

**REPORT GUIDELINES: CHEMISTRY 2283g**  
**EXPERIMENT 3: Oxidation of Alcohols**

Include the following in your report:

1. Title, Date, Name
2. Objective: purpose of 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, mol, 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(s) (mass and percent)
  - b. Physical properties
    - i. Appearance – liquid/solid, crystalline character, colour
    - ii. Melting Points – recrystallized product, literature
    - iii. TLC – 3 TLC plates (20, 40, 60 min vs. fluorenol) drawn, labelled and R<sub>f</sub>s calculated
    - iv. IR Spectra – (fluorenol and fluorenone) label important peaks with respect to functional groups present
    - v. NMR Spectra – label <sup>1</sup>H and <sup>13</sup>C spectra (fluorenol, fluorenone)
    - vi. Qualitative Test – results presented in table (compound, structure, observations, conclusions)
7. Discussion:
  - a. Discussion of yield (crude and purified)
  - b. Discussion of physical properties (**evidence that correct product was obtained**)
    - i. Discussion of Melting Points
    - ii. Discussion of TLC Plates
    - iii. Discussion of IR Spectra – fluorenol vs. fluorenone
    - iv. Discussion of NMR
    - v. Discussion of Qualitative test for product
  - c. Mechanism
    - i. a full mechanism for CrO<sub>3</sub> oxidation of fluorenol