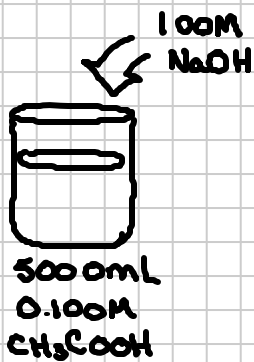


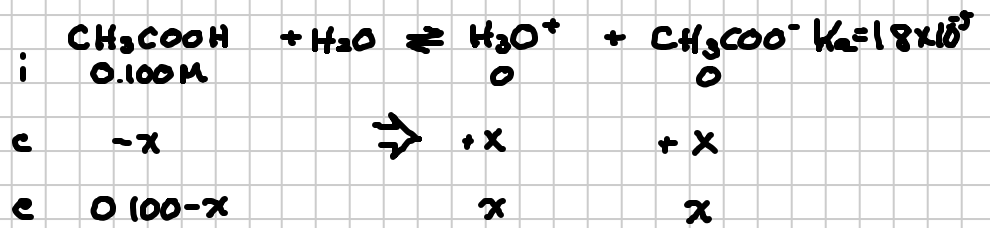
Titration of a weak acid with a strong base:

Note Title

3/7/2010



Determine initial pH



$$K_a = \frac{[\text{H}_3\text{O}^+][\text{CH}_3\text{COO}^-]}{[\text{CH}_3\text{COOH}]} \left\{ 1.8 \times 10^{-5} = \frac{x \cdot x}{(0.100-x)} \right\} \left\{ x = 1.3416 \times 10^{-3} \right. \\
 \left. \begin{array}{l} \approx 0 \\ (1.34\%) \end{array} \right.$$

$$x = [\text{H}_3\text{O}^+] = 1.3416 \times 10^{-3}$$

$$\text{pH} = -\log(1.3416 \times 10^{-3}) = \underline{\underline{2.87236}} = \underline{\underline{2.87}}$$