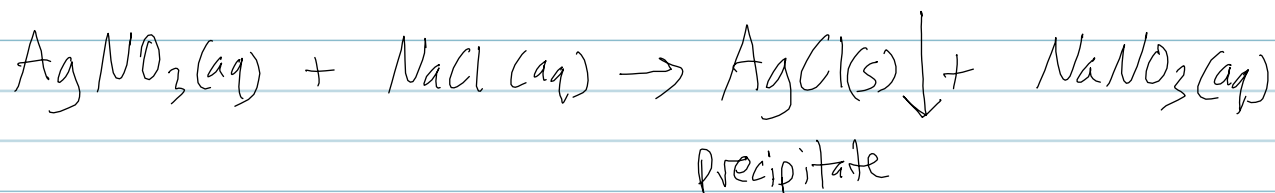
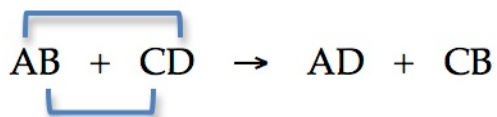


Section 4-6: Precipitation Reactions

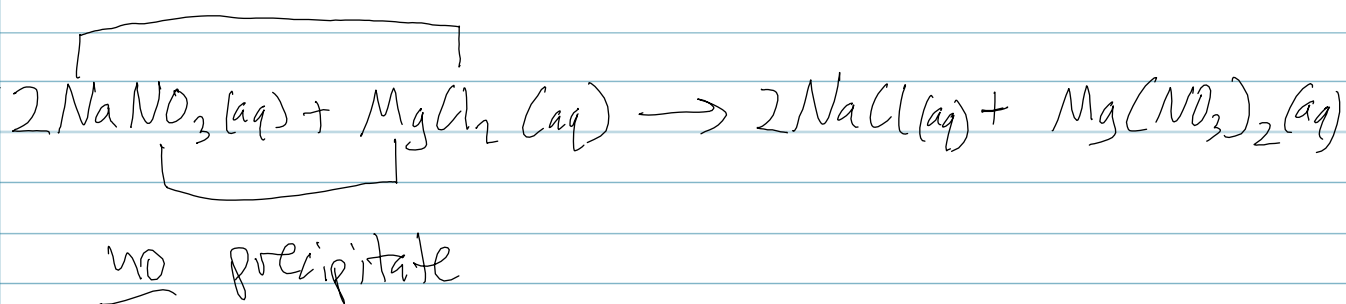


General pattern:



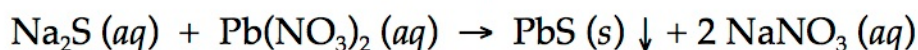
The cation of the first compound joins with the anion of the second compound, and the second cation pairs with the first anion.

This exchange reaction is also called a **metathesis** or **double-displacement** reaction

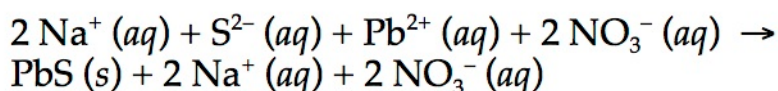


4.7: Molecular and Ionic Equations

Consider the following precipitation reaction:



This equation is called a **molecular equation**, because it treats all the substances as if they were molecular. But remember that electrolytes dissociate into ions. This can be shown by an **ionic equation**:



All of the aqueous ionic compounds have been split into their individual ions. But since PbS is a solid, it is **not** dissociated.

The above equation is called a **complete ionic equation**, since it shows all of the ions that are present. But note that Na^+ and NO_3^- are the same on both sides of the equation. Ions that do not change in a reaction are called **spectator ions**; they are only there to balance out the charge.

If you rewrite the equation without the spectator ions, you get the **net ionic equation**, which more clearly shows the chemical change occurring:

