

Final Report

Your final typed report for this experiment should follow the following guidelines:

1. The entire report should be typed with 1.5 line spacing, including equations for the reactions, the sample calculations, and the organic chemical structures.
 - a. Learn how to make subscripts and superscripts with your word processor.
 - b. There are several chemical structure drawing programs available, a very nice and free program is Symyx Draw which can be downloaded at: http://www.mdl.com/my_account/register1.jsp once you register (which is free). ChemSketch is also available on all of the computers in the Science Computer lab (KH 461).
 - c. The font size should be 12, and the pages should have 1" margins.
2. The title page should show the title of the experiment, your name and lab section, the names of your partners, the dates the experiment was conducted, and the course name and number.
3. The pages should be numbered starting on page 2. The numbers should appear at the top right or the bottom center of the page.
4. Be sure to use correct grammar, including complete sentences. Use a "neutral voice": avoid the first person, except when very awkward. Since you will be discussing an experiment you have already done, all narrative should be in the past tense.
5. Always use your own words! Do NOT work on this report with your partners or any other classmate. Likewise, do not copy material out of the laboratory manual or any other source.
6. Use appropriate headings to separate the sections of the report. The separate sections should include the following:

Introduction

A brief statement about the experiment. Provide an introduction to dyes.

Describe the reaction sequence in words (but remember this is not the place for the procedure), and then give complete balanced equation(s) for all reactions which occur, using your own compounds as the starting compound. Be sure to use a chemical drawing program NOT molecular formulas. Be sure your introduction is a fluid introduction to your experiment.

Procedure

Present the complete procedure YOU used in the synthesis of your azo dye and the following analysis and applications. Include observations and also discuss any problems you encountered. This should be in paragraph format **NOT** an outline.

Results and Conclusions

Use boxed, clearly-labeled tables with grid-lines to present all of the results of your synthesis and the data obtained. Be sure to include yield, theoretical and percent yields, appearance of the product, appearance of your dyed cloth, appearance of your dyed (hopefully) crystals, the absorption maximums for each solution, and the molar absorptivities. Include all of your group's UV-Vis spectra, a picture or scan of your fabric, and a picture or scan of your crystals in the body of your text. Treat these images as figures in your text.

Then provide a brief discussion of your results. Be sure to include a discussion of the correlation between fabric results and the chemical nature of each fabric. Also be sure to answer the previous question as part of your discussion. DO NOT just tack the answer onto the end of your discussion.

References

References should follow the format:

Author, *Title of publication*, Publisher, **Date**, Page numbers

For denoting specific references (for example, a passage being quoted), use a superscript or number in parentheses after the particular passage, and then number your references accordingly and in sequence at the end of the report.

List all sources, including the lab text.

7. Some miscellaneous comments:

- a. Do not capitalize names of chemicals unless they start the sentence.
- b. Avoid beginning sentences with numbers: find some creative, grammatically-correct way to begin each sentence some other way.
- c. Put a space between a numerical value and its unit (2.5 mL not 2.5mL).
- d. All numbers, whether in scientific notation or not, should have at least one digit before the decimal: “0.58 g” not “.58 g”.
- e. When discussing possible errors or problems, do not use the term “human error” or “experimental error”: be specific!
- f. Before printing your report, make sure that headings are not cut off at the bottom of a page. This also applies to tables: in fact, for short tables, try to have the entire table together on one page.
- g. Use abbreviations correctly. Some common ones are:
 - L (liter), mL (milliliter)
 - g (gram), mg (milligram)
 - m (meter), mm (millimeter), nm (nanometer)
 - M (molar)
 - mol (mole)
 - K (not °K) for Kelvin
 - °C (even in the narrative, do not write “degrees Celsius”: use the abbreviation)
 - s (second), min (minute), h (hour)
- h. Be careful about significant figures. A three-place weight of an acid will not yield a five-place calculation of percent yield.