

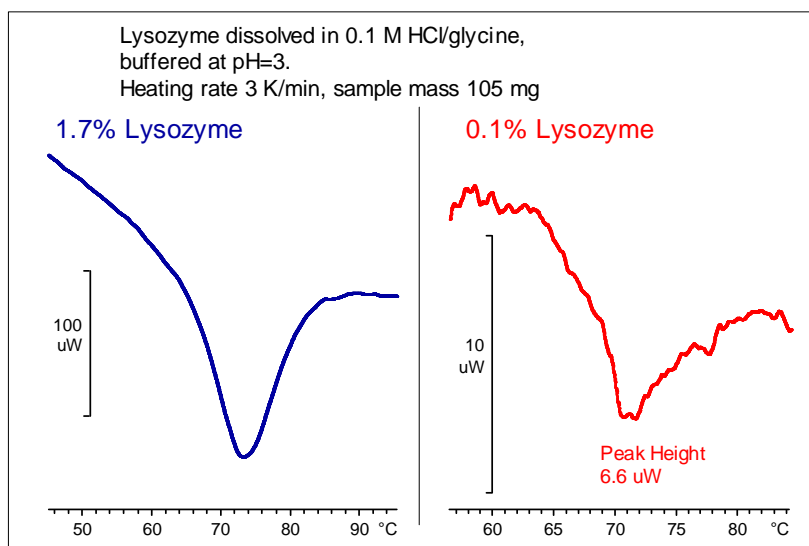
Investigation of weak transitions in pharmaceutically relevant compounds

Rudolf Riesen, Matthias Wagner

Mettler-Toledo GmbH, Sonnenbergstr. 74, CH-8603 Schwerzenbach, Switzerland

Protein formulations, liposomes [1, 2], enzyme and diluted carbohydrate solutions show only weak transitions which are difficult to measure in conventional DSCs. In order to detect these effects reliably a very sensitive DSC sensor is needed which guarantees flat baselines and a high sensitivity at low signal noise. Such a DSC sensor is now available from METTLER TOLEDO. It is 5 to 10 times more sensitive than existing DSC sensors without significant loss in resolution. Applications from pharmaceutical industry will be shown which proof the new DSC possibilities to determine weak bio-transitions and effects occurring in very diluted solutions.

As an example of a protein transition, the following investigation is shown: Biopolymers in dilute solution are traditionally studied with microcalorimeters. Such studies are now possible with the DSC822^e equipped with the new high sensitivity HSS7 sensor. The example shows the unfolding of a sample of lysozyme dissolved in a buffer solution (pH 3). The endothermic peak (7.8 μ W) can still be clearly measured even at the very low concentration of 0.1%. The curves for the lysozyme samples were corrected by subtracting the curve of the buffer solution.



References

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