



Analysis of Ceramic Composite Materials with Double-Shot Pyrolyzer and Peripheral Devices
Part 2 : Data Analysis by EGA-MS with Mass Chromatogram Method

Using EGA-MS technique coupled with Evolved Gas Analysis and mass spectrometer (MS), then obtaining a mass chromatogram by selecting characteristic ions of a compound of interest, characteristic thermal properties of a sample being heated can be obtained. Fig. 1 shows characteristic mass chromatograms of peaks A through D, estimated main components, observed on the EGA curve of the ceramic composite material described in *Double-Shot Pyrolyzer® Technical Note*, PYA1-010. For example, since peak B is the result of overlapping of ions $m/z=57$ and $m/z=69$, it is judged that saturated hydrocarbon and butyl methacrylate have been generated. However, because such ions can be produced from other compounds, further analysis is required. For this purpose, EGA-GC/MS is used, in which evolved gas components from each temperature region are introduced into a GC/MS and analyzed. (See *Double-Shot Pyrolyzer® Technical Note*, PYA1-012E)

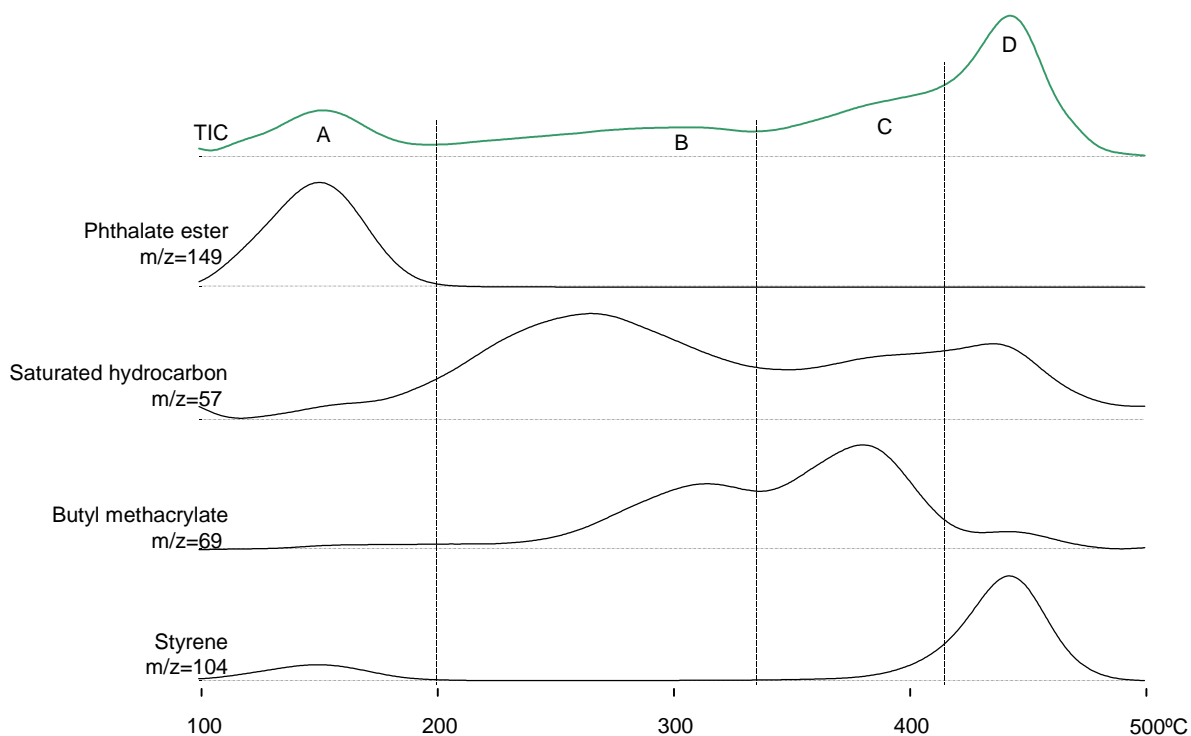


Fig. 1 EGA Curve of Ceramic Composite Material and Mass Chromatograms of Characteristic Ions

See *Double-Shot Pyrolyzer® Technical Note*, PYA1-010E for analytical conditions.

Keyword : Evolved Gas Analysis, Mass Chromatogram, Ceramic Composite Material

Application : General Polymer Analysis

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