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Generating and Using a Calibration Graph

Now You Try!

Now try opening a plotting progam and try making a calibration plot of your own. Please use the following values.

Absorbance	Concentration
0.68	1.0
0.61	0.9
0.54	0.8
0.46	0.7
0.39	0.6
0.32	0.5
0.27	0.4
0.21	0.3
0.15	0.2

0.08	0.1
0	0.0

The Wavelength used for this calibration graph was 410nm REMEMBER THIS!!!

Make sure to include the following whenever you make your calibration graphs!

ALWAYS make sure they are labeled!

- Title (Include wavelength used)
- Axis
- Axis Titles
- Line of Best Fit
- Equation of the Line of Best Fit

Make sure to FORCE your best fit line to go through the origin

Beer's Law has an intercept through the origin, so your best fit line should reflect that.

Another way to find the slope of a line, when you do not have a fitting program available, on a test for example, would be to calculate the slope. This would give you a less accurate slope, but would still be acceptable when a fitting program is not available.

IMPORTANT NOTE!!! On ANY Report or Exam, ALWAYS show your work when you preform any calculation!

$$slope = \frac{rise}{run} = \frac{\Delta Y}{\Delta X} = \frac{Y_2 - Y_1}{X_2 - X_1}$$

$$slope = \frac{0.68-0}{1.0-0} = \frac{0.68}{1.0} = 0.68$$

$$slope = 0.68$$