

CHEM101 Report for Laboratory Exercise #3

Reflections on In-lab Notes¹

Instructions

Ex. #3 is an exercise that provides an opportunity for students to reflect on the importance and quality of accurate and complete in-lab notes.

Read the in-lab notes below, which is the one that you are to critique. Use the Ex. #3 Report questions at the end of this document as a guide. Read page 7 of the 202405 CHEM 101 lab manual for further information on how to write the laboratory notebook.

This document is to be completed and submitted by the due time indicated on Brightspace. All specific questions concerning this exercise are to be sent to firstchemlab@uvic.ca.

In-lab notes

Collected approximately 25.00mL of Iron Nitrate in 100mL beaker, measuring 5.0mL using a graduated cylinder into 4 different volumetric flasks. Then obtained 30.0mL of the stock salicylic acid solution. Transferred 1.0 mL of salicylic acid solution to the one volumetric flask than filled with distilled water. Then added 5.0mL to another flask. Ten added 10.0mL of the solution to another flask. Added water to another volumetric flask.

Measured out 0.3mL of the acne cleanser using the micropipette into another volumetric flask and then added 5.0mL of the Iron nitrate solution using a 5.0mL pipette. Topped up with water.

All solutions were purple

Absorbances of solutions using a spectrophotometer

The absorbance of each solution was: a) 1.329. b) 0.109 c) 0.578 d) 0.001 e) 1.256, 1.101, 1.213 f) 1.345

Report for Laboratory Exercise #3

Reflections on In-lab Notes¹

Using Microsoft Word, students are to **insert responses in all yellow highlighted areas**. It is recommended that the report be completed without changing font size, column width, row width, margins, and highlights. The completed report must be uploaded to the CHEM 101 Lab Brightspace site as a .pdf file by the due date posted on Brightspace. All answers must be the student's work without assistance from others. Only reports which are completed using the template will be marked.

Name: **Arfaz Hossain** Lab Section: **B01** Quad: **02** Date: **June 6, 2024**

1. Do the in-lab notes provide enough information to successfully repeat and complete the experiment? Why? (yes/no, max. 2 lines)

No.

2. What general **criteria** did you use to determine whether or not the experiment could be successfully repeated? (max. 4 lines)

I assessed whether the note clearly listed all materials and reagents with their quantities and concentrations, provided a detailed description of the procedures followed, and recorded all data and observations, including any unexpected results or problems encountered.

3. Provide actual examples from the in-lab notes that were helpful in recreating the experiment. (max. 3 lines)

Actual examples from the in-lab note that are helpful in recreating the experiment includes specifying the volume of iron nitrate and salicylic acid solutions used in each volumetric flask, indicating that all the solutions were purple, and providing the absorbance for each solutions.

4. Provide actual examples from the in-lab notes where more detail is required that would have aided in repeating the experiment. What extra information is required? Consider all procedures, data, and observations. (max. 6 lines)

The in-lab note lack essential details, such as the concentration of the stock salicylic acid solution and the molarity of the Iron Nitrate solution. The total volume of the solution in the flask after adding 5.0 mL of Iron Nitrate using a pipette should be specified. Additionally, the precision of the equipment used, such as the micropipette, needs to be mentioned to ensure the experiment can be accurately repeated.

5. What are your learnings from this exercise concerning the quality of note taking? How will you implement your learnings when you take notes in the future? (be specific) (max. 6 lines)

I have learned that being specific and detailed in lab notes is crucial for clarity and repeatability of experiments. In the future, I will ensure my lab-notes include the names and quantities of all materials and reagents used, detailed descriptions of procedures, data and observations (and their unexpected results), concentrations of solutions used in the experiment, types of equipment used, and the method of data analysis. This will help me in accurately replicating the experiment in the future and understanding the outcomes.

References

1. Reimer, M. et al, *Laboratory Manual, Chemistry 101*, pp. 25. (University of Victoria: Victoria, B.C.). **Summer 2024.**

Marks Summary	max.
Q. 1	3
Q. 2, 3 each worth 2 mark	4
Q. 4 and 5 , each worth 1.5 mark	3
Total mark	10

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