Ionization Konstants

1.a) The initial concentration of a solution of methlyamine, CH_3NH_2, is 0.100 mol/L. Calculate K_b for a methlyamine solution if the equilibrium $[OH^-] = 6.27 \times 10^{-3}$ M *(0.000419)*

$$CH_3NH_{2(aq)} + H_2O_{(l)} \rightleftharpoons CH_3NH_3^+{}_{(aq)} + OH^-_{(aq)}$$

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, $HIO_{3(aq)}$, which has a 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, $HC_7H_5O_{3(aq)}$, 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 $HC_7H_5O_{3(aq)}$. *(19%)*

4.a) Find K_b for a solution of piperdine, $C_5H_{11}N_{(aq)}$, which had an initial concentration of 0.015 mol/L and a pOH = 2.42 . *(0.0013)*

$$C_5H_{11}N_{(aq)} + H_2O_{(l)} \rightleftharpoons C_5H_{11}NH^+_{(aq)} + OH^-_{(aq)}$$

b) Calculate the % dissociation, or the percent reaction with water, for $C_5H_{11}N_{(aq)}$. *(25 %)*