

Hot Cell MIMS: Direct analysis of semi-VOCs liberated from practically any type of solid sample

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Recently we introduced the hot cell MIMS idea, where solid samples as well as liquid micro extracts can be analyzed without any pretreatment for their potential liberation or content of semi-volatile organic compounds (semi-VOCs). This talk will present the fundamental ideas that makes fast analysis of semi-VOCs possible using "standard" and field portable membrane inlet mass spectrometry. Examples of the analysis of chemicals liberated from soil, plastic and plant materials will be presented.

A possible application of a portable hot cell MIMS system is real-time identification of drugs found near intoxicated persons or at crime scenes. A match of the hot cell MIMS electron ionization mass spectrum and a database spectrum rapidly identifies the chemical. We will demonstrate the direct analysis of pills containing anti depressive drugs (Citalopram, Venlafaxine, Sertralin and Paroxetine) commonly used in suicidal attempts in Scandinavia.