

Additional instructions for Ka Lab

At the end of the lab procedure, the instructions are not as clear as they could be. To aid in your completion of the lab report, starting at the end of page 10, you can analyze the data in Part 2, by completing the following Table for each data set I, II, and III. Remember to report the average Ka value for each data set, and then calculate the standard deviation for the three average values.

$$K_a = \frac{[H^+][A^-]_{solution}}{[HA]_{solution}}$$

Data set I:

pH	[H ⁺] from pH	Abs. from spectra	[A ⁻] using extinction coefficient from part 1	[HA] _{solution} from [HA] _{initial} - [A ⁻]	$K_a = \frac{[H^+][A^-]_{solution}}{[HA]_{solution}}$
7.5					
7.0					
6.5					
6.0					

Average value _____

Data set II:

pH	[H ⁺] from pH	Abs. from spectra	[A ⁻] using extinction coefficient from part 1	[HA] _{solution} from [HA] _{initial} - [A ⁻]	$K_a = \frac{[H^+][A^-]_{solution}}{[HA]_{solution}}$
7.5					
7.0					
6.5					
6.0					

Average value _____

Data set III:

pH	[H ⁺] from pH	Abs. from spectra	[A ⁻] using extinction coefficient from part 1	[HA] _{solution} from [HA] _{initial} - [A ⁻]	$K_a = \frac{[H^+][A^-]_{solution}}{[HA]_{solution}}$
7.5					
7.0					
6.5					
6.0					

Average value _____

Standard deviation of the three average values _____