

TABLE OF CONTENTS

Licensing

1: General Background on Molecular Spectroscopy

- 1.1: Introduction to Molecular Spectroscopy
- 1.2: Beer's Law
- 1.3: Instrumental Setup of a Spectrophotometer
 - 1.3A: Radiation Sources
 - 1.3B: Monochromators
 - 1.3C: Detectors

2: Ultraviolet/Visible Absorption Spectroscopy

- 2.1: Introduction
- 2.2: Effect of Conjugation
- 2.3: Effect of Non-bonding Electrons
- 2.4: Effect of Solvent
- 2.5: Applications
- 2.6: Evaporative Light Scattering Detection

3: Molecular Luminescence

- 3.2: Energy States and Transitions
- 3.3: Instrumentation
- 3.4: Excitation and Emission Spectra
- 3.5: Quantum Yield of Fluorescence
- 3.6: Variables that Influence Fluorescence Measurements
- 3.7: Other Luminescent Methods

4: Infrared Spectroscopy

- 4.1: Introduction to Infrared Spectroscopy
- 4.2: Specialized Infrared Methods
- 4.3: Fourier-Transform Infrared Spectroscopy (FT-IR)

5: Raman Spectroscopy

6: Atomic Spectroscopy

- 6.1: Introduction to Atomic Spectroscopy
- 6.2: Atomization Sources
 - 6.2A: Flames
 - 6.2B: Electrothermal Atomization – Graphite Furnace
 - 6.2C: Specialized Atomization Methods
 - 6.2D: Inductively Coupled Plasma
 - 6.2E: Arcs and Sparks
- 6.3: Instrument Design Features of Atomic Absorption Spectrophotometers
 - 6.3A: Source Design
 - 6.3B: Interferences of Flame Noise

- [6.3C: Spectral Interferences](#)
- [6.4: Other Considerations](#)
 - [6.4A: Chemical Interferences](#)
 - [6.4B: Accounting for Matrix Effects](#)

[Index](#)

[Glossary](#)

[Detailed Licensing](#)