Syllabus Mapping:

General Chemistry I & II Lab

Exercises

Check-In and Safety in the Laboratory / Water Hardness / Preparation of CaCO₃ Solution

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- Common Lab Glassware and Uses (for review)
- Determination the Solubility rules of Ionic Compounds

Water Hardness / Standardization of CaCO₃ Solution

JoVE Science Education: Analytical Chemistry

- Internal Standards
- Calibration Curves

Determination of Fe by Reaction With Permanganate / a Redox Titration

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- 2.17 Redox Reactions

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- Introduction to Titration

Indirect Determination of the Masses of Pieces of Magnesium

JoVE Science Education: General Lab Techniques

- Measuring Mass in the Laboratory

JoVE Science Education: Chemical Engineering

- Vapor-Liquid Equilibrium
Preparation of Aspirin
JoVE Science Education: Chemical Engineering
• Crystallization of Salicylic Acid via Chemical Modification

Molar Mass Determination by Depression of the Freezing Point
JoVE Science Education: General Chemistry
• Freezing-Point Depression to Determine an Unknown Compound

Properties of Systems in Equilibrium / Le Châtelier’s Principle
JoVE Science Education: General Chemistry
• LeChatelier’s Principal

Relative Stabilities of Complex Ions and Precipitates
JoVE Science Education: General Chemistry
• Determining the Solubility Rules of Ionic Compounds

Determination of the Equilibrium Constant for a Chemical Reaction
JoVE Science Education: General Chemistry
• Spectrophotometric Determination of an Equilibrium Constant

pH Measurements / Buffers and Their Properties
JoVE Core Chapter 02: Chemistry of Life
• 2.15 pH

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Determination of the Solubility Product of PbI₂

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• Determining the Solubility Rules of Ionic Compounds