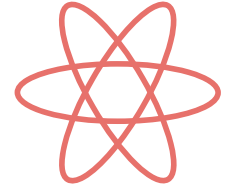
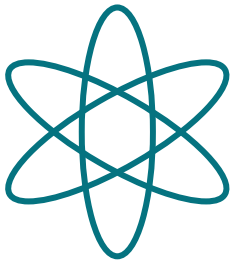




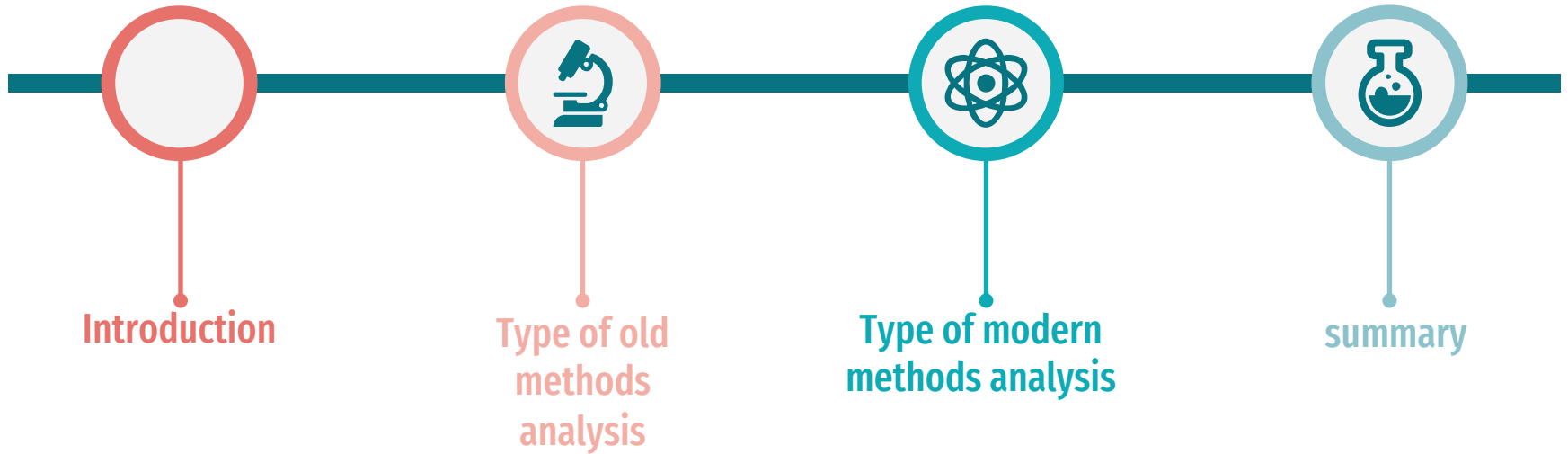
Libyan International Medical University
Faculty of Pharmacy



Methods of Analysis

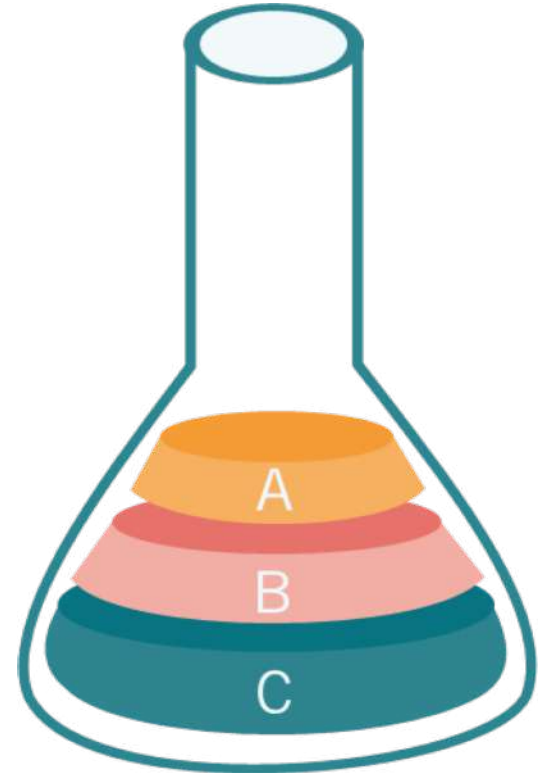
By:
Shahed Alagory 2766
Mohamed Fahmy 2786
Sajed Albarac

Table of content



Introduction

Introduction analytical technique for identification purposes to identify the material it will allow the analytical chemist to identify or compare matter and classifying all substances into one of two very broad chemical groups: organics and inorganics. Common Analytical methods are often classified in to classical or instrumental methods



Type of old method analysis

classical methods

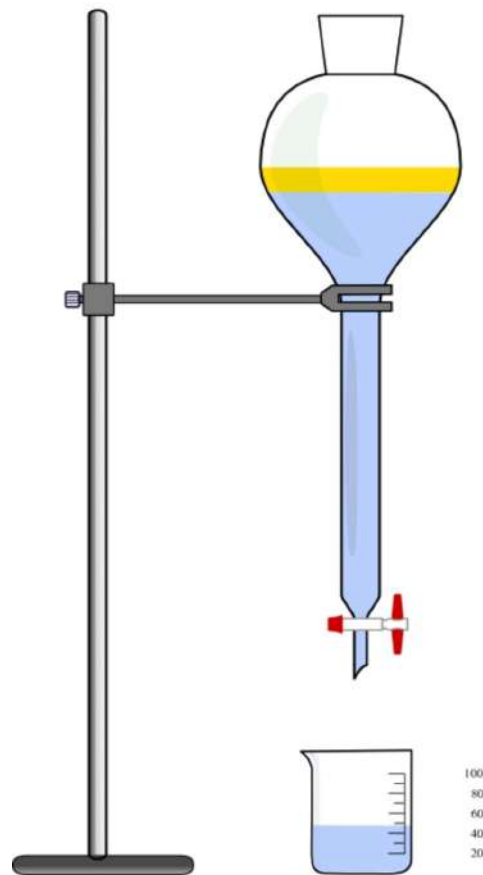


Gravimetric
methods

Classical Methods

1. **separation process** is a method that converts a mixture or solution of chemical substances into two or more distinct product mixtures and its classify in to

- Separations Based on Size
- Separations Based on Mass or Density
- Separations Based on Complexation Reactions (Masking)



Classical Methods

2 qualitative analysis

is the determination of the chemical composition of a sample. It encompasses a set of analytical chemistry techniques that provide nonnumerical information about a specimen. Qualitative analysis can tell you whether an atom, ion, functional group, or compound is present or absent in a sample, but it doesn't provide information about its quantity.

- **Techniques and Tests**

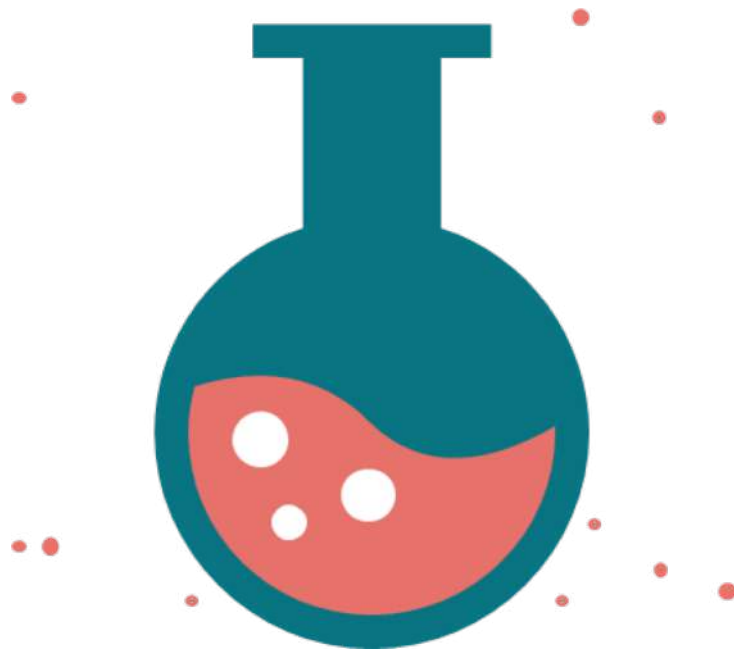
Qualitative analysis involves chemical tests, such as the Kastle-Meyer test for blood or the iodine test for starch. Another common qualitative test, used in inorganic chemical analysis, is the flame test.



Classical Methods

3 **Quantitative chemical analysis,**

branch of chemistry that deals with the determination of the amount or percentage of one or more constituents of a sample. The major types of strictly chemical methods are known as gravimetric analysis and volumetric, or titrimetric



Gravimetric Analysis

Gravimetric analysis

a method of quantitative chemical analysis in which the constituent sought is converted into a substance (of known composition) that can be separated from the sample and weighed. The steps commonly followed in gravimetric analysis are

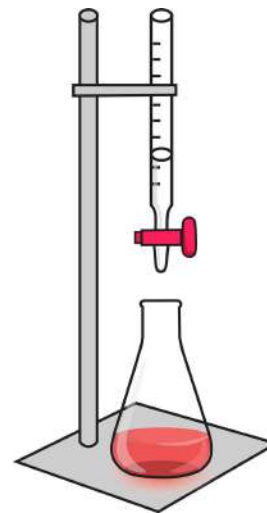
- (1) preparation of a solution containing a known weight of the sample
- (2) separation of the desired constituent,
- (3) weighing the isolated constituent, and
- (4) computation of the amount of the particular constituent in the sample from the observed weight of the isolated substance.



Gravimetric Analysis

- Titration

process of chemical analysis in which the quantity of some constituent of a sample is determined by adding to the measured sample an exactly known quantity of another substance with which the desired constituent reacts in a definite, known proportion. The process is usually carried out by gradually adding a standard solution (i.e., a solution of known concentration) of titrating reagent, or titrant, from a burette, essentially a long, graduated measuring tube with a stopcock and a delivery tube at its lower end. The addition is stopped when the equivalence point is reached



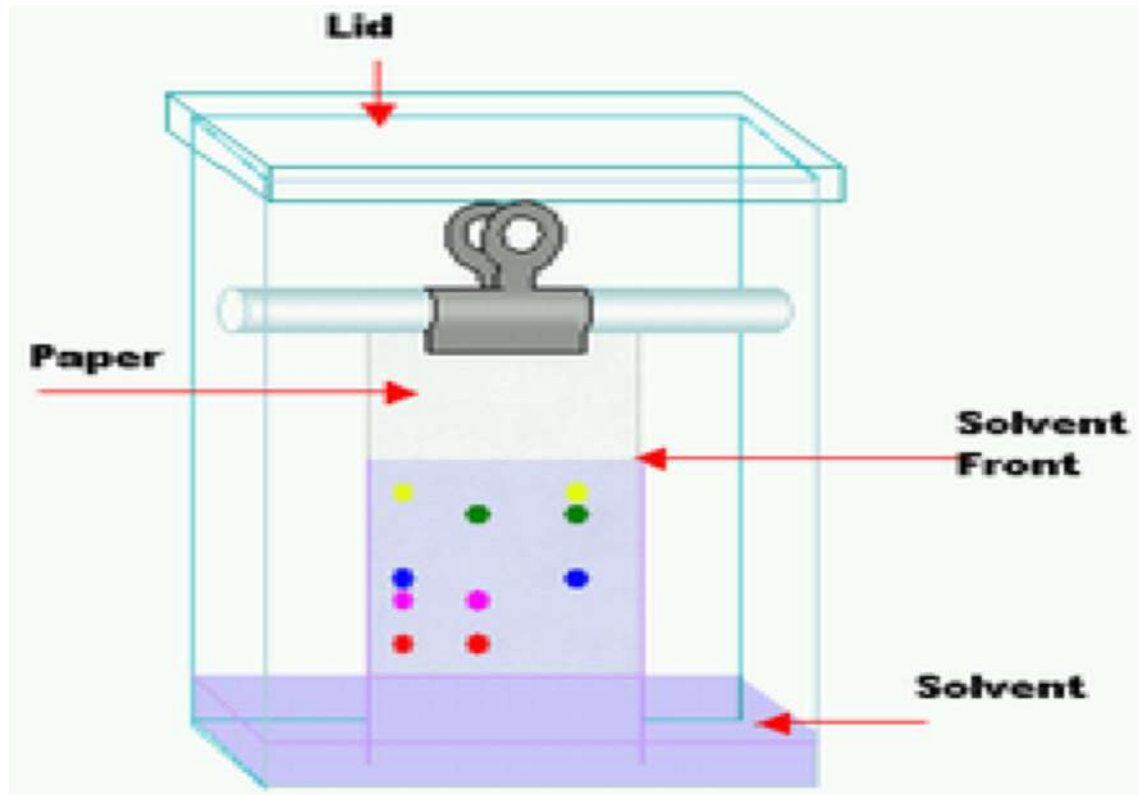
Instrumental Methods

Instrumental Methods

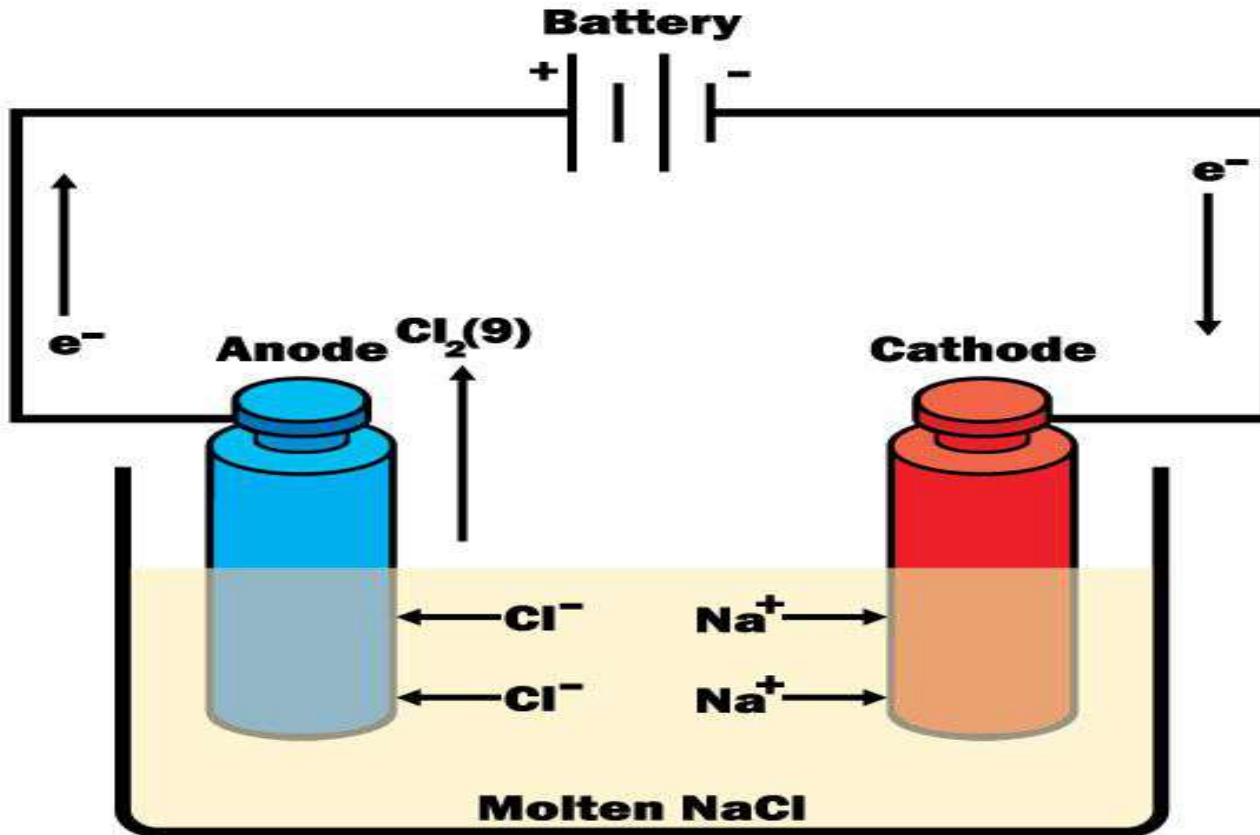
Measurements of physical properties of analytes, such as conductivity, electrode potential, light absorption, or emission, mass to charge ratio, and fluorescence, began to be used for quantitative analysis of a variety of inorganic, organic, and biochemical analyte. Highly efficient chromatographic and electrophoretic techniques began to replace distillation, extraction, and precipitation for the separation of components of complex mixtures prior to their qualitative or quantitative determination. These newer methods for separating and determining chemical species are known collectively as instrumental methods of analysis. And its classify in to



Chromatography

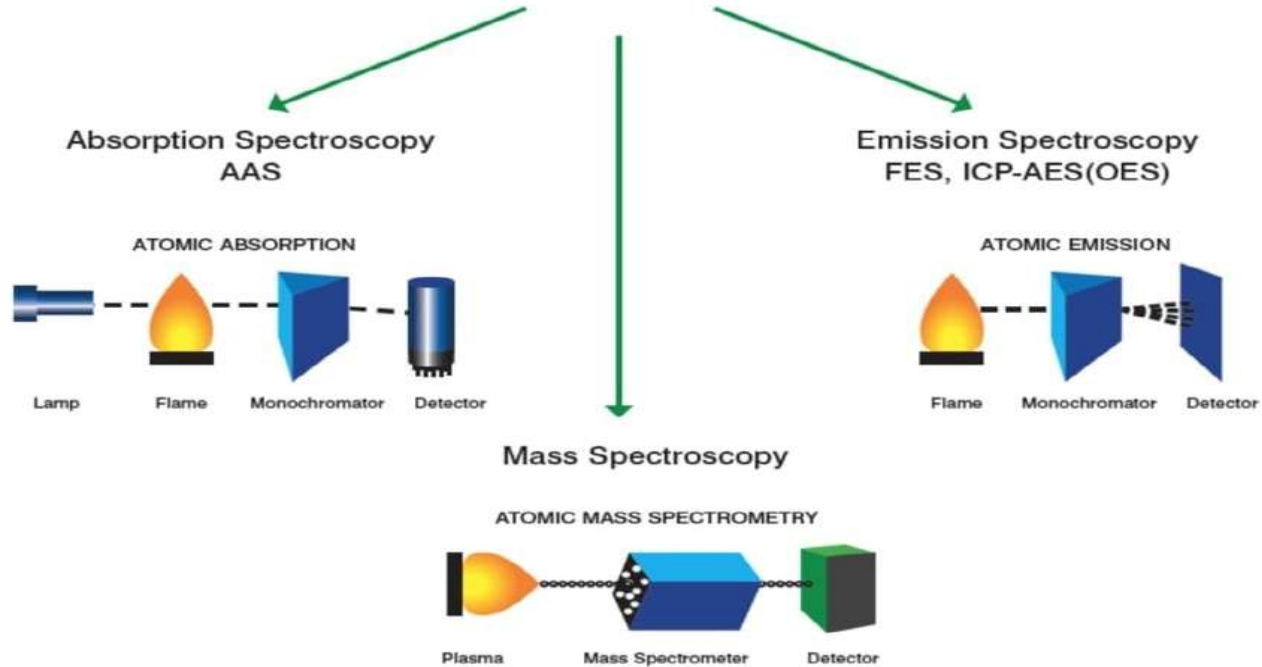


Electroanalytical

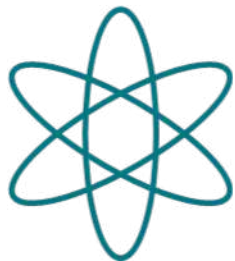


Spectrometer

ATOMIC SPECTROSCOPY



Summary



Analytical technique for identification purposes to identify a substance that will allow an analytical chemist to identify or compare an organic or inorganic substance and we talked about the classic methods and it is divided into separation process, quantitative and qualitative analysis, quantitative analysis classified into gravimetric and volumetric analysis



References

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Chapter 22 – Introduction to Electroanalytical Chemistry



Thank you for listening