

Non Sibi High School

Andover's Chem 550/580: Advanced Chemistry

Chapter 6, Review Quiz 1

1

Calculate the molarity of a solution containing 2.0 grams of $\text{CO}(\text{NH}_2)_2$ dissolved to make 135 mL of solution.

2

How many milliliters of 0.0915 M solution contain 0.30 grams of dissolved $\text{C}_6\text{H}_{12}\text{O}_6$?

3

Given the unbalanced equation $\text{AgNO}_3(\text{aq}) + \text{Na}_2\text{CrO}_4(\text{aq}) \longrightarrow \text{Ag}_2\text{CrO}_4(\text{s}) + \text{NaNO}_3(\text{aq})$, if 255 mL of 0.114 M AgNO_3 react, how many grams of Ag_2CrO_4 will be produced?

4

Given the unbalanced equation $\text{KHCO}_3(\text{s}) + \text{H}_2\text{SO}_4(\text{aq}) \longrightarrow \text{K}_2\text{SO}_4(\text{aq}) + \text{CO}_2(\text{g}) + \text{H}_2\text{O}(\text{l})$, if 10.7 grams of KHCO_3 is added to 22.5 mL of 1.64 M H_2SO_4 :

- Which is the limiting reagent and what maximum volume of CO_2 can form at STP?
- What mass of the excess reagent remains when the reaction is complete?

5

Given the unbalanced equation $\text{Al}(\text{s}) + \text{HBr}(\text{aq}) \longrightarrow \text{AlBr}_3(\text{aq}) + \text{H}_2(\text{g})$, if 54.6 mL of 0.222 M HBr react with an excess of solid aluminum and then 0.0118 grams of H_2 gas are actually collected, what is the percent yield of the reaction?

6

If water is evaporated from 55 mL of 0.17 M NaOH solution until the volume is 11 mL, what will be the new molarity of the solution?

7

How many milliliters of 0.86 M KI must be diluted to obtain 250. mL of 0.28 M KI?



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