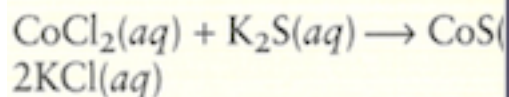


Answers to Practice Problem page 289

6. a. $\text{Br}_2(l) + 2\text{Na}^+(aq) + 2\text{I}^-(aq) \rightarrow 2\text{Na}^+(aq) + 2\text{Br}^-(aq) + \text{I}_2(s)$
- b. $\text{Ca}^{2+}(aq) + 2\text{OH}^-(aq) + 2\text{H}^+(aq) + 2\text{Cl}^-(aq) \rightarrow \text{Ca}^{2+}(aq) + 2\text{Cl}^-(aq) + 2\text{H}_2\text{O}(l)$
- c. $\text{Mg}(s) + 2\text{Ag}^+(aq) + 2\text{NO}_3^-(aq) \rightarrow 2\text{Ag}(s) + \text{Mg}^{2+}(aq) + 2\text{NO}_3^-(aq)$
- d. $\text{Ag}^+(aq) + \text{NO}_3^-(aq) + \text{K}^+(aq) + \text{Br}^-(aq) \rightarrow \text{AgBr}(s) + \text{K}^+(aq) + \text{NO}_3^-(aq)$
- e. $\text{Ni}(s) + \text{Pb}^{2+}(aq) + 2\text{NO}_3^-(aq) \rightarrow \text{Ni}^{2+}(aq) + 2\text{NO}_3^-(aq) + \text{Pb}(s)$
- f. $\text{Ca}(s) + 2\text{H}_2\text{O}(l) \rightarrow \text{Ca}^{2+}(aq) + 2\text{OH}^-(aq) + \text{H}_2(g)$

Use the balanced equation below to answer the questions that follow.



1. What is the total ionic equation for this reaction? **Ans.** $\text{Co}^{2+}(aq) + 2\text{Cl}^-(aq) + 2\text{K}^+(aq) + \text{S}^{2-}(aq) \rightarrow \text{CoS}(s) + 2\text{K}^+(aq) + 2\text{Cl}^-(aq)$
2. What are the spectator ions? **Ans.** Cl^- and K^+
3. What is the net ionic equation for this reaction? **Ans.** $\text{Co}^{2+}(aq) + \text{S}^{2-}(aq) \rightarrow \text{CoS}(s)$