Title (en)

Methods of using ion trap mass spectrometers

Title (de)

Verfahren zum Betrieb von Ionenfallenmassenspektrometern

Title (fr)

Méthodes d'utilisation de spectromètres de masse du type piège à ions

Publication

EP 0786796 B1 20000705 (EN)

Application

EP 97104015 A 19930528

Priority

- EP 93108670 A 19930528
- US 89099192 A 19920529

Abstract (en)

[origin: EP0852390A1] Improved methods of using an ion trap mass spectrometer, whereby AC voltages supplemental to the AC trapping voltage are used for scanning the trap (10), for conducting chemical ionization experiments, and for conducting MSⁿ experiments, are shown. In one embodiment a non-resonant, low-frequency supplemental voltage is applied to the trap (10) causing trapped ions to undergo collision induced dissociation. Multiple generations of ion fragments may be simultaneously formed in this manner, thereby enabling MSⁿ experiments. The low-frequency supplemental field has the additional property of causing high mass ions to be ejected from the trap (10) as a function of the magnitude of the supplemental voltage. This property may be used to scan the trap (10), for example, by scanning the magnitude of the supplemental voltage. Likewise, when conducting chemical ionization experiments, this property may be used for eliminating unwanted high mass sample ions, formed during ionization of the reagent gas, from the trap (10).

IPC 1-7

H01J 49/42

IPC 8 full level

H01J 49/42 (2006.01)

CPC (source: EP)

H01J 49/005 (2013.01); **H01J 49/145** (2013.01); **H01J 49/424** (2013.01); **H01J 49/4265** (2013.01)

Cited by

EP1341205A3; US7586089B2

Designated contracting state (EPC)

CH DE FR GB IT LI

DOCDB simple family (publication)

EP 0852390 A1 19980708; **EP 0852390 B1 20040811**; EP 0786796 A1 19970730; EP 0786796 B1 20000705

DOCDB simple family (application)

EP 98103434 A 19930528; EP 97104015 A 19930528