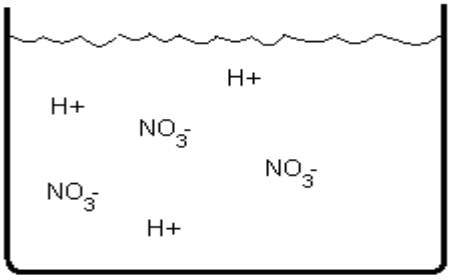
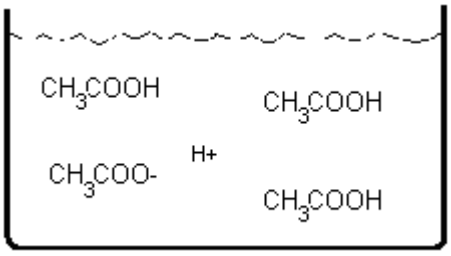
CHM152 GROUP WORK 3 CRIB

1. Write the formula **and** name for the conjugate acid for the following bases:
   a. NH_3 c. acid = ___**NH_4^+**_ name = ___**ammonium ion**___
   b. PO_4^{3-} c. acid = _**HPO_4^{2-}**__name = _**monohydrogen phosphate ion**_
   c. CH_3COO^- c. acid = __**CH_3COOH**__ name = __**acetic acid**___
   d. F^- c. acid = ___**HF**__ name = ___**hydrofluoric acid**_

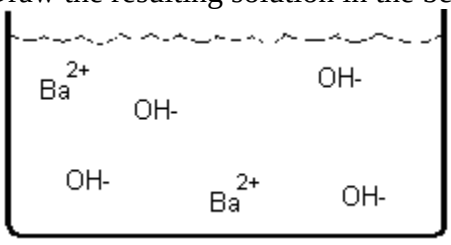
2. Write the balanced reaction for what happens when nitric acid is put in water. Draw the resulting solution in the beaker. **$HNO_3(aq) + H_2O(l) \rightarrow NO_3^-(aq) + H_3O^+(aq)$**



3. Write the balanced reaction for what happens when acetic acid is put in water. Draw the resulting solution in the beaker. **$CH_3COOH(aq) + H_2O(l) \leftrightarrows CH_3COO^-(aq) + H_3O^+(aq)$**



4. Write the balanced reaction for what happens when barium hydroxide is put in water. Draw the resulting solution in the beaker. **$Ba(OH)_2(s) \rightarrow Ba^{2+}(aq) + 2\ OH^-\ aq)$**



5. What is the hydroxide concentration **and** pH if an aqueous solution has a hydronium concentration of 3.57×10^{-9}M. Is this solution acidic or basic? **basic**__

   Kw / $[H^+]$ = **$[OH^-] = 2.80 \times 10^{-6}$M**
   pH = -log[H+] = **8.447**