Quantitative Reactions & Analysis

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Isabella Guajardo Elena Torres

Purpose: Learn how to set up and complete the filtration of a mixture, how to use volumetric glassware and pipettes, and how to use LoggerPro and a spectrometer. Predict products from mixing two reactants, observe reaction, and analyze two methods used to determine the concentration of a solution. Determine which method is more accurate.

Procedure: Supplies/Chemicals

- Water
- 0.1000 M $CuSO_4$
- 0.1000 M Na_2CO_3
- unknown M $CuSO_4$
- 50 mL beakers
- 100 mL beaker
- 250 mL beaker
- 5 mL volumetric pipet
- 10 mL volumetric flasks
- 10 mL graduated cylinders (in fume hood)
- pipet bulb
- watch glass
- funnel
- labeling tape
- filter paper
- 6 cuvettes
- SpectroVis Plus spectrometer

Part A: Reaction between Sodium Carbonate & Copper(II) Sulfate

① Get 10 mL of $CuSO_4$ (UNKNOWN) solution and 10 mL of the 0.1000 M of Na_2CO_3 solution using the labeled graduate cylinders in the fume hood.

② Get a 50 mL beaker and pour both solutions into it while slightly swirling it.

③ Get filter paper and record mass on analytical balance.

④ Fold filter into quarters and open it inside a funnel.