

LAB REPORT EXPECTATIONS

CEM 355 US18

Title

- Title should be accurate, clear, and concise
- Should reflect the main focus of the report
- Brief and grammatically correct

Short introduction

- This should be in paragraph form, about 1 paragraph or more explaining the purpose the experiment.
- Generally should be written from broad to specific
- This should be in your own words and no plagiarism should ever be observed.

Experimental

- 3rd person past tense in paragraph form with passive voice
- Use your own words. It is not okay to copy exactly what the lab handout says for you to do.
- Write what YOU actually did (amounts of reagents too)
- If you obtain chemicals from another group or person, mention that in your report.
- In the correct form put amount added in parentheses after the chemical or reagent.
 - For solvents just the volume or amount added.
 - “THF (10 mL) was added...”
 - For substrates or reagents include the amount added and the number of moles or millimoles
 - “A 25 mL round bottom flask was charged with cadmium oxide (128 mg, 1 mmol).”
 - For catalysts you need to include the mol % of catalyst as compared to the limiting reagent or substrate.
 - “In a glovebox under an atmosphere of N₂, [Ir(OMe)cod]₂ (9.9 mg, 0.015 mmol, 1.5 mol %) was carefully weighed and added to a 3 mL conical vial.”
- There should always be a space between a number and the units
 - E.g. mass: 5 g or volume: 5 mL
 - There must also be a space between mol and the % sign for catalysts (see above)

Results and Discussion

- Should be a narrative in paragraph form, with figures interspersed near where they are discussed
- Needs to include things you witnessed such as color changes, pH readings, and gas evolutions.

- Figures
 - Explain the figures and discuss what they show and what the results mean.
 - Figures should have proper labels on them including a caption with a figure number **below** the figure.
- Tables
 - Should be clear with a heading **above** the table and a table number.
 - Pertinent information should also be discussed.
- Schemes
 - Should have a heading and scheme number below the scheme
 - Schemes must be made using ChemDraw, ACD ChemSketch, or Marvin Sketch.
- Questions for discussion in lab manual
 - Answers to questions should be in paragraph form in the Results and Discussion Section
 - “(Answer to Question 4) When repeating this experiment, care should be taken to prepare the necessary reagents before beginning the first step. Reagent X needs to be thoroughly chilled in an ice bath before its addition in step three; beginning the cooling process prior to step one would be a better use of time.”
 - The questions should be answered thoroughly yet concisely in full sentences.
 - Make sure to balance any chemical equations that are in this section.

Conclusions

- This should be in paragraph form about 1 paragraph or more regarding any conclusions from the experiments and your data.
- Make sure you re-iterate the results that allow you to make the conclusions you are making.

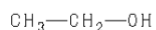
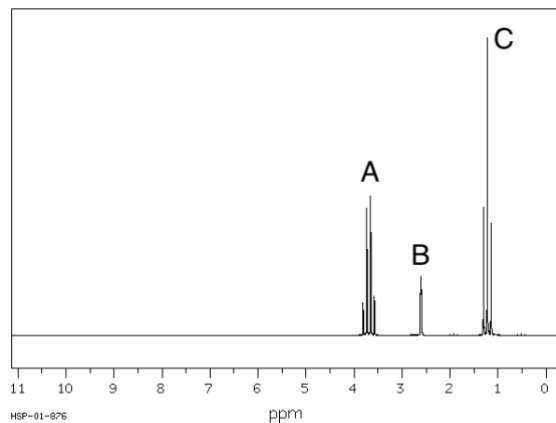
References

- Use ACS style (<https://pubs.acs.org/doi/10.1021/bk-2006-STYG.ch014>)
 - Journal Article:
 - Wackerly, J. W. Stepwise Approach To Writing Journal-Style Lab Reports in the Organic Chemistry Course Sequence. *J. Chem. Educ.* **2018**, *95*, 76–83.
 - Book:
 - Almlöf, J.; Gropen, O. Relativistic Effects in Chemistry. In *Reviews in Computational Chemistry*; Lipkowitz, K. B., Boyd, D. B., Eds.; VCH: New York, 1996; Vol. 8, pp 206–210.
 - Webpage:
 - Hallet, V. Scanning the Globe for Organic Chemistry. *U.S. News and World Report* [Online], April 19, 2004, p 59. Business Source

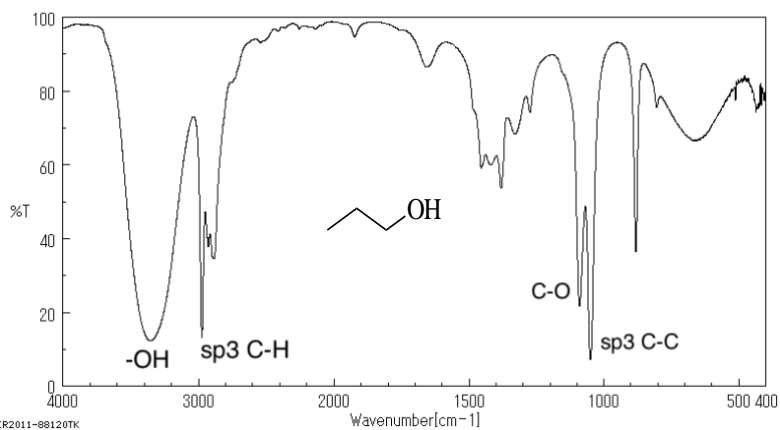
Premier. <http://www.epnet.com/academic/bussourceprem.asp>
(accessed April 24, 2005).

Spectra (if applicable)

- All peaks should be properly assigned even if is an impurity or solvent peak.
- All spectra should be properly labeled.



- NMR: (C) (A) (B)



- IR: IR2011-88120TK