

Chemistry 122

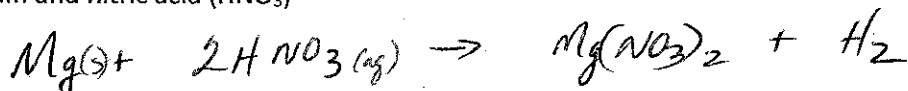
Acid-Base Chemistry

Metals react with acids to produce hydrogen gas.

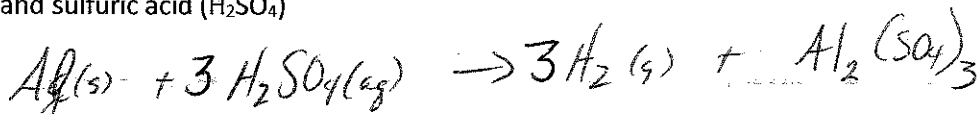
Metal and hydrogen carbonates react with acid to produce carbon dioxide gas and water.

1. Write a balanced formula equation for the reaction that occurs between each of the following pairs of reactants.

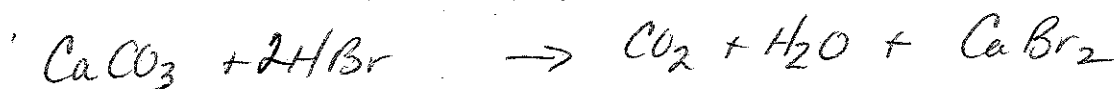
a. Magnesium and nitric acid (HNO_3)



b. Aluminum and sulfuric acid (H_2SO_4)



c. Calcium carbonate (CaCO_3) and hydrobromic (HBr) acid



d. Potassium hydrogen carbonate (KHCO_3) and aqueous hydrogen chloride (HCl)



All water (aqueous) solutions contain hydrogen ions (H^+) and hydroxide (OH^-) ions. The relative amount of each determines whether an aqueous solution is acidic, basic or neutral.

Acids > number of H^+ than OH^-

Bases > number of OH^- than H^+

Neutral, $\text{H}^+ = \text{OH}^-$

Conjugate acid-base pairs (from the Bronsted-Lowry definition of acids and bases)

2. Identify the conjugate acid-base pairs in the following reactions:

