Title (en)

METHOD AND APPARATUS FOR GENERATING IONS, SPECIALLY FOR A MASS SPECTROMETER SUCH AS A TIME-OF-FLIGHT MASS SPECTROMETER, FROM THERMALLY INSTABLE, NON-VOLATILE, LARGE MOLECULES

Publication

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Application

EP 92250055 A 19920307

Priority

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Abstract (en)

[origin: EP0503748A2] A method for generating ions, especially for a mass spectrometer, such as a time-of-flight mass spectrometer, from thermally unstable, non-volatile large molecules, in which a sample substance having the molecules is subjected to energy pulses by means of which molecules are released from the sample substance, and in which the released molecules are taken by a jet of a carrier gas and are cooled during its expansion as well as subsequently being ionised in an ionisation space, characterised in that the molecules are ionised by electron impact; in that the radiation density of the electrons which are used for the ionisation is selected such that a potential trough is produced, at the focus of the electron beam, whose depth is greater than the translation energy of the molecule ions in the carrier gas flow; in that the molecule ions generated by the electron impact ionisation are collected in the potential trough in each case for a specific period of time; and in that the molecule ions which are in each case collected in the potential trough are accelerated in a pulsed manner out of the ionisation chamber, and an apparatus especially for carrying out this method. <IMAGE>

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Citation (search report)

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