Organic Chemistry – General Laboratory Report Guidelines

PRELABORATORY ASSIGNMENT

Study the experiments and techniques carefully before you come to the lab. The prelab write-up must be completed in your notebook before the beginning of the experiment. Write clearly. Alternatively, you may type the full prelab. If you choose to do this, please paste one copy onto the original and one onto the copy page of the lab notebook.

Title / Heading

Purpose of the Experiment
Brief statement of the experimental goal (usually in 2 or 3 sentences).
The purpose should state the clear purpose or outcome of the experimental work, not the pedagogical purpose.

Net Chemical Reaction(s) (if applicable)

Physical Constants (from literature)
Melting point, boiling point, molecular weight, density, etc.
(values that are relevant and useful for the experiment)

Data Table and/or Mole Table
Prepare tables before coming to lab. However, the copy pages for these will NOT be submitted until you are turning in the final laboratory report.

Procedure
Outline – briefly and clearly, in a numbered, step-by-step format – the working methods of the experiment at a detail adequate to perform the experiment.

Answers to Assigned Pre-lab Questions
These are assigned questions from the text or a handout.

LABORATORY REPORT

The lab report will include some or all of the following components, depending on the experiment. The majority of the report should be typed. The copy page of the signed, original data from the notebook must be included. The mole table should be prepared neatly in the notebook. Calculations, chemical structures, and diagrams may be prepared electronically or neatly by hand.

Data Table, Mole Table (if applicable) & Observations
Record values measured in the laboratory – Record the values as they are measured. Write down any significant observations, including a detailed description of your product. May be used to organize physical constants, data, and results of stoichiometric calculations. You may wish to set this up in your notebook before lab.

Note: Please have me sign your data pages each day, and have me review the final crystals or other products before you properly dispose of them. In the report, please include both the original, signed pages from your notebook, and a typed data section.

Results
Experimental Melting or Boiling Point Range, Actual yield, % yield (including the calculations) and any other necessary or appropriate information.

Discussion (including Error Analysis)
Discuss the theory of the reactions or phenomena studied. Analyze and explain your data and results (and relate to the theories and concepts behind the experiment). Provide an analysis of error, often including yields and melting points. In some cases, you will be directed to answer provided discussion questions.

Conclusion
The conclusion should indicate whether you were successful in carrying out the purpose of the experiment. Draw conclusions about the identity and purity of your products, identification of unknowns, or other chemical or physical properties investigated.

Answers to Assigned Post-lab Questions
These are assigned questions from the text or a handout.

EVALUATION

In some cases, your experiment score may reflect an evaluation of your performance, results, and proficiency with techniques in the experiment.