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 a reaction scheme, sample calculations, and any organic chemical structures.
    a. Learn how to make subscripts and superscripts with your word processor.
    b. Learn to use ChemDraw/BioDraw. The synthesis scheme(s) **MUST** be your own work. Do not share a scheme with someone else. The software can be found on any of the computers in the Science Computer Lab (KH 461). You can also install the program on your personal computer using the following procedure.

        Individual Download Instruction for 13.0/2012 Software
        Visit
        http://sitelicense.cambridgesoft.com/sitelicense.cfm?sid=2201

        Account Verification:
        Enter valid institution email address.
        Only emails with valid domain(s) have access to site subscription

        Account Verification:
        Click "Continue" on account verification screen.

        CambridgeSoft User Account :
        Sign up for a new CambridgeSoft User Account or login to an existing account.
        If you have an existing CS User Account, email confirmations will be sent to the email@[institution domain] and not the address of the existing account
        Account registration is required to access online databases

        Download Software :
        Download the software and manual after registration is complete
        Access to included databases is automatic after registration is complete.
        To manage database subscriptions, login to your CS User Account and click "Manage Database Subscriptions
        An email will be sent with instructions to access software and/or database

        Activate your software:
        When you start installing your CambridgeSoft software, you will be asked to Activate. If you wish to activate at a later time, you can choose to "Activate Later". Detailed Activation Instructions

    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 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 any other classmate. Likewise, do not copy material out of the laboratory manual.
6. Use appropriate headings to separate the sections of the report. The separate sections should include the following:

Introduction

Give a brief statement about the experiment. Provide an introduction to your reaction. Why is the Cannizzaro reaction important in organic chemistry? Are the final products of your reaction useful? Describe the reaction sequence in words (but remember this is not the place for the procedure), and then provide a complete reaction scheme. Be sure to use a chemical drawing program NOT molecular formulas. The synthetic scheme must be your own work.

Procedure

Present the complete procedure YOU used in the synthesis of your product 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 theoretical yield, percent yield, appearance of the product, summary of important IR peaks, boiling/melting points, and TLC results, if any.

Scan and imbed all your IR spectra into the report. The scanned images should be treated as numbered figures in the text of the document.

Then provide a brief discussion of your results referring to the numbers in your tables and figures. Be sure to include a discussion of how you know that the synthesis was successful. Also provide a green comparison of the method used compared to the traditional method provided in the experiment handout. Also, provide suggestions for further greening the experiment. Think about the twelve principles of green chemistry and the green metrics when you answer this question. This is what we need to do in order to spread the word about greening chemistry!!!

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.