The following set of experiments introduce students to the applications of chromatography and electrophoresis. Experiments are grouped into five categories: gas chromatography, high-performance liquid chromatography, ion-exchange chromatography, size-exclusion chromatography, and electrophoresis.

**Gas Chromatography**

High-Performance Liquid Chromatography


**Ion-Exchange Chromatography**


**Size-Exchange Chromatography**


**Electrophoresis**


The following texts provide a good introduction to the broad field of separations, including chromatography and electrophoresis.

• Karger, B. L.; Snyder, L. R.; Harvath, C. An Introduction to Separation Science, Wiley-Interscience: New York, 1973


A more recent discussion of peak capacity is presented in the following papers.


The following references may be consulted for more information on gas chromatography.


The following references provide more information on high-performance liquid chromatography.


• Harris, C. M. “Shrinking the LC Landscape,” Anal. Chem. 2003, 75, 64A–69A.


The following references may be consulted for more information on ion chromatography.


The following references may be consulted for more information on supercritical fluid chromatography.


The following references may be consulted for more information on capillary electrophoresis.


The application of spreadsheets and computer programs for modeling chromatography is described in the following papers.


The following papers discuss column efficiency, peak shapes, and overlapping chromatographic peaks.


Reid, V. R.; Synovec, R. E. “High-speed gas chromatography: The importance of instrumentation optimization and