

Title (en)
FRAGMENTATION METHODS FOR MASS SPECTROMETRY

Title (de)
FRAGMENTIERUNGSVERFAHREN FÜR DIE MASSENSPEKTROMETRIE

Title (fr)
PROCEDES DE FRAGMENTATION POUR SPECTROMETRIE DE MASSE

Publication
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Application
EP 03756376 A 20030530

Priority

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Abstract (en)
[origin: WO03102545A2] Apparatus and methods are provided that enable the interaction of low-energy electrons and positrons with sample ions to facilitate electron capture dissociation (ECD) and positron capture dissociation (PCD), respectively, within multipole ion guide structures. It has recently been discovered that fragmentation of protonated ions of many biomolecules via ECD often proceeds along fragmentation pathways not accessed by other dissociation methods, leading to molecular structure information not otherwise easily obtainable. However, such analyses have been limited to expensive Fourier transform ion cyclotron resonance (FTICR) mass spectrometers; the implementation of ECD within commonly-used multipole ion guide structures is problematic due to the disturbing effects of RF fields within such devices. The apparatus and methods described herein successfully overcome such difficulties, and allow ECD (and PCD) to be performed within multipole ion guides, either alone, or in combination with conventional ion fragmentation methods. Therefore, improved analytical performance and functionality of mass spectrometers that utilize multipole ion guides are provided.

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H01J 49/0054 (2013.01); **H01J 49/063** (2013.01)

Citation (search report)

- [X] US 4988869 A 19910129 - ABERTH WILLIAM [US]
- [PX] WO 02078048 A1 20021003 - UNIV SYDDANSK [DK], et al
- [A] US 4731533 A 19880315 - VESTAL MARVIN L [US]
- [A] DE 10058706 C1 20020228 - BRUKER DALTONIK GMBH [DE]
- See references of WO 03102545A2

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DOCDB simple family (publication)
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