

Title (en)

METHOD FOR THE DIELECTRIC BARRIER ELECTROSPRAY IONIZATION OF LIQUID SAMPLES AND FOR THE SUBSEQUENT MASS SPECTROMETRIC ANALYSIS OF THE GENERATED SAMPLE IONS

Title (de)

VERFAHREN ZUR DIELEKTRISCH BEHINDERTEN ELEKTOSPRAYIONISIERUNG VON FLÜSSIGEN PROBEN UND ZUR NACHFOLGENDEN MASSENSPEKTROMETRISCHEN ANALYSE DER ERZEUGTEN PROBENIONEN

Title (fr)

PROCÉDÉ D'IONISATION PAR ÉLECTRONÉBULISATION À BARRIÈRE DIÉLECTRIQUE D'ÉCHANTILLONS LIQUIDES ET D'ANALYSE SUBSÉQUENTE PAR SPECTROMÉTRIE DE MASSE DES IONS D'ÉCHANTILLON PRODUITS

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Application

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Abstract (en)

[origin: WO2012130781A1] The invention relates to a method for the dielectric barrier electrospray ionization of liquid samples and for the subsequent mass spectrometric analysis of the generated sample ions, in which the respective liquid sample is conducted in a capillary-shaped feed channel, the surrounding wall of which comprises on the outer side, spaced from the free end, an electrode which is separated from the wall by a separating layer made of a dielectric material, wherein at a distance from the free end of the feed channel an inlet of a mass spectrometer forming a counter electrode is arranged, creating an ion formation clearance, the formed ions reaching an openable and closable trap of the mass spectrometer through said inlet, wherein a square-wave voltage is applied between the electrode and the inlet for generating the sample ions and the trap of the mass spectrometer is alternately opened and closed, and wherein the sample ions reaching the trap of the mass spectrometer are analyzed in the mass spectrometer. The aim of the invention is to only have positive or negative sample ions reach the mass spectrometer while preserving the advantages of applying a square-wave voltage. Said aim is achieved by applying an asymmetrical square-wave voltage between the electrode and the inlet, in which voltage the frequency ratio of the positive and negative polarities is different.

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