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SYSTEMS AND METHODS FOR CONDUCTING NEUTRAL LOSS SCANS IN A SINGLE ION TRAP

A novel computer program controls mass spectrometers to efficiently analyze multiple ions simultaneously, minimizing interference for faster and simpler chemical analysis.

Researchers at Purdue University have developed a computer program to control a table-top mass spectrometer using a linear ion trap. Generally, mass spectrometers are only capable of analyzing the fragments arising from a single precursor ion at a time. By scanning an excitation function and applying simultaneously an ejection waveform at a frequency corresponding to a mass-to-charge ratio (m/z) associated with loss of a neutral fragment, the Purdue researchers' approach allows analysis of multiple ions at once. The approach also minimizes interferences. This technique of waveform generation can open new frontiers in chemical analysis.

Technology Validation: Neutral loss scans connecting two m/z values clearly distinguished four amphetamines from other compounds in a mixture of illicit drugs.

Advantages

- Efficient

- Simple

- Low power

Applications

- Mass spectrometry

- Chemical analysis

- Linear ion traps

TRL: 2

Technology ID
2018-COOK-68118

Category
Chemicals & Advanced Materials/Specialty & Performance Chemicals
Biotechnology & Life Sciences/Analytical & Diagnostic Instrumentation

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Intellectual Property:

Provisional-Patent, 2017-05-23, United States | Utility Patent, 2018-05-21, United States | CON-Gov. Funding, 2020-01-24, United States

Keywords: mass spectrometer, linear ion trap, chemical analysis, multiple ion analysis, neutral loss scans, excitation function, ejection waveform, mass-to-charge ratio, illicit drug detection, low power spectrometry, Algorithm, Chemical Engineering, Chemistry and Chemical Analysis, Computer Programs, Computer Technology, Ion Trap, Ionization, Ions, Mass Spectrometry, Waveform

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