The following set of experiments introduce students to the applications of spectroscopy. Experiments are grouped into five categories: UV/Vis spectroscopy, IR spectroscopy, atomic absorption and atomic emission, fluorescence and phosphorescence, and signal averaging.

**UV/Vis Spectroscopy**


**IR Spectroscopy**


• Schuttlefield, J. D.; Grassian, V. H. “ATR-FTIR Spectroscopy in the Undergraduate Chemistry Laboratory. Part I:


**Atomic Absorption and Atomic Emission Spectroscopy**


73, 671–675.


**Fluorescence and Phosphorescence Spectroscopy**


**Signal Averaging**


The following sources provide additional information on spectroscopy in the following areas: general spectroscopy, Beer’s law, instrumentation, Fourier transforms, IR spectroscopy, atomic absorption and emission, luminescence, and applications.

**General Spectroscopy**


**Beer's Law**


**Instrumentation**


**Fourier Transforms**

IR Spectroscopy


Atomic Absorption and Emission


Luminescence Spectroscopy


Applications

- Van Loon, J. C. Selected Methods of Trace Metal Analysis: Biological and Environmental Samples, Wiley-
Gathered here are resources and experiments for analyzing multicomponent samples using mathematical techniques not covered in this textbook.


