C.} \pm 3^\circ \text{ C.}$

26. The crystalline form of claim 1, wherein the crystalline form is form A having a differential scanning calorimetry (DSC) thermogram substantially the same as shown in FIG. 2;

wherein the crystalline form is form B having a differential scanning calorimetry (DSC) thermogram substantially the same as shown in FIG. 4;

wherein the crystalline form is form C having a differential scanning calorimetry (DSC) thermogram substantially the same as shown in FIG. 6;

wherein the crystalline form is form G having a differential scanning calorimetry (DSC) thermogram substantially the same as shown in FIG. 8;

wherein the crystalline form is form H having a differential scanning calorimetry (DSC) thermogram substantially the same as shown in FIG. 10; or

wherein the crystalline form is form I having a differential scanning calorimetry (DSC) thermogram substantially

the same as shown in FIG. 12.

27. A pharmaceutical composition comprising the crystalline form of claim 1; and a pharmaceutically acceptable carrier, excipient, diluent, adjuvant, vehicle or a combination thereof.

28. The crystalline form of claim 1, wherein the crystalline form is form A having an X-ray powder diffraction (XRPD) pattern substantially the same as shown in FIG. 1;

wherein the crystalline form is form B having an X-ray powder diffraction (XRPD) pattern substantially the same as shown in FIG. 3;

wherein the crystalline form is form C having an X-ray powder diffraction (XRPD) pattern substantially the same as shown in FIG. 5;

wherein the crystalline form is form G having an X-ray powder diffraction (XRPD) pattern substantially the same as shown in FIG. 7;

wherein the crystalline form is form H having an X-ray powder diffraction (XRPD) pattern substantially the same as shown in FIG. 9; or

wherein the crystalline form is form I having an X-ray powder diffraction (XRPD) pattern substantially the same as shown in FIG. 11.