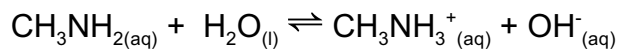


### Ionization Konstants

- 1.a) The initial concentration of a solution of methlyamine,  $\text{CH}_3\text{NH}_2$ , is 0.100 mol/L. Calculate  $K_b$  for a methlyamine solution if the equilibrium  $[\text{OH}^-] = 6.27 \times 10^{-3} \text{ M}$  (0.000419)



- b) Calculate the % dissociation (percent reaction with water) for methlyamine. (6.27 %)

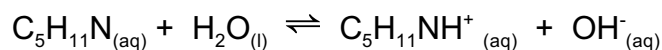
- 2.a) Calculate the  $K_a$  for a 0.39 mol/L solution of iodic acid,  $\text{HIO}_{3(\text{aq})}$ , which has a  $\text{pH} = 0.739$ . (0.16)

- b) Calculate the % dissociation, or the percent reaction with water, for iodic acid. (47%)

3.a) Find  $K_a$  for a solution of salicylic acid,  $\text{HC}_7\text{H}_5\text{O}_3(\text{aq})$ , which had an **initial** concentration of 0.25 mol/L and an **equilibrium** pH of 1.326. (0.011)

b) Calculate the % dissociation, or the percent reaction with water, for  $\text{HC}_7\text{H}_5\text{O}_3(\text{aq})$ . (19%)

4.a) Find  $K_b$  for a solution of piperidine,  $\text{C}_5\text{H}_{11}\text{N}(\text{aq})$ , which had an initial concentration of 0.015 mol/L and a pOH = 2.42. (0.0013)



b) Calculate the % dissociation, or the percent reaction with water, for  $\text{C}_5\text{H}_{11}\text{N}(\text{aq})$ . (25 %)