

Observing Pharmaceutical Crystal Flow by Real View DSC

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Thermal analysis is indispensable for quality control, and for research and development in the medical field. Differential scanning calorimetry (DSC) can evaluate crystal polymorphism, crystal quality, the component ratio and the melting point, and is used for examining processing and storage conditions for pharmaceuticals.

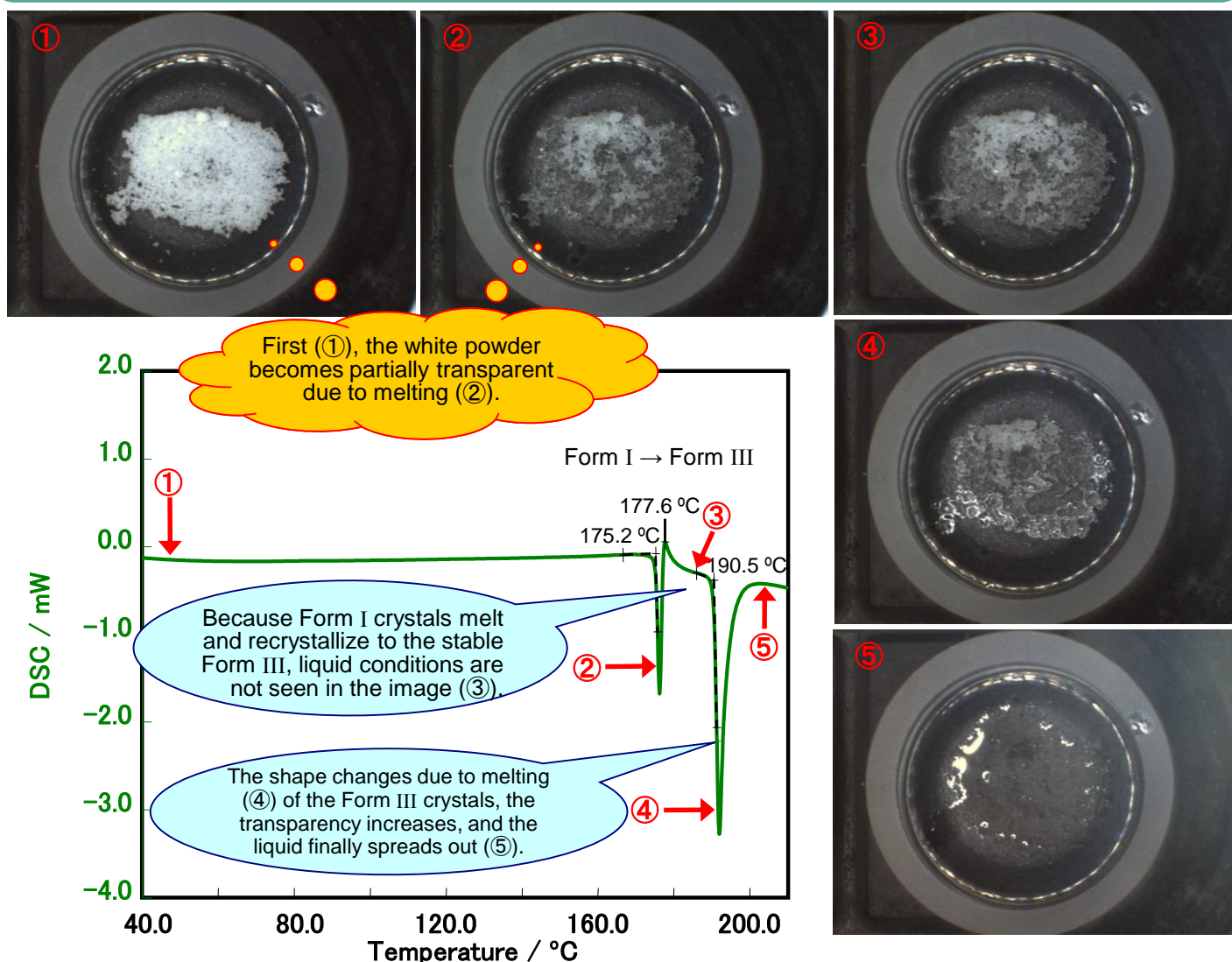
The degree of liquidity of a melted substance affects the efficiency of its transport to the next process and its formability, so validation of the heating temperature is required.

In this report, medicinal powder is measured using Real View DSC to determine the effect of polymorphism on its flow behavior during melting.



DSC7000X+RV-1DX
Real View DSC System

Results



Carbamazepine Form I
• Sample weight: 0.5 mg
• Heating rate: 10 °C/min

Using Real View DSC:

- Based on crystal polymorphism, the solidification behavior in the recrystallization temperature region can be determined from the images.
- The correlation between the observed melting peaks and the actual liquefaction conditions can be clarified.
- The presence or absence of flow behavior at the melting point can be determined.