**Quantitative Reactions & Analysis Post-Lab Questions**

Please include your properly formatted table and graph, and please write your answers to the following questions in paragraph form. Submit this file as a PDF to Gradescope.

1. Make a table of your calibration curve data below and plot your calibration curve in Excel. Paste your graph below the table. Both table and graph should have proper formatting (remember your formatting rules from Data and Graphics).​

**Table 1.** Calibration Curve of CuSO4 Solution

|  |  |
| --- | --- |
| **Concentration of CuSO4 (M)** | **Absorbance at λmax** |
| 1.000 \* 10-2 | 1.413 |
| 5.000 \* 10-2 | 0.690 |
| 2.500 \* 10-2 | 0.328 |
| 1.250 \* 10-2 | 0.166 |

**Figure 1.** Graph of Calibration Curve

1. Compare the two calculated concentrations of unknown copper sulfate solution (calculated from the yield of the reaction vs. calculated using your Beer’s Law plot). Which one is likely to be more accurate? Why is it more accurate and/or why is the other less accurate? ​
2. Should we force the trendline for the plot of absorbance vs. concentration through the origin (0,0)? Why or why not? In your answer, please consider the theoretical y-intercept based on Beer’s Law.