

## § 4.1.1 Introduction

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### I. Electrochemical Analysis

Electrochemical analysis: approaches that rely on measurement of potential, current, resistance, charge and so on.

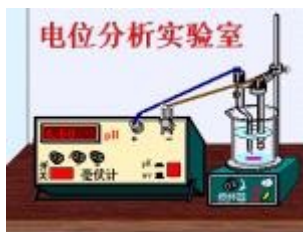
The electrochemical methods include:

potentiometry

Electrogravimetric and coulometric analysis

Polarography and voltammetry

Conductometric method



Can be classified to direct and indirect method according to different application types.

### II. Characteristic of electrochemical analysis

1. High sensitivity, high accuracy, good selectivity, wide application. Detection limit arrives at  $10^{-12}$  mol/L. 2. The equipment and device is simple, easy to be operated, especially suitable for autocontrol and on line analysis.

The typical electrochemical analysis mainly aims at the determination of inorganic ion; at present also being applied on the analysis of organic compounds and bioelectrochemical active substances (such as the determination of dopamine in biosome). Its function on fast determination, continuous real time determination, analysis in vivo etc. can not be replaced. The development and research of different new ion selective electrodes is the emphasis in the field. The key point in this page: the main characteristic of electrochemical method. Problem about this page: What is the most important difference between electrochemical method and other analytical methods?