

The Analytical Process: “The Big Picture”

Problem Definition

↳ Method Selection

↳ Sampling

↳ Sample Prep.

↳ Sample Introduction

↳ Measurement

↳ Data Output

↳ Data Interp.



Quality Assurance

Options for Analysis

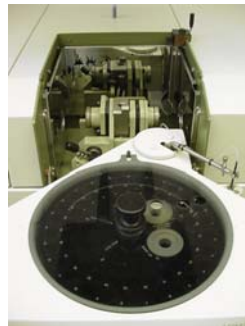
- Quantitative versus qualitative
- Classical or “Wet” methods
 - Gravimetric Analysis
 - Titrimetric or Volumetric Analysis
- Instrumental Methods



The Analytical Chemist's Toolkit

Instrumental Methods

- **Spectroscopy**
 - Interaction with “light”
- **Chromatography**
 - Separations
- **Mass Spectrometry**
 - Methods that respond to “mass”
- **Electrochemistry**
 - Electron-transfer processes
- **Several other “hybrid” classes or subsets**



Our Focus...

- **Problem-solving**
 - Equilibrium, Equilibrium, Equilibrium
 - Why?
- **Lab-skills development**
 - You need to be able to trust yourself!
- **Introduction to basic instrumental methods**