

REPORT GUIDELINES: CHEMISTRY 2283g
EXPERIMENT 1: Preparation and Reactivity of Alkyl Halides

Include the following in your report:

1. Title, Date, Name
2. Objective: what is the purpose of the lab?
3. Introduction: brief description of concept studied
4. Reaction Equation:
 - a. Include proper structures for reactants and products
 - b. Include all reagents used
 - c. Include data for reactants and products (i.e. molar mass, mass, moles, etc.)
5. Procedure:
 - a. Cite lab manual with proper reference, note any changes
6. Results:
 - a. Yield: must show sample calculation
 - i. Crude Yield (mass and percent)
 - ii. Purified Yield (mass and percent)
 - b. Physical Properties
 - i. Appearance – liquid/solid, crystalline character, colour
 - ii. IR Spectra – (n-bromobutane, 1-butanol) label important peaks with respect to functional groups present
 - iii. GC Chromatogram – label 1-bromo and 2-bromobutane, calculate percent of each
 - iv. NMR Spectra – label ^1H and ^{13}C spectra
 - c. Qualitative Tests
 - i. Include table for each test complete with compound structure, observations, and conclusions
7. Discussion:
 - a. Discussion of yield (crude and purified)
 - b. Discussion of physical properties (**evidence that correct product was obtained**)
 - i. Discussion of IR Spectra –bromobutane vs. butanol
 - ii. Discussion of GC
 - iii. Discussion of NMR
 - iv. Discussion of qualitative tests of product – are they consistent with a primary alkyl halide?
 - c. Mechanism
 - i. Full mechanism for the acid catalyzed synthesis of bromobutane