

Colorado State University
CHEM 431
Instrumental Analysis Laboratory

Notes for
High Performance Liquid Chromatography
Principles and Applications

The following is a set of short notes to outline the experiment in question and to provide helpful guidance to those executing the experiment.

- A.** High Performance Liquid Chromatography (HPLC) is a powerful technique for separating complex mixtures and quantitating their components. HPLC equipment can be as simple as a specialized pump, a means of permitting sample injection, a specialized column and a suitable detector or as complicated as an integrated system with highly engineered equivalent hardware and exceedingly sophisticated and capable software.
- B.** In this experiment the basic setup, that is, preparation of solvents and preparation of suitable analytic samples, and operation, that is, software control, of a modern, integrated and powerful HPLC system will be demonstrated and used.
- C.** For convenience, expediency and simplicity, an isocratic elution solvent will be used to separate a set of pharmacologically active molecules and quantitate the individual molecules. A set of calibration samples will be prepared to establish the optimal elution solvent for separation then a series of solutions containing varying concentrations of each analyte studied to permit construction of suitable calibration curves and quantitation of them in representative commercial preparations.