Solubility and Equation

1. Predict whether each of the following compounds is soluble or insoluble in water.

(a) Magnesium Phosphate _____

(b) Silver Nitrate _____

(c) Barium Carbonate _____

(d) Iron (III) Hydroxide _____

(e) Calcium Chloride _____

(f) Aluminum Sulfide _____

(g) K_2SO_4 _____

(h) Li_2CO_3 _____

(i) NaOH _____

(j) NH_4Br _____

2. Balance the following reactions and then show the complete ionic and net ionic forms of the following equations.

1. ____ $AgNO_3$ (aq.) + ____ KCl (aq.) → ____ AgCl(s) + ____ KNO_3(aq)

Total Ionic:

Net Ionic:

2. ____ $Mg(NO_3)_2$ (aq.) + ____ Na_2CO_3 (aq.) → ____ $MgCO_3$ (s) + ____ $NaNO_3$ (aq.)

Total Ionic:

Net Ionic:

3. strontium bromide (aq.) + potassium sulfate (aq.) → strontium sulfate (s) + potassium bromide (aq.)

Total Ionic:

Net Ionic:

Solubility and Equation

Answers

1. Predict whether each of the following compounds is soluble or insoluble in water.

(a) Magnesium Phosphate insoluble

(b) Silver Nitrate soluble

(c) Barium Carbonate insoluble

(d) Iron (III) Hydroxide insoluble

(e) Calcium Chloride soluble

(f) Aluminum Sulfide insoluble

(g) K_2SO_4 soluble

(h) Li_2CO_3 insoluble

(i) NaOH soluble

(j) NH_4Br soluble

2. Balance the following reactions and then show the complete ionic and net ionic forms of the following equations.

1. ____ $AgNO_3$ (aq.) + ____ KCl (aq.) → ____ AgCl(s) + ____ KNO_3(aq)

Total Ionic: Ag^+ (aq.) + NO_3^- (aq.) + K+ (aq.) + Cl^- (aq.) → AgCl (s) + K^+ (aq.) + NO_3^- (aq.)

Net Ionic: Ag^+ (aq.) + Cl^- (aq.) → AgCl (s)

2. ____ $Mg(NO_3)_2$ (aq.) + ____ Na_2CO_3 (aq.) → ____ $MgCO_3$ (s) + 2 $NaNO_3$ (aq.)

Total Ionic: Mg^+ (aq.) + 2 NO_3^- (aq.) + 2 Na^+ (aq.) + CO_3^{2-} (aq.) → $MgCO_3$ (s) + 2 Na^+ (aq.) + 2 NO_3^- (aq.)

Net Ionic: Mg^{2+} (aq.) + CO_3^{2-} (aq.) → $MgCO_3$ (s)

3. strontium bromide (aq.) + potassium sulfate (aq.) → strontium sulfate (s) + potassium bromide (aq.)

$SrBr_2$ (aq.) + K_2SO_4 (aq.) → $SrSO_4$ (s) + 2 KBr (aq.)

Total Ionic: Sr^{2+} (aq.) + 2 Br^- (aq.) + 2 K^+ (aq.) + SO_4^{2-} (aq.) → $SrSO_4$ (s) + 2 K^+ (aq.) + 2 Br^- (aq.)

Net Ionic: Sr^{2+} (aq.) + SO_4^{2-} (aq.) → $SrSO_4$ (s)