

Title (en)
METHOD FOR THE EVAPORATION OF A SAMPLE

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Application
EP 88111565 A 19880719

Priority
DE 3809504 A 19880322

Abstract (en)
[origin: EP0333912A2] During the evaporation of a sample substance consisting of large molecules, in particular for mass spectroscopy investigations, the energy supplied for the evaporation can bring about a thermolytic decomposition of the sample substance. According to the invention, in order to prevent such a decomposition, the sample substance is mixed, before irradiation, with a matrix material which consists of a compound which readily decomposes into gaseous molecules on exposure to the laser beam. This material may be one which absorbs the radiation, readily decomposes thermolytically or, alternatively, is transparent to the laser radiation but is mixed with a metal powder. If the mixture is exposed to laser beam pulses, the unstable matrix material first decomposes and thereby releases the embedded molecules of the sample substance. In particular, in combination with a cooling gas jet, a destruction of the molecules of the sample substance can be avoided almost completely in this way. Suitable compounds for the matrix are, in particular, sugar, cellulose and NH_4NO_3 , and polyethylene with gold or silver dust added.

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Citation (search report)

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- [Y] TRAC (TRENDS IN ANALYTICAL CHEMISTRY), Band 6, Nr. 4, April 1987, Seiten 78-81, Elsevier Science Publishers B.V., Amsterdam, NL; R. ISOBE et al.: "Direct microanalysis by negative ion fast atom bombardment mass spectrometry"
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