

Observation of the Decomposition Behavior of PET by using Real View TG

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TG/DTA measures weight changes, and the exothermic or the endothermic phenomena simultaneously.

For example TG/DTA can measure the transition phenomena without mass change such as glass transition and melting, and the reactions with mass change such as evaporation and decomposition of the sample.

This report shows the data of PET, Polyethylene terephthalate using Real View TG system that can measure TG/DTA while observing the sample.

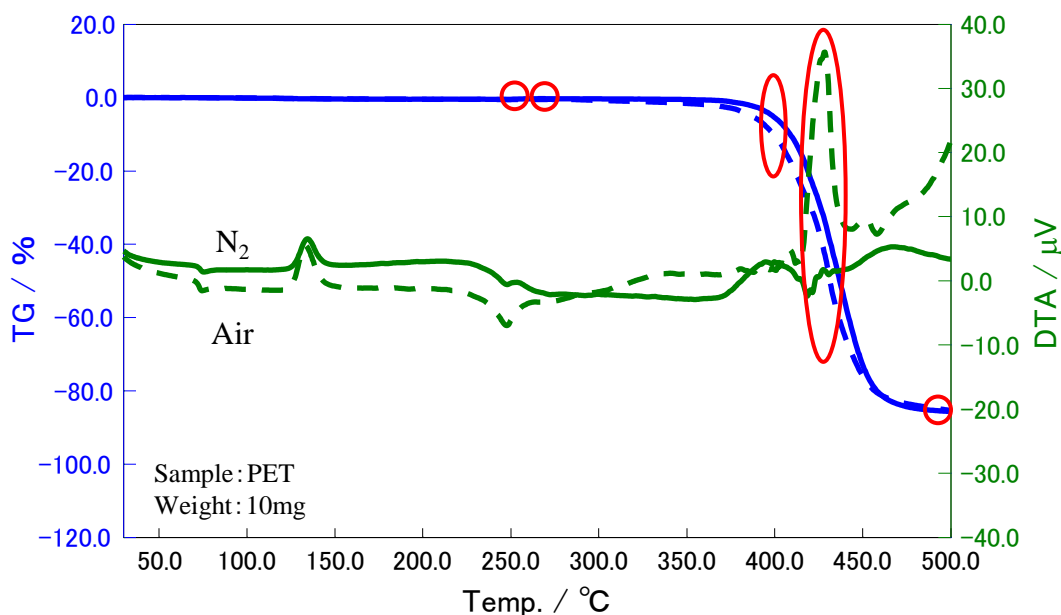
Conventional TG/DTA interprets data from two signals, TG and DTA.

Real time observation of the sample is very effective to the data interpretation of TG/DTA.

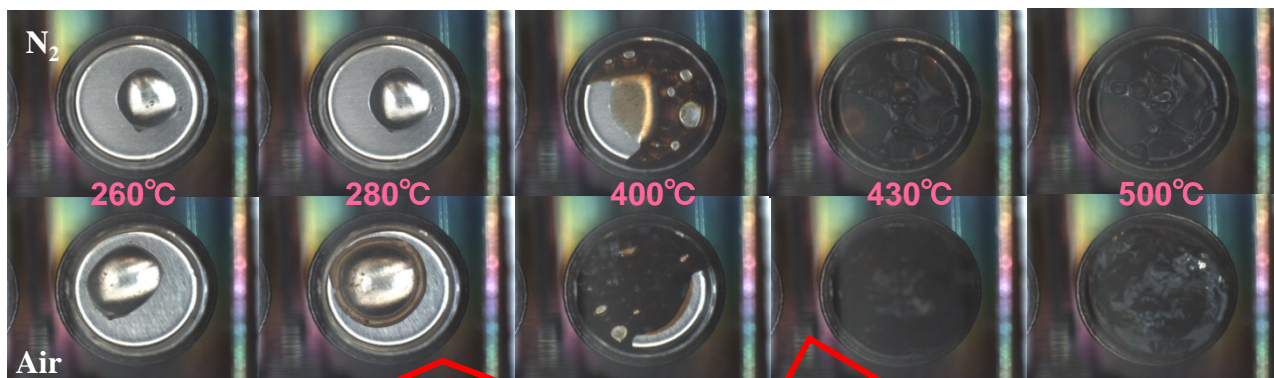


Thermo Gravimetry/ Differential Thermal Analyzer with Optical Observation Function
STA7220

Measurement



Since Real View TG observe the color change and deformation, user can estimate the phenomena of the mass change.



From room temperature to 280°C, TG does not show the weight change in nitrogen atmosphere nor air atmosphere. The color of PET is changing into brown at air atmosphere and 280°C. This shows that PET is starting oxidization.

Decomposition occurs at around 430°C in air and nitrogen. Since the sample is out of focus, it indicates that the sample expands during decomposition.