

**CHM 202- Lab Report Rubric:** the grading scheme for all laboratory reports is as follows:

Please record in your notebook **before coming to lab:**

- (1) Experiment number and Title
- (2) Your Name, lab partner's name, lab section
- (3) Date experiment is performed
- (4) **-5 pts Objective:** Brief statement of the purpose and topic of the experiment. What are the *new techniques* introduced by the experiment
- (5) **-5 pts** Intro or **Theoretical background/ Introduction.** A balanced chemical equation *with structures* should be shown or a brief description of the new technique.
- (6) **-5 pts** An organized **reagent table** listing the identity and physical properties of all reagents to be used (main reactants and solvents) including structure (for organic compounds), molecular weight, melting point (for solids) or boiling point (for liquids), density or specific gravity (for liquids) and concentration (where applicable). Also list particular safety hazards – ie. *lacrymator*.

The following items should be recorded in your notebook **during lab:**

- (7) **-5 pts** An organized **data table** listing the identities and *actual amounts* of reagents used in grams or milliliters, and a listing of the number of moles used for all reactants.  
(you may add to the existing reagent table if space allows)
- (8) **-5 pts** A **flow chart** outlining the experimental procedure.
- (9) **-10 pts** All **observations**, as they are made.
- (10) **-10 pts Results** – including grams isolated, observed melting or boiling points (distillation temperature), theoretical yield and percent yield should be tabulated. All calculations should be shown. Note: Product yield and purity may be included, where appropriate, as part of the lab report grade. Your **signature** at the bottom of each page, along with **my initials** as witness, should be completed before you leave lab.

After lab – other than the mechanism, please type this section :

- (11) A **Discussion** of the experiment paying particular attention to:
  - 10 pts:** an explanation of *why each procedure or technique was used*
  - 10 pts: any sources of error** – both human and non human eg: "The observed 30% yield reflects a significant amount of unreacted starting material (name) as indicated by the peak at  $1680\text{ cm}^{-1}$  in the IR.
  - 5 pts:** Include **references** for all literature properties (*Aldrich catalogue, Chemfinder®*)
- (12) **-10 pts** A detailed mechanism showing the reaction YOU performed with your particular reactants. Arrows must be drawn correctly and the reaction should be shown from beginning to end, including the quench if that was a necessary step in product formation.
- (13) **-15 pts Supplementary questions** for each experiment will be assigned at the end of each recitation period. These should be answered, and included as the very last part of the laboratory report.
- (14) **-5 pts Conclusion**: One sentence – was the objective accomplished? How do you know?