

Broadband Collision-Induced Dissociation at Constant q

Track Code: 2016-COOK-67500

Categories:

- Chemical Engineering
- Chemistry and Chemical Analysis

Keywords:

- Chemistry and Chemical Analysis
- Ion Trap
- Mass Spectrometry

Tandem mass spectrometry (MS/MS) is used to characterize ions of selected mass/charge ratios. It is used in instances where the ion serves as a surrogate for the corresponding neutral molecule and the problem is the identification of components of complex mixtures. There are three steps in MS/MS:

1. Selection of the ion to be studied
2. Activation of this ion
3. Detection of the product ions

There are a variety of methods used for activation, including collision-induced dissociation (CID). There is a need for more efficient dissociation in MS/MS experiments in an ion trap mass spectrometer with access to full product ion mass range.

Researchers at Purdue University have developed a method of broadband collision-induced dissociation, fragmenting the ion population from high to low m/z (mass to charge ratio). This method is highly efficient, resulting in extensive fragment ion coverage for various complex mixtures. This method achieves more efficient dissociation with access to full product ion mass range. This method uses simpler hardware that can integrate into mass spectrometers that use ion trap analyzers.

Advantages:

- More efficient dissociation
- Access to full product ion mass range
- Integrates into existing mass spectrometers that use ion trap mass analyzers

Potential Applications:

- Mass spectrometry
- Biological research
- Chemical research

-Pharmaceutical research
-Chemical analysis

People:

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Intellectual Property:

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