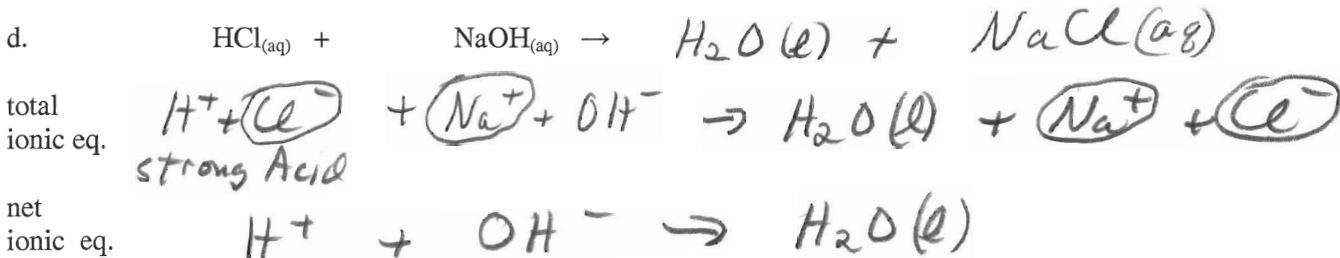
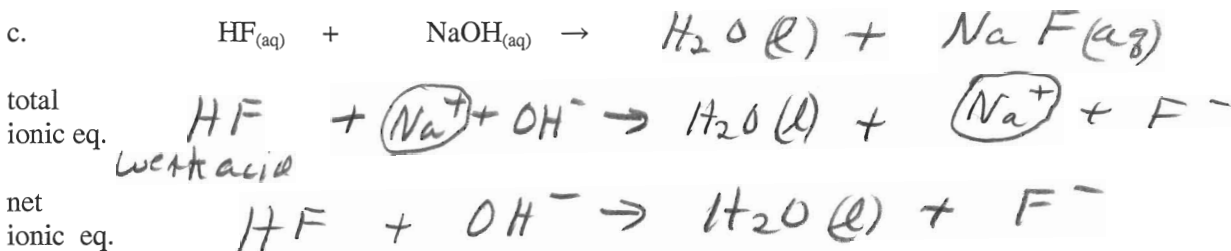
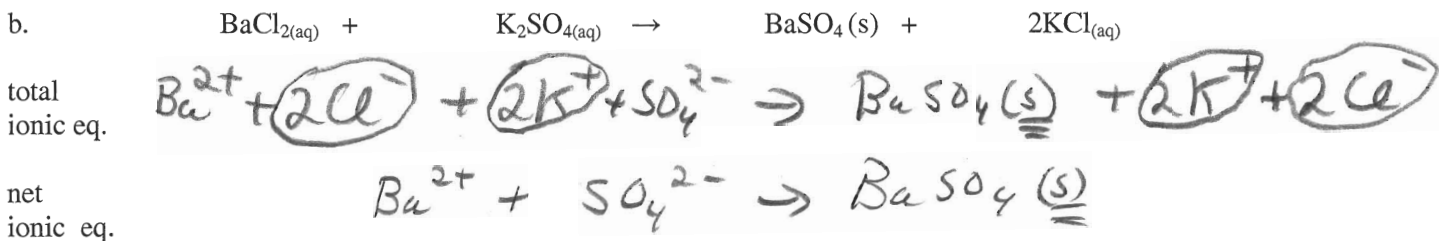
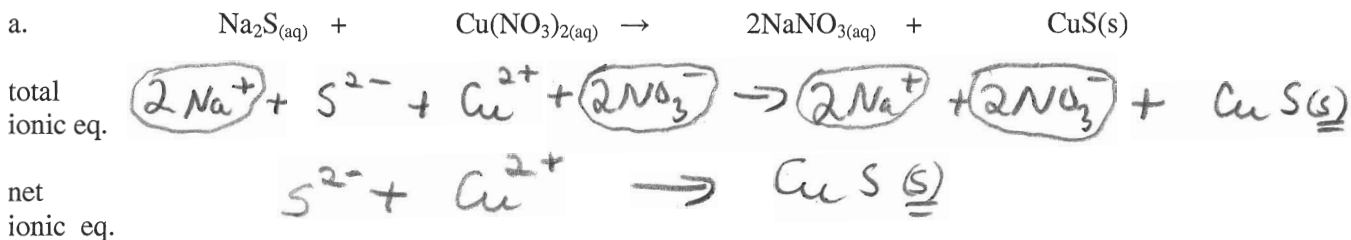


Molar masses: K 39.1; Mn 54.9; O 16.0

1. (16 Pts) Write total ionic and net ionic equations for each of the following reactions. You will have to complete some of the reactions. Also watch for weak acids.



2. (6 Pts) A 0.798 sample g of  $\text{KMnO}_4$  was dissolved in water to form 50.0 mL of solution.

(3) a. Determine the molarity of the solution.

$$\frac{0.798 \text{ g}}{158 \text{ g/mol}} \div \frac{50.0 \times 10^{-3} \text{ L}}{1} = 0.101 \frac{\text{mol}}{\text{L}}$$

(3) b. 10.0 mL of the solution formed in part 2a was taken and diluted to 50.0 mL total volume. Determine the resulting molarity?

$$M_1 V_1 = M_2 V_2 \quad (0.101 \text{ M})(10.0 \text{ mL}) = M_2 (50.0 \text{ mL})$$

$$M_2 = 0.0202 \text{ M}$$

3. (3 Pts) Give the formula for one weak acid, one weak base, and one strong base.

example:  $\text{HF}$        $\text{Mg}(\text{OH})_2$        $\text{NaOH}$