Pre-Lab Notebook Prep Guidelines (*1st Module on Labflow)*

These are general guidelines for all lab activities. For each Activity, you will refer to specific Activity documents and your instructor's guidance for any additional details and directions.

- Your pre-lab notebook will serve as a permanent record of your experimental work.
- It must contain all the information you need to complete the lab efficiently and safely, as well as information needed to complete your lab assessments.
- Use the Activity procedure (posted as a pdf within the Labflow Activity module you are preparing for) to determine what chemicals you will be using and/or discussing during lab this week and the procedure for the activity.
- As a general rule, a good notebook is one from which someone else can repeat your experimental work in the same way you have done it.
- Your notebooks must be uploaded to Labflow before the beginning of each lab.

Pre-Lab Format

A. Header

Experiment title, your name, your partner(s) names, and date of the experiment at the top of each page

B. Purpose

State the purpose of the lab, generally 1-2 sentences. If the experiment involves a chemical reaction, draw the balanced chemical reaction with starting material, reagents, and expected product(s). For a multistep synthesis, draw a reaction for each transformation.

C. Chemical Reagents and Safety

List (via table) all the reactants, reagents, and solvents that you will be using in the experiment, as well as products you will make (if applicable). Each row of this table should include the single chemical with the following information filled in:

Note that the highlighted bullets below must be included for all chemicals used in the Activity. It is not necessary to include the un-highlighted bullets for solvents, drying agents, or mixtures.

- the name of the compound
- molecular weight
- the mass to be used (if solid) or volume (if liquid) in the experiment
- the moles to be used in the experiment (calculated based on mass or volume)
- density and boiling point (if liquid)
- melting point (if solid)
- Any hazards or other important safety information (e.g. flammable, corrosive, irritant, etc.)

You can refer to the SDS tile (Labflow → Laboratory Safety → Safety Data Sheets) for a link to SDS for chemicals used in our organic labs.

D. Procedure Plan

This section will include specific instructions on how to perform the lab. It must be complete **before** you arrive. ***This should NOT be a copy of the procedure***, this section should be to simplify the procedure and put it into words you find easier to understand; however, any reader should be able to complete the experiment as you did based only on what you have written here. It should be written in your words in a listed step-wise manner. Diagrams or illustrations of glassware or setups are encouraged.

To prepare this section:

1. Split the notebook page in half vertically
2. *Briefly* outline the procedure you will follow on the left hand side of the page, leave the right hand side blank; you will use it later for the next section (part E)
3. You do not need to use compete sentences when preparing this section, but *your outline should provide enough detail that you can work directly from your notebook,* using your lab manual only as reference for clarification. You may also include any additional information or notes you may need for difficult steps or past techniques from previous labs.

E. Experiment Notes

This section is the **right side** of the column from part D. It is completed ***during*** the laboratory class and should contain the following information at the relevant procedure steps. Be sure to label any drawings or measurements for clarification. Also, feel free to add any predicted observations, things to watch out for, or other notes before lab as well.

- Include any changes or emphasis points brought up by your instructor during Pre-Lab discussion, be it safety concerns or adjustments for particular steps in the lab.
- Record any deviations from the procedure plan
- Record any measurements made during lab, including the exact amounts of reagents and solvents used, as well as any measurements on the final product(s).
- Record any observations, including thoughts you may have about what is going on, or note any difficulties you encounter
- Record any physical characteristics of any compounds you isolate (eg. solid, liquid, shape, color, boiling points, melting points, etc.)
- Other things you may want to record: formation of layers, identification of layers, temperatures, reaction time, etc.
- If applicable, drawings of TLC plates with measurements should be included here

Refer to the specific Activity document for additional instructions about what needs to be recorded in your lab notebook.