

Comparison of Mass Spectrometry Sample Preparation Methods

BioChromato has published a technical note that compares using Evolved Gas Analysis (EGA) and Thermal Desorption (DART) sample preparation methods for Mass Spectrometry analysis of Nylon 6,6.

Synthesized

by polycondensation of hexamethylenediamine and adipic acid – Nylon 6,6 is a polyamide or nylon that is commonly used in the textile and plastic industries. Nylon 6,6 is a polymer of choice when high mechanical strength, rigidity, good stability under heat and/or chemical resistance are required. In this new technical note the authors compare ionRocket-DART®-MS to EGA-MS for analysis of Nylon 6,6 samples.

Evolved Gas Analysis

has traditionally been used as a mass spectrometry sample preparation technique for polymers, plastics, and fibres. However, analysis by EGA-MS generates fragment ions and requires a database to confirm the identity of the mass fragments.



By comparison,

the authors demonstrate how using ionRocket-DART/MS you can observe the parent ion without fragment ions because DART is a soft ionization technique. Consequently, ionRocket-DART/MS can provide qualitative analysis even if customers cannot find an objective mass fragment within their EGA/MS database

The ionRocket

is a temperature-heating device for direct thermal desorption and pyrolysis of samples, prior to ionization and analysis by mass spectrometry. Using ionRocket a temperature gradient from ambient up to 600°C can be achieved in just a few minutes. This enables polymers, plastics, and fibres to be pyrolyzed and then introduced into the DART®-MS gas stream.

To read this application report

in full please visit <https://biochromato.com/wp-content/uploads/EI008-Nylon-66-ionRocket-vs-EGA-MS.pdf>. For further information on the ionRocket sample preparation device please visit <https://biochromato.com/analyticalinstruments/ionrocket/> or contact BioChromato Inc. on +81-466-23-8382 / enquiries@bcr.co.jp.

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