

Chem 1LD Labs

Week 1: Miscibility & Immiscibility

Nonadditive volume changes are investigated for ethanol-water and heptane-acetone. A solute is extracted from one liquid that is immiscible with another.

Weeks 2: Vapor Pressure of Liquids and Solutions

The effect of temperature on air pressure and the vapor pressure of pure solvents and solutions is investigated. The enthalpy of vaporization is calculated and the experimental and theoretical vapor pressures of a solution are compared.

Week 3 & 4: Aspirin Synthesis & Analysis

Aspirin synthesis is monitored by TLC. Purity is checked with melting point measurement and an Fe^{3+} test. A Beer's Law Plot is created to determine the amount of aspirin in a commercial aspirin tablet.

Week 5 & 6: Synthesis & Analysis of an Iron Salt

An iron salt is synthesized and then its empirical formula is determined by redox titration and gravimetric analysis.

Week 7 & 8: Spectroscopic Analysis of Chlorophyll

The visible spectra of blue and yellow food dyes (separately and mixed together) provide a qualitative comparison to chlorophyll's spectrum. The absorbance of a chlorophyll standard is measured and then serial dilution and fluorescence measurements of the standard are used to create a calibration curve for chlorophyll. Spinach is extracted and both the extract absorbance and fluorescence intensity values are compared to the measurements taken for the standard.

Week 9 or 10: Lab Practical (during normal lab time)

Summer Session Notes

Summer session classes meet in lab two times per week. Please see [calendar](#) for exact dates. Calendar is typically updated during Spring quarter.