Title (en)

Mass spectrometer

Title (de)

Massenspektrometer

Title (fr)

Spectromètre de masse

Publication

EP 2498273 A1 20120912 (EN)

Application

EP 11405227 A 20110307

Priority

EP 11405227 A 20110307

Abstract (en)

A mass spectrometer includes a chemical ionization source (22) comprising an ion molecule reaction region (33), a mass analyzer (12) and an interface (23) coupling the chemical ionization (22) source to the mass analyzer (12). The interface (23) comprises a first chamber (50) comprising a radio frequency focusing device (61), to be arranged adjacent to a gas conductance limiting exit aperture (38) of an ion molecule reaction region of the chemical ionization source (22) or adjacent to a gas conductance limiting aperture for feeding ambient air, the chamber (50) defining a collisional declustering region, at least one interface vacuum chamber (45) arranged downstream of the first chamber, the at least one interface vacuum chamber (45) being separated from the first chamber (50) by a further gas conductance limiting aperture (53). The pressure in the first chamber (50) is 0.01 mbar or more. This setup improves ion transmission into the interface stage (45) following the first chamber (50). Further, the radio frequency focusing device (61) more efficiently dissipates ion kinetic energy originating from expansion into the first chamber (50), improving achieved mass resolving power and mass accuracy in particular for applications where a chemical ionization source (22) is a component of an orthogonal time-of-flight mass spectrometer.

IPC 8 full level

H01J 49/10 (2006.01); **H01J 49/14** (2006.01)

CPC (source: EP)

H01J 49/0481 (2013.01); **H01J 49/063** (2013.01); **H01J 49/145** (2013.01)

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