Formula, Ionic and Net Ionic Equations Worksheet (identifying precipitate in double replacement rxns)

Write the reactions as directed. Be sure to include charges on ions. Include (s) beside a *precipitate* and <u>underline</u> any *molecular* products.

1. Mix aqueous potassium chromate with aqueous barium nitrate.

Formula equation – $K_2CrO_{4\,(aq)} + Ba(NO_3)_{2\,(aq)} \rightarrow 2KNO_{3\,(aq)} + BaCrO_{4\,(s)}$

Ionic equation – $2K^+ + CrO_4^{-2} + Ba^+ + 2NO_3^- \rightarrow 2K^+ + 2NO_3^- + BaCrO_{4(s)}$

Net Ionic equation – $CrO_4^{-2} + Ba^+ \rightarrow BaCrO_{4(s)}$

2. Aqueous potassium chloride is added to aqueous silver nitrate.

Formula equation – $KCl_{(aq)} + AgNO_{3\,(aq)} \rightarrow KNO_{3(aq)} + AgCl_{(s)}$

Ionic equation – $K^+ + Cl^- + Ag^+ + NO_3^- \rightarrow K^+ + NO_3^- + AgCl_{(s)}$

Net Ionic equation – $Cl^- + Ag^+ \rightarrow AgCl_{(s)}$

3. Aqueous potassium hydroxide is mixed with aqueous iron (III) nitrate.

Formula equation – $3KOH_{(aq)} + Fe(NO_3)_3 \rightarrow 3KNO_3 + Fe(OH)_{3\,(s)}$

Ionic equation – $3K^+ + 3OH^- + Fe^{+3} + 3NO_3^- \rightarrow 3K^+ + 3NO_3^- + Fe(OH)_{3(s)}$

Net Ionic equation – $3OH^- + Fe^{+3} \rightarrow Fe(OH)_{3(s)}$

4. Aqueous solutions of lithium sulfide and nickel (II) nitrate are mixed.

Formula equation – $Li_2S_{(aq)} + Ni(NO_3)_{2(aq)} \rightarrow 2LiNO_{3(aq)} + NiS_{(s)}$

Ionic equation – $2Li^+ + S^{-2} + Ni^{+2} + 2NO_3^- \rightarrow 2Li^+ + 2NO_3 + NiS_{(s)}$

Net Ionic equation – $Ni^{+2} + S^{-2} \rightarrow NiS_{(s)}$