

Title (en)  
Mass spectrometer

Title (de)  
Massenspektrometer

Title (fr)  
Spectromètre de masse

Publication  
**EP 2001039 B1 20120328 (EN)**

Application  
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Abstract (en)  
[origin: EP1365438A2] A mass spectrometer is disclosed wherein ions having a particular desired charge state are selected by operating an ion mobility spectrometer 4 in combination with a quadrupole mass filter 5. Precursor ions are fragmented or reacted to form product ions in a collision cell ion trap 6 and sent back upstream to an upstream ion trap 2. The fragment or product ions are then passed through the ion mobility spectrometer 4 wherein they become temporally separated according to their ion mobility. Fragment or product ions are then re-trapped in the collision cell ion trap 6 before being released therefrom in packets. A pusher electrode 8 of a time of flight mass analyser is energised a predetermined period of time after a packet of ions is released from the collision cell ion trap 6. Accordingly, it is possible to select multiply charged precursor ions from a background of singly charged ions, fragment them, and mass analyse the fragment ions with a near 100% duty cycle across the whole mass range.

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