Thermal desorption and pyrolysis device for DART®-MS





ionRocket DART®-MS system

1. Excitation of He 3. Detected by MS DART MS He ionRocket

2. Heat gradient from the room temperature up to 600 °C. Vaporized sample is ionized.

Milligram (mg) samples are sufficient. Many kinds of samples are easily and reproducibly thermally desorbed from the copper sample pot: liquids, solids, powders, and viscous samples.

The merits of ionRocket DART®-MS

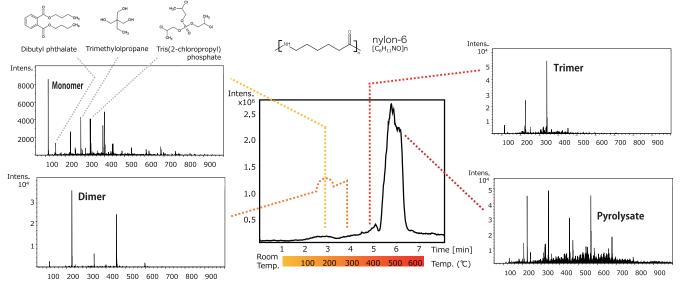
- · No derivatization, extraction, or other sample preparation required.
- · Thermal extraction and pyrolysis at one assay.
- · Thermal gradients enable easy separation and rapid compound identification.



The analysis of nylon-6

POT

(ionRocket sample stage)



Nylon-6, commercial item, were analyzed by ionRocket DART®-MS. Sample was sliced into 0.5 mm x 0.5 mm sections, and then placed in the POT, ionRocket copper sample pot. A temperature gradient of 100 oC/min. from room temperature to 600 °C was applied. At the 200 °C, monomer and additives were measured. Dimer and trimer were detected at 300 °C and 400 °C, respectively. Over 500 °C, the pyrolysate were detected.

Analysis of degraded natural rubber

New rubber band Degraded rubber band

A rubber band, commercial item, was analyzed by ionRocket DART®-MS. Sample was sliced into 0.5 mm x 0.5 mm sections, and then placed in the POT, ionRocket copper

sample pot. A temperature gradient of 100 °C/min. from room temperature to 600 °C was applied. The results show clear differences between a new rubber band and one degraded by a heat treatment, with different relative peak heights for additives and degradation products.



No. 07 ■Manufacturer

