SOFTWARE INNOVATION

Two Additional Functions for *AutoEvaluation* of DSC Curves:

Endothermic and Exothermic Effects (DSC/STA)
Endothermic and Exothermic Effects During Mass Changes Evaluated (STA)

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In addition to the existing *AutoEvaluation* functions for DSC signals, "Polymer" and "Metal Melting Peak", the two further functions – "Endo and Exo Effects" (for DSC and STA instruments) and "Endo and Exo Effects During Mass Changes Evaluated" (for STA instruments) – are introduced. They are available in *Proteus®* analysis version 8.0 or higher via the icon shown in figure 1, via right mouse click on a DSC curve or via the menu Evaluation. Moreover, the new functions can also be incorporated into a method for measurement and evaluation.

The two *AutoEvaluation* functions of type "Endo and Exo Effects" automatically evaluate all kinds of significant endothermic and exothermic effects occurring in DSC curves with only one mouse click (see example shown in figure 2). These effect are evaluated using the *Proteus®* functions "Complex Peak" as well as "Peak"; glass transitions are not evaluated.
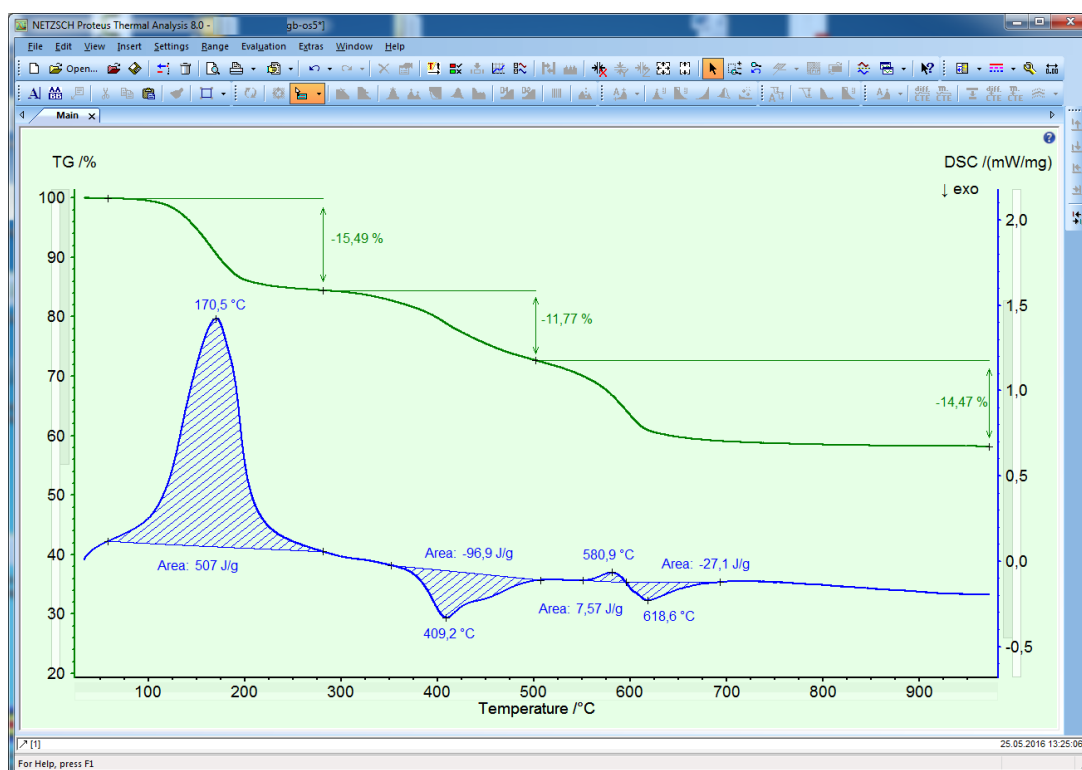
The second function "DSC Endo and Exo Effects During Mass Changes Evaluated" (only for STA data) uses the same function as "DSC Endo and Exo Effects". However, this function is applied just within the ranges defined by the left and right cursor temperatures of each mass change evaluated; for each range, the DSC effects are evaluated independently. This function can be useful if there is a clear correlation between mass changes and caloric effects visible in the DSC signal. An example is displayed in figure 3.
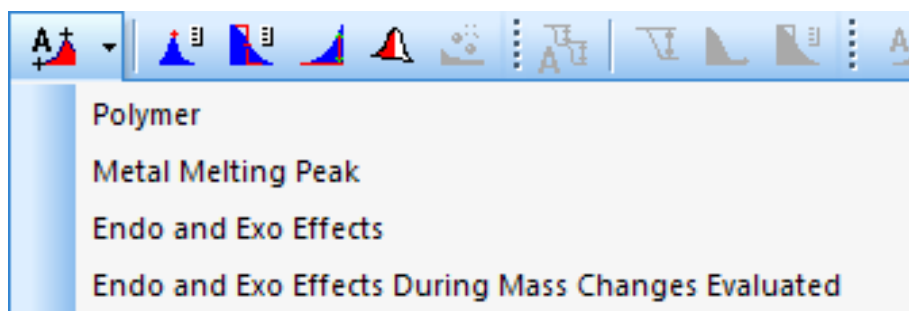
1 Software icon "*AutoEvaluation* of DSC curves" in *Proteus®* analysis

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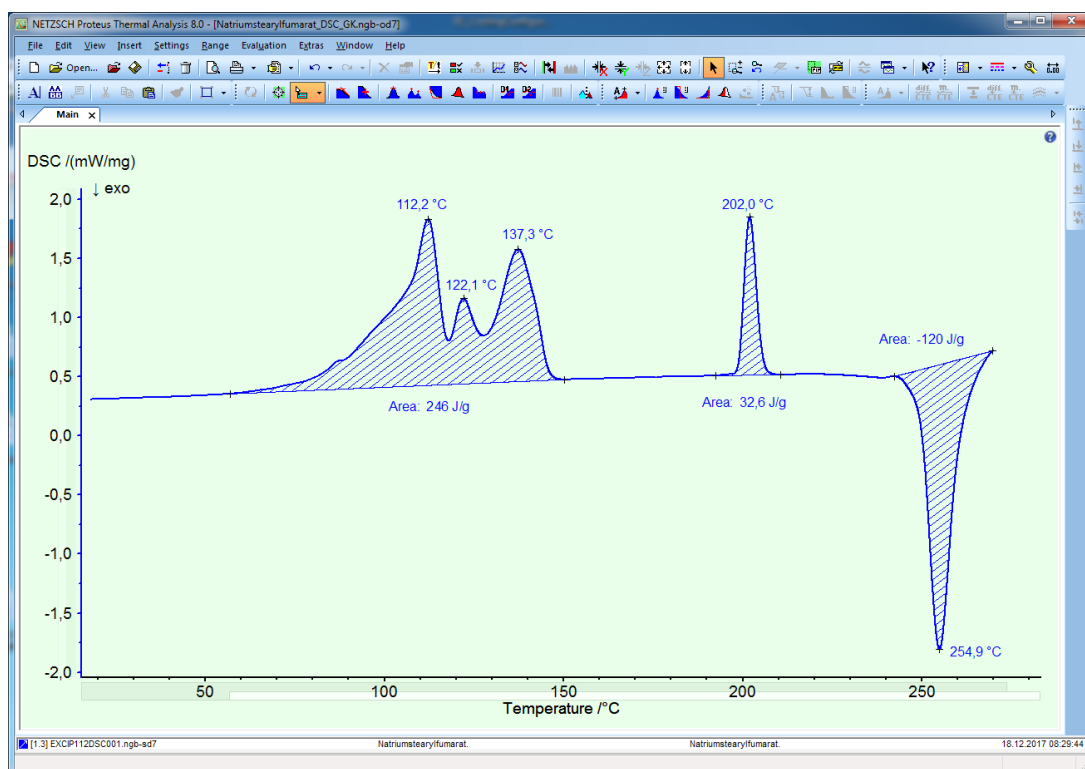
2   Exemplary result of *AutoEvaluation* of the DSC curve using the function "Endo and Exo Effects"

3   Exemplary result of *AutoEvaluation* of the DSC curve using the function "Endo and Exo Effects During Mass Changes Evaluated"

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