

BACKGROUND

The ionRocket is the temperature rising device for DART[®]-MS (Direct Analysis in Real time-Mass Spectrometry) analysis. The ionRocket heats sample from room temperature to maximum 600°C. EGA (Evolved Gas Analysis) also keeps and/or rises temperature optionally and the generated gas from heating the sample was detected by MS. For both methods, there are the same two points: temperature rising and using MS as detector.

In this report, we compared ionRocket analysis to EGA-MS analysis.

SAMPLE NYLON-6,6

METHOD

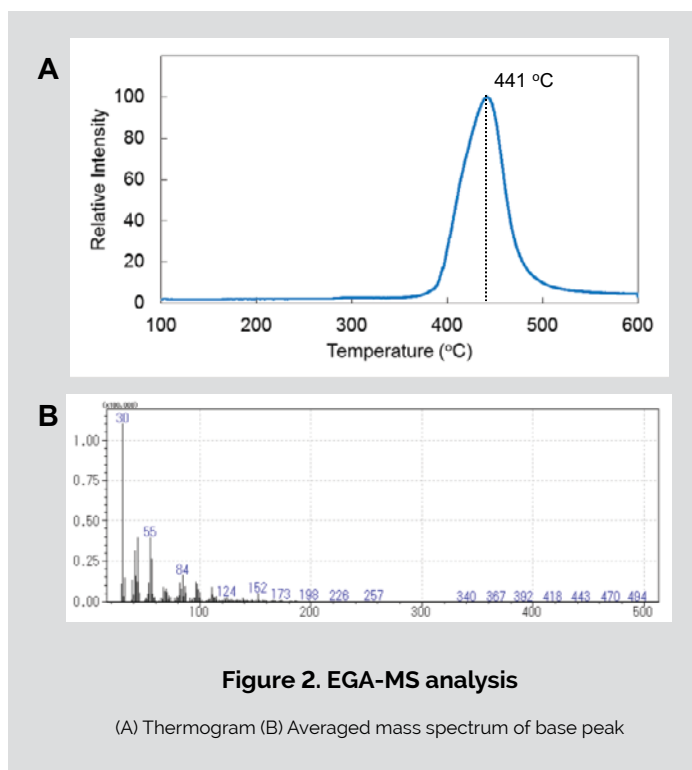
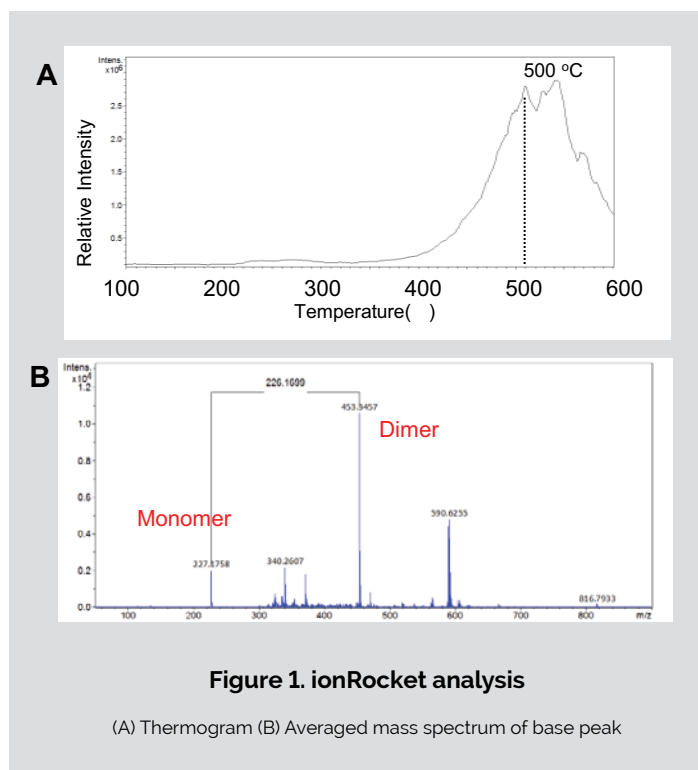
At the ionRocket analysis, sample was cut by razor into 0.5 mm x 0.5 mm and put onto the pot, sample stage. The temperature was raised by the ionRocket from room temperature to 600°C by 100°C/min. The total run time was about 7 min.

At the EGA-MS analysis, 10 mg sample was collected, put into the sample cup and analyzed. The temperature was raised by EGA-MS from 100°C to 600°C by 20°C/min and kept at 600°C for 5 min.

RESULTS

The results of ionRocket and EGA-MS analysis are shown in Figure 1 and 2, respectively.

At the ionRocket analysis, the fragment ions were not observed because DART is a kind of soft ionization technique. Monomer and dimer were observed (Figure 1). On the other hand, at the EGA-MS analysis, fragment ions, pyrolysis and its fragment ions were observed (Figure 2B).



TARGET Material analysis / Foreign material analysis

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