

## Frequency Tagging to Record 2D Mass Spectra from Single Ion Populations

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**Categories:**

- Chemistry and Chemical Analysis

**Keywords:**

- Chemistry and Chemical Analysis
- Functional Groups
- Ion Traps
- Pharmaceuticals
- Structural Elucidation
- Tandem Mass Spectrometry
- Therapeutic and Illicit Drugs

Tandem mass spectrometry (MS/MS) is a method which provides structural information on particular compounds in a mixture after they have been ionized and their characteristic ions have been dissociated to generate product ions. Traditional methods require recording of multiple MS/MS scans which might require the sampling of multiple ion populations to answer questions.

Researchers at Purdue University have developed a methodology for operating a mass spectrometer that extends to the power of MS/MS experiments, providing a new option to rapidly draw conclusions about a sample. This 'frequency tagging' method is particularly valuable for ion traps and miniature in situ mass spectrometers. It provides a rapid way to recognize a sample as belonging to a particular functional group class or containing a component that has particular structural features evident from the product ion spectra.

**Advantages:**

- Rapidly draw conclusions
- Single linear quadrupole ion trap
- Minimize sample utilization and instrument power

**Potential Applications:**

- Ion traps
- Miniature instruments
- Multi-analyzer instruments

**People:**

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**Intellectual Property:**

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