

LIST OF EXPERIMENTS

Physical Property Experiments

- Introduction to the laboratory
- Weighing by difference
- Measuring the power of the hot plate
- Energy of vaporization of water
- Specific heat of mercury
- Energy of vaporization of mercury
- Temperature change upon mixing liquids
- Boiling-point elevation

Acid–base experiments

- Exploring pH with pH indicators
- Dilution of acids
- Dilution of bases
- Strong-acid titration curves
- Strong-base titration curves
- Weak-acid titration curves
- Weak-base titration curves
- A comparison of titration curves
- Preparing and testing a buffer solution
- Preparing a buffer of specified pH
- Determining the pK_a of a weak acid
- Determining the pK_b of a weak base

Kinetics experiments

- Kinetics and dilution

- Kinetics and temperature
- Quantitative kinetics
- Kinetics of explosions

Gas law experiments

- Boyle's law
- Charles' law
- Combined gas law
- Avogadro's law
- Ideal gas law and the gas constant

Additional experiments

- Redox: Titration of iron(II) by permanganate
- Radioactivity: Measuring volume by dilution
- Radioactivity: Measuring the half-life of an isotope