Worksheet 6

Oct 3, 2022

Double Displacement Reactions

1) Complete and balance each equation. If no reaction occurs, write NO REACTION. (Optional - practice naming these compounds)

(a) $LiI(aq) + BaS(aq) \rightarrow$

(b) $KCl(Aq) + CaS(aq) \rightarrow$

(c) $CrBr_2(aq) + Na_2CO_3(aq) \rightarrow$

(d) $NaOH(aq) + FeCl_3(aq) \rightarrow$

(e) $NaNO_3(aq) + KCl(aq) \rightarrow$

(f) $(NH_4)_2(aq) + SrCl_2(aq) \rightarrow$

(g) $NH_4Cl(aq) + AgNO_3(aq) \rightarrow$

2) Complete and balance the acid-base reactions.

(a) $H_2SO_4(aq) + Ca(OH)_2(aq) \rightarrow$

(b) $HClO_4(aq) + KOH(aq) \rightarrow$

(c) $HC_2H_3O_2(aq) + Ca(OH)_2(aq) \rightarrow$

(d) $HBr(aq) + NaOH(aq) \rightarrow$

3) From problem 2, suppose you have 5.0g of each acid dissolved in 100mL solvent. What volume of 0.5M of base is needed to neutralize the acid in each chemical equation?

Reaction Stoichiometry

4) Consider the unbalanced equation for the combustion of hexane $C_6H_{14}(g)$. Write and balance the chemical equation. Determine how many moles of $O_2(g)$ are required to react completely with 150g of hexane.

5) Suppose you want to neutralize 0.500L of 0.5M acetic acid $HC_2H_3O_2(aq)$ with $Ba(OH)_2(aq)$. How many moles of $Ba(OH)_2(aq)$ is needed to neutralize the acid?

6) For each combination reaction, complete the reaction. Calculate the mass in grams of the product that forms when 3.67g of the underlined reactant completely reacts. Assume that there is more than enough of the other reactant.

(a) $\underline{Ba}(s) + Cl_2(g) \rightarrow$

(b) $\underline{CaO}(s) + CO_2(g) \rightarrow$

(c) $\underline{Mg}(s) + O_2(g) \rightarrow$

(d) $\underline{Al}(s) + O_2(g) \rightarrow$

(e) $K(s) + \underline{Cl_2}(g) \rightarrow$

(f) $\underline{Sr}(s) + O_2(g) \rightarrow$

7) For each chemical reaction in problem 6, how much of the other reactant is needed to completely react with all the underlined reactant?