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PRECURSOR ION MS/MS SCANS IN SINGLE ION TRAPS AND METHODS OF USE THEREOF

A new ion-trapping method simplifies mass spectrometer analyzer instruments, enabling highly accurate on-site analysis and various advanced scanning techniques.

Accurately assessing an extremely small quantity of a substance challenges researchers in many fields, notably in chemistry and physics. Mass spectrometers have been used in this endeavor for decades, with modern spectrometry techniques dating back nearly one hundred years. However, modern mass spectrometers, while quite powerful, are intricate in nature. They typically include multiple analyzer instruments such as a triple quadrupole system or hybrid Q-TOF instruments. Simplifying the analyzing instruments is a key focus of improving mass spectrometers, which would allow for better on-site analysis.

Researchers at Purdue University have developed a new method of trapping ions in a mass spectrometer. Using both a radio frequency signal and two alternating current signals, tandem mass spectrometer experiments can be performed with an ion trap. In addition, further developments could yield minimal interference in the tandem mass spectrometer spectra, which would allow various scans, such as precursor ion and neutral loss, to be performed with a high degree of accuracy. Thus, this improvement not only helps simplify the analyzer instruments, but makes in situ analysis easily accessible.

Advantages:

-Simplified analyzer instruments

-Valuable for on-site analysis

Potential Applications:

-Analytical chemistry

-Physics

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Category
Materials Science & Nanotechnology/Materials Testing & Characterization Tools
Biotechnology & Life Sciences/Analytical & Diagnostic Instrumentation

Authors
Robert Graham Cooks
Christopher Pulliam
Dalton Thomas Snyder

Further information
Dipak Narula
dnarula@prf.org

View online

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