Lab Report Requirements, Week 7

Revised: 05/07/14

Title. *Always required.*

Abstract. *Required.*

Introduction. *Required.*
Address the following:

a. What are some applications of the titration/fluorescence measurement of magnesium?
b. Describe the basic concepts being applied to make the measurements. Include:
    1. Complexation of magnesium with Calmagite and EDTA.
    2. Describe what will happen as the titration proceeds.
    3. Complexation of magnesium with 8-hydroxyquinoline-5-sulfonic acid (HQS).
    4. Describe the determination of magnesium concentration with fluorescence measurements.

Experimental. *Required.*

Results. *Required.*

1. Include absorbance and fluorescence spectra.
2. Include tables containing key pieces of the raw data (absorbance at volumes as the titration proceeds, fluorescence of unknown and the standards provided).
3. Plot of absorbance vs. volume EDTA added.
4. Plot of fluorescence vs. concentration.
5. 95% CI of EDTA concentration
    a. Share data with 5 other students to calculate the 95% CI
6. 95% CI of Mg^{2+} concentration using the two techniques:
    a. EDTA titration
        i. Share data with 5 other students to calculate the 95% CI
    b. Fluorescence
        i. Share data with 5 other students to calculate the 95% CI

Discussion. *Required.*

Conclusion. *Required.*

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

Statistical Analysis. *Required.*
All statistical analysis must be done in excel and the excel file must be uploaded into ELN.