

What is a membrane used in a spectrometer



Overview

Membrane-introduction mass spectrometry (MIMS) is a method of introducing analytes into the mass spectrometer's vacuum chamber via a semi-permeable membrane. Usually a thin, gas-permeable, hydrophobic membrane is used, for example polydimethylsiloxane. Samples can be almost any fluid. This chapter focuses on the methods to characterize membranes for pressure driven processes such as reverse osmosis, nano-filtration, ultrafiltration, microfiltration, membrane gas and vapor separation, pervaporation etc. MIMS finds its niche in various scientific domains, with a. Strictly speaking, a spectrometer is any instrument used to view and analyze a range (or a spectrum) of a given characteristic for a substance (for example, a range of mass-to-charge values as in mass spectrometry), or a range of wavelengths as in absorption spectrometry like nuclear magnetic.



Article Content

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Spectrophotometry

Spectrophotometry is often used in measurements of enzyme activities, determinations of protein concentrations, determinations of enzymatic kinetic

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Membrane-Introduction Mass Spectrometry

Membrane introduction mass spectrometry (MIMS) is defined as a sensitive analytical method for volatile organic compounds (VOCs) that involves the separation of these analytes from a sample using a thin

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Spectrometer | Physics | Research Starters

Spectrometer A spectrometer is a tool that is used to study wavelengths on the electromagnetic spectrum, including visible light waves. Spectroscopy is the study of the electromagnetic spectrum to

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Membrane Spectroscopy | Springer Nature Link

Experimental methods have been devised to measure the translational and rotational mobility of lipids and proteins, thereby furnishing a quantitative basis for

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Membrane inlet mass spectrometry for in situ environmental monitoring

Membrane inlet mass spectrometry (MIMS) is a technique which allows selective and direct introduction of certain analytes of interest into the vacuum chamber of a mass spectrometer through a semi

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Condensed Phase Membrane Introduction Mass

The analytes in the sample are pre-concentrated by the membrane depending on their physicochemical properties and directly transferred, using

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Membrane Inlet Mass Spectrometry for Gas Analysis

The process begins with the placement of the membrane inlet in the sample solution containing the dissolved gases. The membrane serves as a

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What is a Spectrometer and How Does It Work

These improvements allow spectrometers to work in more places, from laboratories to factories and even in space missions. Spectroscopy also

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Raman Spectrometer Optics Explained | Bruker

Explore how key optical components—lasers, filters, and spectrometers—work together to make Raman spectroscopy possible. Understand the technology

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Spectrometer

Strictly speaking, a spectrometer is any instrument used to view and analyze a range (or a spectrum) of a given characteristic for a substance (for example, a range of

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Membrane Inlet Mass Spectrometer Explained

The Hiden Analytical HPR-40 Membrane Inlet Mass Spectrometer (MIMS) system uses a semi-permeable membrane to isolate the mass

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Comparison of Membrane Inlet and Capillary Introduction Miniature

When a liquid sample flows through a membrane, certain analytes will permeate into the vacuum chamber of a mass spectrometer from the solution. The properties of the membrane directly

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Membrane-introduction mass spectrometry

Membrane-introduction mass spectrometry (MIMS) is a method of introducing analytes into the mass spectrometer 's vacuum chamber via a semi-permeable membrane. Usually a thin, gas

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Spectrometer

Since the use of convectional mass spectrometry there have been various modifications for only resolving unknown compounds, molecular mass evaluation, and identification of purity of known

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Spectrometer

A spectrometer is an instrument used in spectroscopy that consists of a radiation source, a monochromator, and a transducer. It emits radiation of various frequencies within a specific region of

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How is Light Processed and Measured by a

After matching the results from the spectrometer towards the known results of a standard light source, the device is fully calibrated and can be used for absolute

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Spectrometer

There are three main components in all spectrometers; these components can vary widely between instruments for specific applications and levels of resolution.

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MEMBRANE CHARACTERIZATION

To this end, many methods have been devised. This chapter focuses on the methods to characterize membranes for pressure driven processes such as reverse osmosis, nano-filtration, ultrafiltration,

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What Is A Spectrometer?

A spectrometer is a common tool used by various scientists to determine information about an object or substances through the analysis of its

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The workings of a spectrometer | Description, Example & Application

The Workings of a Spectrometer A spectrometer is an instrument that measures the amount of light absorbed or emitted by a sample as a function of wavelength. It is a useful tool in

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Membrane inlet mass spectrometry (MIMS) for analysis of water ...

Membrane inlet mass spectrometry (MIMS) is an analytical tool capable of analysing a range of DBPs in water without sample preparation and of monitoring chemical processes in real

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Membrane introduction mass spectrometry (MIMS): a

Membrane introduction mass spectrometry (MIMS) is a direct, continuous, on-line measurement technique. It utilizes a membrane to semi

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Spectrometer

Figure 3 depicts the important features of simple instrumentation that can be used for absorption spectroscopy, and a typical spectrum. Although all absorption spectrometers might not be exactly

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Membrane-introduction mass spectrometry (MIMS)

Membrane-introduction mass spectrometry (MIMS) uses a semi-permeable membrane as a direct interface between sample and mass spectrometer. The membrane interface acts to separate

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://moletenare-ew.co.za>

Email: info@moletenare-ew.co.za

Phone: +86 138 1658 3346

Address: Ningbo, China

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