

CHE 139  
Activity 9

Write balanced molecular **and** net ionic equations for the following reactions. Be sure to indicate the states:

**a.** A solution of iron(III) chloride combines with a solution of ammonium hydroxide to produce a brown solid.

**b.** A solution of hydroiodic acid is neutralized by the addition of powdered calcium hydroxide.

**c.** A solution of copper (II) sulfate oxidizes elemental iron to the 2<sup>+</sup> state

**d.** Solid manganese(IV) oxide reacts with an aqueous solution of potassium bromide and sulfuric acid to produce molecular bromine, manganese (II) sulfate, potassium sulfate and hydrogen monoxide.

**e.** Elemental aluminum reacts with sulfuric acid to produce aluminum sulfate and molecular hydrogen.