Chemistry 115 Name

--Key

Dr. Cary Willard

Quiz 10A (20 points) May 7, 2009

1. (4 points) Write the correct symbols for alpha and beta particles. (Be sure to show atomic and mass numbers in the symbols.)

Alpha particle $$

Beta particle $$

1. (4 points) What is meant when we say that two components of a solution are immiscible?

Two liquids are immiscible if they are not soluble in one another and separate into two distinct layers.

1. (4 points) Identify the acids and bases in the following acid base equation. Draw lines linking the conjugate acid base pairs

HClO4 + NH3 🡪 ClO4-1 + NH4+1

 Acid base base acid

1. (4 points) Calculate the percent sodium borate in a solution containing 79.4 grams of sodium borate dissolved in 500.0 gram of water.

$$\% Na\_{2}BO\_{3}=\left(\frac{g Na\_{2}BO\_{3}}{g solution}\right)×100\%=\left(\frac{79.4 g}{79.4 g+500.0 g}\right)×100\%= $$

1. (4 points) What is the molarity of a solution prepared by dissolving 82.4 grams of lithium bromide in enough water to make 2.00 L of solution.

$$\left[LiBr\right]=\frac{mol LiBr}{L soln}=\frac{\left(82.4 g LiBr×\frac{1 mol LiBr}{86.84 g LiBr}\right)}{2.00 L}=\frac{0.949 mol LiBr}{2.00 L}=$$

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 Acid base base acid

1. (4 points) Calculate the percent sodium borate in a solution containing 91.7 grams of sodium borate dissolved in 500.0 gram of water.

$$\% Na\_{2}BO\_{3}=\left(\frac{g Na\_{2}BO\_{3}}{g solution}\right)×100\%=\left(\frac{91.7 g}{91.7 g+500.0 g}\right)×100\%= $$

1. (4 points) What is the molarity of a solution prepared by dissolving 76.4 grams of lithium bromide in enough water to make 2.00 L of solution.

$$\left[LiBr\right]=\frac{mol LiBr}{L soln}=\frac{\left(76.4 g LiBr×\frac{1 mol LiBr}{86.84 g LiBr}\right)}{2.00 L}=\frac{0.880 mol LiBr}{2.00 L}=$$