

## FORMAT FOR ORGANIC LABORATORY NOTEBOOK

### I. Table of Contents

The first 2 pages in your notebook should be reserved for a table of contents for both of your organic laboratory courses (CH-201L & CH202L).

### II. Laboratory Report for each exercise

#### NO ONE IS ALLOWED TO WORK IN THE LABORATORY WITHOUT PREPARATION.

#### A. PRE-LAB PREPARATION

1. Title of Exercise & page #'s from laboratory manual.
2. Date the exercise is performed.
3. Abstract: A one or two paragraph explanation of the theory and concept that is to be accomplished, demonstrated, or proven. You are to write in complete sentences. You will be graded on subject-verb agreement, spelling, grammar, and correct tense.
4. Reaction Equation: Draw the reaction equation using bond-line molecular structures.
5. Table of Physical Constants: this should include the physical constants (molecular weight (MW), melting point (mp)/boiling point (bp) and density; for all reagents, solvents, and product (s) formed, along with the hazards associated with each chemical.

Chemical	MW	MP/BP	Density	Hazards

6. Theoretical Yield: Two answers here, one in millimoles (mmol) and the other in milligrams (mg). (Show work)
7. Procedures: An Outline/Paraphrase of the experimental procedures to be written prior to performing the exercises.

#### B. EXPERIMENTAL DATA

1. Data and Observations: This is a concise record of all procedures carried out in the lab. It should be written in complete sentences using the third person, past tense, passive voice, correct spelling and grammar. (See sample journal entry at bottom of the page.)
2. Calculations: Any additional calculations should be included here. Re-calculation of theoretical yield based on the actual amount of reactant used as well as the calculation of the % yield based on the corrected theoretical yield should be included here.

#### C. RESULTS/DISCUSSION/CONCLUSIONS

Interpretation of all results should be included here; i.e., An explanation of how the theory and concept was accomplished, demonstrated, or proven. Was the purpose accomplished? Was the yield good or poor? (Explain why.) Was the product pure? If not, why was it impure? This section might include answers to questions posed by the instructor during the laboratory session and/or the laboratory manual. Special information and comparisons should be included here. You are to write in complete sentences. You will be graded on subject-verb agreement, spelling, grammar, & correct tense.

### III. Sample: Data and Observations

1-Methoxy-2-butanone (35). A mixture of 1-hydroxy-2-butanone (11mg, 12 mmol), methyl iodide (1,370 mg, 9.6 mmol) and silver oxide (314 mg, 1.3 mmol) in acetonitrile (5 mL) was heated at reflux for 24 h under a nitrogen atmosphere with the exclusion of light. After being cooled to ambient temperature, the mixture was diluted with ethyl acetate (10 mL) and filtered over celite. The filtrate was concentrated *in vacuo* to give the product 35 as a colorless liquid (50 mg, 41 %):  $^1\text{H NMR}$  (300 MHz,  $\text{CDCl}_3$ )  $\delta$  1.07 (t,  $J = 77$  Hz, 3 H), 2.46 (q,  $J = 7.7$  Hz, 2 H), 3.41 (s, 3 H), 4.01 (s, 2 H) ppm; IR (film)  $1700\text{ cm}^{-1}$ . (Adapted from Krafft, et al J. Org. Chem. 1995,60, p. 5097.)