

Editorial on Analytical Techniques for Chemical Analysis

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EDITORIAL

An analytical technique may be a method that used to determine the concentration of a compound or element. There is a good sort of techniques used for analysis, from simple weighing (gravimetric analysis) to titrations (titrimetric) to very advanced techniques using highly specialized instrumentation. The foremost common techniques utilized in analytical chemistry are the following.

Titrimetry

Titration (also referred to as titrimetry [1] and volumetric analysis) may be a common laboratory method of quantitative qualitative analysis to work out the concentration of an identified analyte (a substance to be analyzed). A reagent, termed the titrant or titrator, is ready as a typical solution of known concentration and volume. The titrant reacts with an answer of analyte (which can also be termed the titrant to work out the analyte's concentration. the quantity of titrant that reacted with the analyte is termed the titration volume. supported the number of reagent needed to react with the analyte;

Electroanalytical methods

Electroanalytical methods are a category of techniques in analytical chemistry which study an analyte by measuring the potential (volts) and/or current (amperes) in an electrochemical cell containing the analytes [2]. These methods are often weakened into several categories counting on which aspects of the cell are controlled and which are measured. The three main categories are potentiometry (the difference in electrode potentials is measured), coulometry (the cell's current is measured over time), and voltammetry (the cell's current is measured while actively altering the cell's potential) including potentiometry and voltammetry.

Spectroscopy

Spectroscopy is that the study of the interaction between matter and electromagnetic wave as a function of the wavelength or frequency of the radiation. Historically, spectroscopy originated because the study of the wavelength dependence of the absorption by gas phase matter of light dispersed by a prism. we will also consider matter waves and acoustic waves as sorts of radiative energy, and recently gravitational waves are related to a spectral signature within the context of the Laser Interferometer Gravitational-Wave

Observatory (LIGO) based on the differential interaction of the analyte alongside electromagnetic radiation.

Chromatography

Chromatography may be a laboratory technique for the separation of a mix. The mixture is dissolved during a fluid called the mobile phase, which carries it through a structure holding another material called the stationary phase. The varied constituents of the mixture travel at different speeds, causing them to separate. The separation is predicated on differential partitioning between the mobile and stationary phases. Subtle differences during a compound's partition coefficient end in differential retention on the stationary phase and thus affect the separation in which the analyte is separated from the remainder of the sample in order that it's going to be measured without interference from other compounds.

Gravimetric analysis

Gravimetric analysis describes a group of methods utilized in analytical chemistry for the quantitative determination of an analyte (the ion being analyzed) supported its mass. The principle of this sort of study is that when an ion's mass has been determined as a singular compound that known measurement can then be wont to determine an equivalent analyte's mass during a mixture, as long because the relative quantities of the opposite constituents are known.

Radioanalytical chemistry

It focuses on the analysis of sample for his or her radionuclide content. Various methods are employed to purify and identify the radioelement of interest through chemical methods and sample measurement techniques. There are more techniques that have specialized applications, and within each major analytical technique there are many applications and variations of the overall techniques.

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Received: September 20, 2020; **Accepted:** September 26, 2020; **Published:** October 03, 2020

Citation: Sakinala S (2020) Editorial on Analytical Techniques for Chemical Analysis. Mod Chem Appl. 8:e280. doi:10.35248/2329-6798.20.8.e280.

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