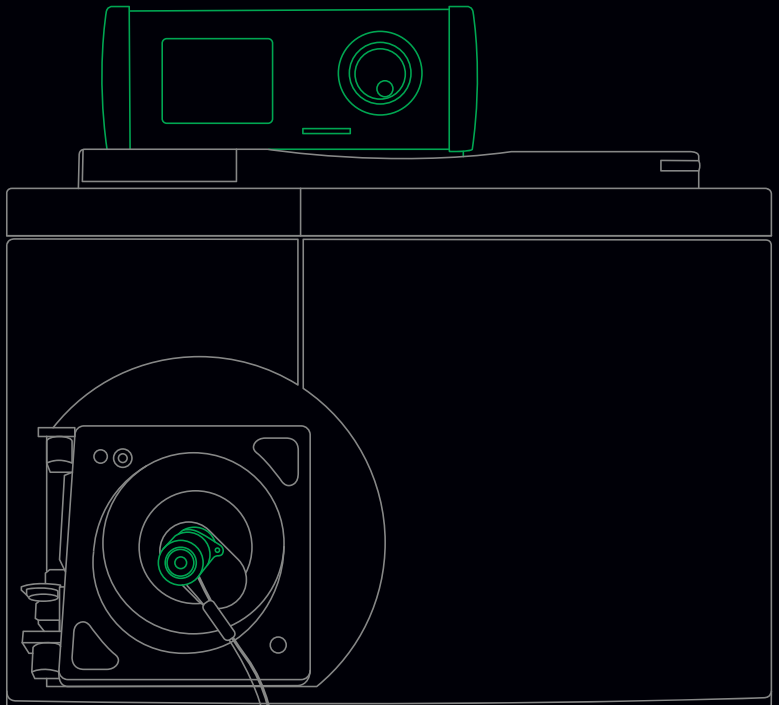
SICRIT® – The Ion Source for Direct MS Measurements

Sicrit technology

Upgrade your MS into a sensitive VOC sensor for fast screening or 24/7 monitoring



Simplifying Mass Spectrometry

Direct MS has shown its potential for fast screening analysis and for real-time VOC monitoring.

Plasmion's SICRIT® Ion Source enables to perform sensitive direct MS measurements on any LC-MS instrument without sample preparation. It allows for continuous VOC monitoring as well as direct quantitative headspace or liquid analysis in the low-ppt-level.

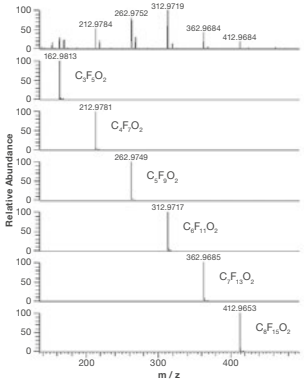
The smart plug & play design ensures a fast installation and an easy operation.

Instantaneous results without sample preparation for targeted or non-targeted screening of VOC emissions.

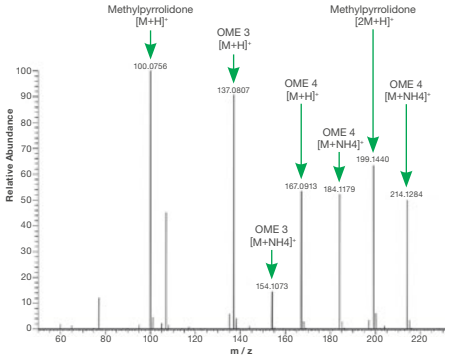
Direct and automated introduction of headspace or liquid samples into the ion source via our heatable desorption module for quantitative analysis within seconds.

Enabling a Unique Range of Applications

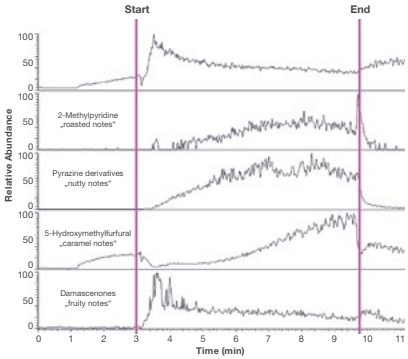
Headspace HRMS analysis of PFCAs in coating powder formulation.



Direct liquid measurement for determination of OMEs in biofuels.



Parallel online-monitoring of 500+ aroma compounds during coffee roasting.



#Explosives

#PFCA

#Coffee

More information on our website

Want to see more details and additional applications? Visit **www.plasmion.de/downloads**

A Solution Based on Superior Technology (SICRIT®)

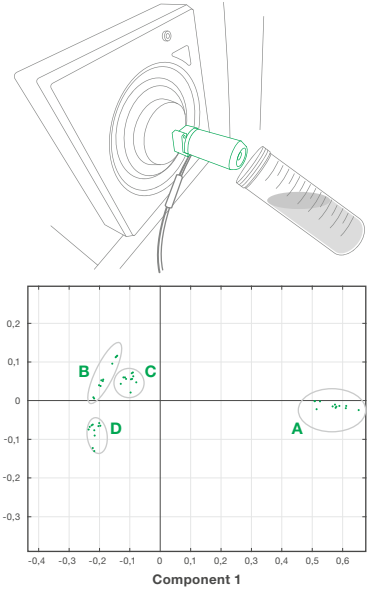
Increased Sensitivity

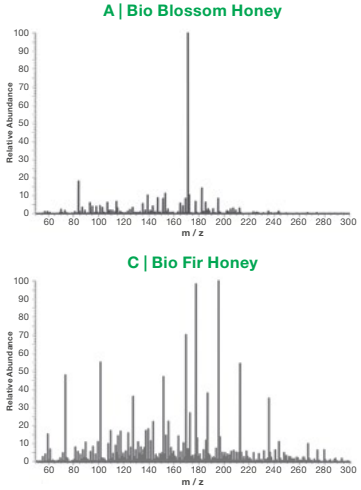
The locally confined ionization in a small capillary in extension of the MS-inlet avoids the loss of ions by coulombic repulsion and increases sensitivity.

No Sample Preparation

The ambient character of the ionization source allows to analyze solid, liquid, or gaseous samples in room air without sample preparation (direct screening).

Direct MS Screening & Automated Clustering of Honey Samples

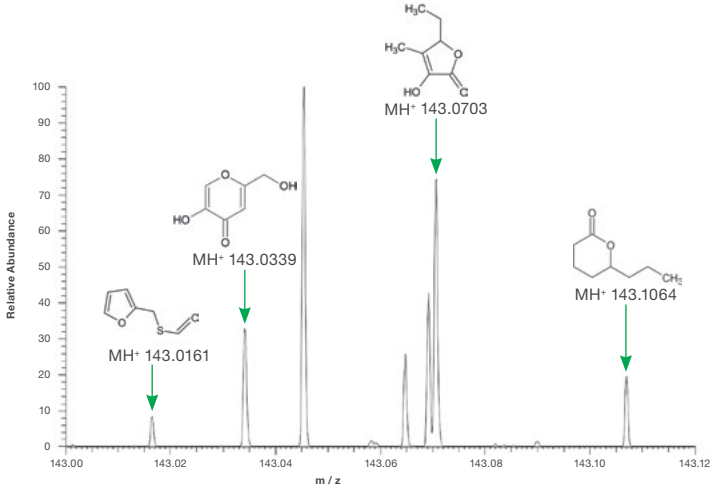




No Fragmentation

The unique shape of the cold plasma enables a soft ionization of analytes and allows for identification based on exact mass.

High-Resolution Spectrum of SICRIT®



High Reproducibility

The SICRIT® setup allows for easy integration of automated sample introduction via PAL robotic solutions, ensuring standard deviations < 5%.

Enhanced Range of Analytes

Three simultaneous ionization mechanisms expand the range of detectable analytes, covering polar and non-polar components.

Delivering Significant Economical Advantages

Plasmion‘s Ion Source leads to a significant reduction in analysis time

The plug & play mechanism of the SICRIT® Ion Source enables an installation within less than a minute. It does neither require calibration nor sample preparation and is thus suitable to answer analytical questions fast and efficiently.

Plasmion‘s Ion Source reduces costs and capital expenditure

The SICRIT® Ion Source leads to a significant decrease in running costs for chemical analyses, as it does not require any consumables like noble gases. Since it can be used for almost all MS-related applications, it avoids the capital expenditure for multiple dedicated ion sources.

Plasmion‘s Ion Source meets highest demands in terms of performance

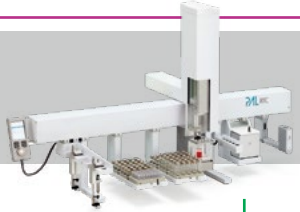
The flexibility of the SICRIT® Ion Source in coupling with any LC-MS instrumentation gives unlimited access to the detector‘s performance needed for the analytical task. The flow-through design of the source additionally increases the analyte transfer into the respective LC-MS system, enhancing sensitivity.

Provided by a Single Trusted Partner

Plasmion provides an integrated solution based on its plug & play SICRIT® ionization technology. All required instrumentation, also 3rd party instruments (e.g. PAL systems), can be directly ordered via Plasmion.

You have: Mass spectrometer (MS) with atmospheric pressure inlet to be used as detection technology

We have: required and optional* equipment for direct MS measurements (orderable via Plasmion)



***CTC PAL Autosampler** to enable automated sample introduction

SICRIT® Ion Source to ionize polar and non-polar compounds

SICRIT® SC-30 Control Unit to control the ionization source and the connection modules

SICRIT® MS Interface to establish electronical and mechanical connection to the MS

***SICRIT® GC/SPME-Module** for direct liquid and headspace quantification and automation

***SICRIT® Direct Sampling Line** for gas-tight remote sampling and avoidance of condensation

Plasmion 3rd Party Products

PAL RTC Autosampler

The PAL RTC is developed to maximize productivity in the laboratory. Its Robotic Tool Change (RTC) allows to switch between different syringes and SP(M)E tools and thus brings sample preparation to a higher level.

In combination with Plasmion's product portfolio, highly automated sampling and sample analysis can be realized. Furthermore, workflows with and without GC can be implemented by one instrumental setup.

Plasmion Products

Ion Source

The SICRIT® Ion Source can be operated with any carrier gas (even room air) and thus enables direct MS screening. Moreover, it enables a gas-tight measurement of sensitive processes or fully quantitative connection to classical GC/LC methods.

The cold plasma ionization based on a dielectric barrier discharge enables fragment-free measurement of multiple analytes.

SC-30 Control Unit

The SICRIT® SC-30 Control Unit enables to control the cold plasma in the SICRIT® Ionization Source as well as the required parameters of all connection modules (GC-SPME/LC/IR desorption). All parameters can also be controlled via a respective software. An integration with software of other vendors is not required to operate the system.

Plasmion Products

MS Interfaces

The SICRIT® MS Interfaces are dedicated for specific MS instruments to establish an electronic and mechanical connection. There are interfaces available for almost all common MS instruments of Thermo Fisher, Agilent, SCIEX, Bruker, Waters, Shimadzu, and Jeol. Interfaces to other instruments are available upon request.

GC/SPME Module

The SICRIT® GC/SPME Module combines ionization technology with state-of-the-art sample separation and/or enrichment techniques.

- It enables a direct SICRIT®-MS connection from a GC or microbalance via a heated transfer line.
- It enables direct SPME-SICRIT®-MS measurements with automated injections featuring a PAL automation system.
- It enables fully quantitative direct measurements (manual or automated) of liquids and headspace samples.

Direct Sampling Line

Our sampling line extends the ion source inlet and allows for loss-free transfer of analytes from closed chambers like fermenters, roasters, etc. The sampling line consists of a 40 cm inert stainless-steel tube which can be heated up to 200°C. The line is mounted to Plasmion's MS interfaces.

Plasmion

simple smart sensitive

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