



DSC Evaluation of Melting Fraction of Chocolate

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Overview

- Fatty foods such as chocolate have a low melting temperature; the percentage of solid fats present in chocolate influences its softening and cracking (i.e., snapping) properties.
- One metric of the fat and oil content in food is the SFC (Solid Fat Content), which is generally measured using pulse NMR.
- Alternatively, the SFC can be evaluated by obtaining an integral curve from the DSC melting peak.

Measurements and Results

Changes in the integral curve that accompany melting are equivalent to changes in the SFC.



The fraction of oils and fats in chocolate that have melted is given by the integral curve for any temperature.

【Measurement Conditions】

Sample weight: 5 mg
Sample pan: Al open pan
Heating rate: 10 °C/min
Temperature range : -50 to 60 °C



DSC6220 + AS

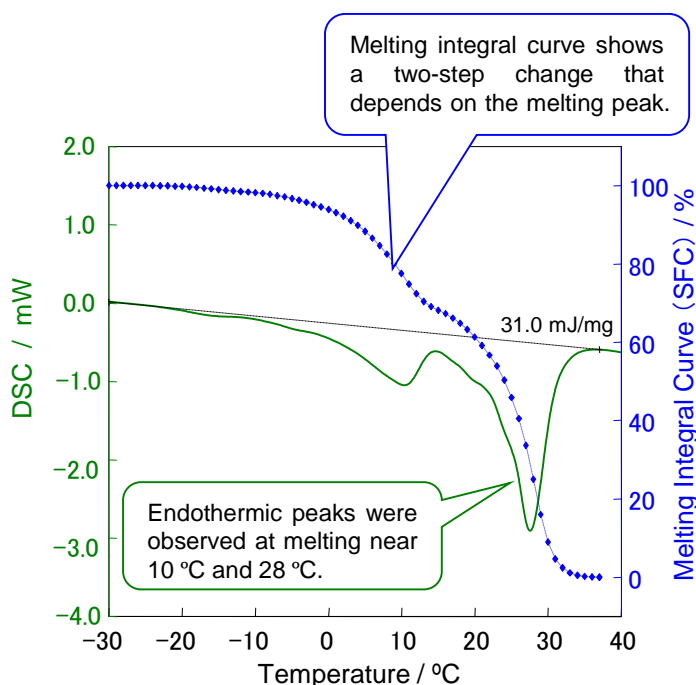


Figure 1 DSC curve and corresponding melting integral curve for ganache

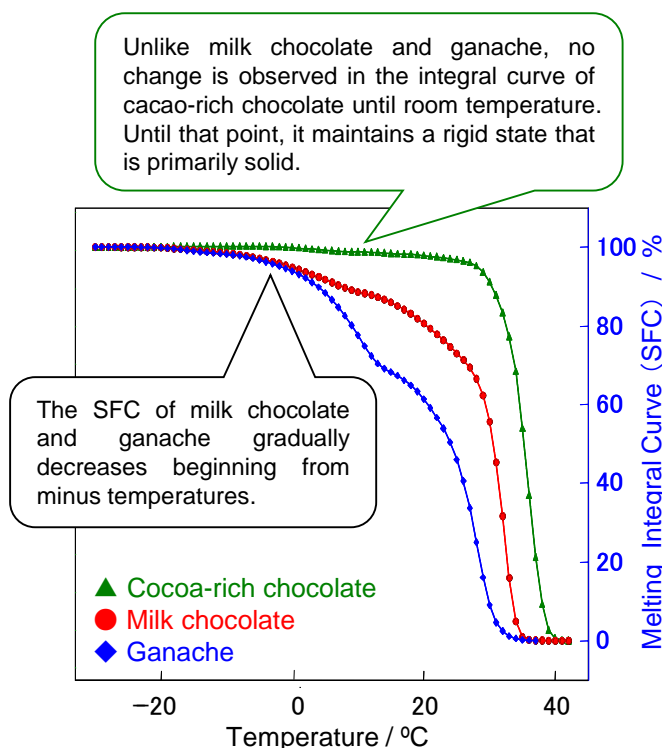


Figure 2 Melting integral curve of chocolate various types of chocolate