Budowa Silesia Photonics

Composition and Function of Atomic Fluorescence Spectrometer

Overview

Atomic Fluorescence Spectrometry (AFS) is a highly sensitive, element-specific analytical technique used for the quantitative determination of trace and ultra-trace concentrations of metallic and semi-metallic elements—most notably arsenic (As), antimony (Sb), bismuth (Bi) . Atomic Fluorescence Spectrometry (AFS) is a highly sensitive, element-specific analytical technique used for the quantitative determination of trace and ultra-trace concentrations of metallic and semi-metallic elements—most notably arsenic (As), antimony (Sb), bismuth (Bi) . Atomic fluorescence spectroscopy (AFS) is a method that was invented by Winefordner and Vickers in 1964 as a means to analyze the chemical concentration of a sample. The idea is to excite a sample vapor with the appropriate UV radiation, and by measuring the emitting radiation, the amount of the. Atomic spectroscopy methods are based on light absorption and emission (via electronic transitions, all in the UV-VIS domain) of atoms in the gas phase. THEORETICAL BASIS OF ANALYTICAL ATOMIC FLUORESCENCE SPECTROSCOPY Winefordner. Fluorescence spectroscopy (also known as fluorimetry or spectrofluorometry) is a type of electromagnetic spectroscopy that analyzes fluorescence from a sample. It involves using a beam of light, usually ultraviolet light, that excites the electrons in molecules of certain compounds and causes them.

Article Content

Atomic Fluorescence Spectrometer

The operational foundation of Atomic Fluorescence Spectrometry rests upon quantum mechanical selection rules governing electronic transitions in free atoms, coupled with kinetic …

Atomic Fluorescence Spectrometry

AFS is a two stage process of excitation and emission. Stage 1: A high intensity monochromatic discharge lamp provides the excitation energy which is focused onto the analyte atoms. Stage 2: The …

Atomic Fluorescence Spectrometry

Atomic fluorescence spectrometry (AFS) is an analytical method used to determine the concentration of elements in samples. The sample is converted to gaseous atoms, and the element of interest is …

Atomic Absorption And Atomic Fluorescence Spectrometry

Atomic Spectroscopy Methods Atomic spectroscopy methods are based on light absorption and emission (via electronic transitions, all in the UV-VIS domain) of atoms in the gas phase.

Atomic Fluorescence Spectroscopy (AFS): An Overview

This process is called Atomic Fluorescence Spectroscopy. The process is primarily used to detect metals (antimony, arsenic, bismuth, cadmium, germanium, lead, selenium, tellurium, tin, and zinc).

Fluorescence Spectroscopy: Principle, Instrumentation, Uses

Fluorescence Spectroscopy is a set of techniques that deals with the measurement of fluorescence emitted by substances when exposed to ultraviolet, visible, or other electromagnetic …

What is Atomic Fluorescence Spectroscopy?

AFS involves bringing analyte atoms into a reservoir and exciting them with a monochromatic electromagnetic beam. The fluorescence emission due to the relaxation of these …

1.11: Fluorescence Spectroscopy

Atomic fluorescence spectroscopy (AFS) is a method that was invented by Winefordner and Vickers in 1964 as a means to analyze the chemical concentration of a sample.

Atomic Fluorescence Spectroscopy

The spectral mechanisms involved in atomic fluorescence have been described in Chapter 2 and reference to that chapter should be made to review the various types of atomic fluorescence.

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Atomic fluorescence spectrometry makes use of the same basic instrumental components as atomic absorption spectrometry; however, it measures the intensity of the light emitted by atoms that have ...

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

Website: https://www.budowasilesia.pl
Email: contact@budowasilesia.pl
Phone: +48 537 192 846
Address: ul. Chorzowska 45, 40-001 Katowice, Silesian Voivodeship, Poland

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