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Application
EP 93108670 A 19930528

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Abstract (en)
[origin: EP0575777A2] 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 MS<n> experiments, are shown. In one embodiment a broadband supplemental AC voltage is applied to rid the trap of ions above or below a preselected cutoff mass. This is particularly useful in conducting chemical ionization experiments for eliminating high mass sample ions that are formed when the reagent gas is ionized by electron impact ionization. Likewise, this technique may be used to eliminate low mass reagent ions when conducting an electron impact ionization experiment in the presence of a reagent gas. In another 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 MS<n> 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). <IMAGE>

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