

Lab Report Requirements, Week 2

Revised: 4/8/14

As the quarter progresses, this document will be less specific. It is assumed that you will begin to recognize which details should be incorporated into a lab report.

Title page. *Always required.*

Abstract. *Not required.*

Introduction. *Not required.*

Experimental. *Required for the entire experiment.*

- *Part A & B.* Describe the preparation of the 2 stock and 4 standard solutions. **Do not simply copy the lab manual procedures!** You must indicate the masses and volumes that you calculated in order to complete the procedure. You should also include descriptions of the appearance (color, crystallinity, and clarity) of reagents, products, and final solutions. This should constitute 3 paragraphs: one for stock solution 1, one for stock solution 2, and one for all 4 standards combined.
 - Stock Solution 2. When this solution is created a chemical reaction occurs. When writing an experimental procedure for the synthesis of a compound, state the reagents and their amounts, the reaction conditions (in this situation the reaction occurred at room temperature upon mixing), and the appearance, identity, and amount (mass or concentration) of product created.
 - The 4 standards are dilutions of stock solution 2. The dilution procedure should be written concisely. For each solution, list its concentration followed by the volume of stock solution 2 needed, and the absorbance measured.

Results. *Required.*

- Include all data/results in a table(s).
 - Absorbances and concentrations
- Absorbance spectra.
- Beer's Law Plot with best-fit line equation and R^2 displayed.
- Molecular weight, concentration, and identity of your unknown Fe(II) compound, and concentration of your unknown Fe(III) compound.
- Include 95% confidence intervals for:
 - Slope
 - Intercept
 - Concentration of your unknown Fe(II) compound

Discussion. *Required.*

- Include all equations used for your calculations (to find final concentrations, unknown concentrations, and molecular weights). Number the equations and provide a description of the variables used in the equations. You do not need to include statistical analysis equations here.
- Discuss how you identified your unknown Fe(II) compound.
- Discuss any sources of error.

Conclusion. *Not required.*

Lab Report Requirements, Week 2

Revised: 4/8/14

References. *Always required.* Lab manual website must be cited.

Statistical analysis. *Required.*

All statistical analysis must be performed in Excel, and an Excel file must be uploaded into your ELN.