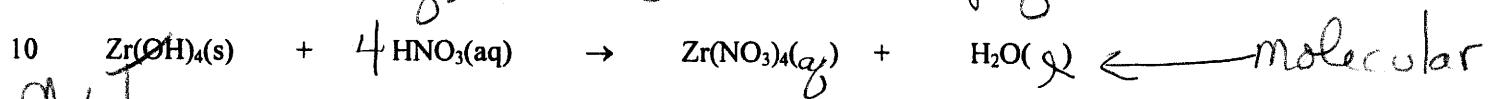
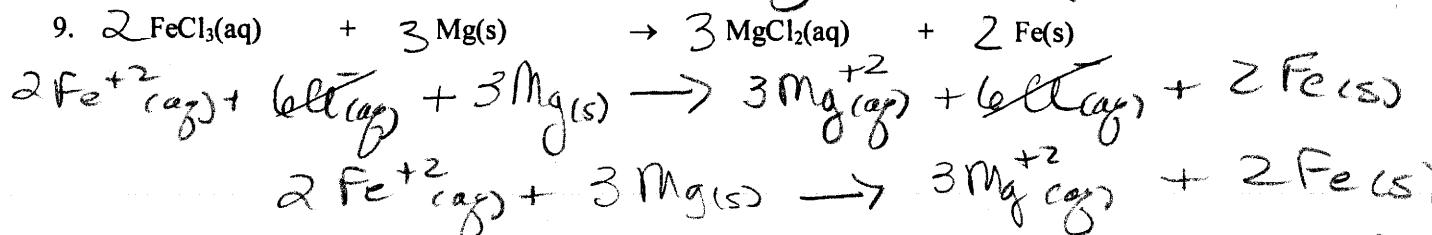
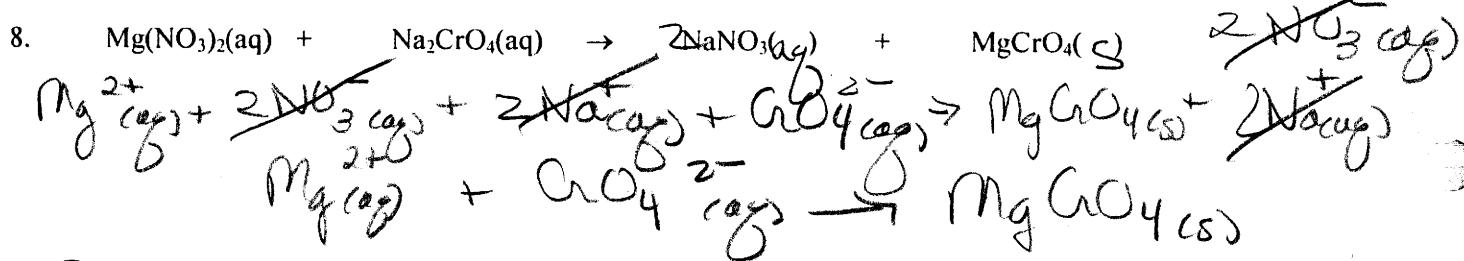


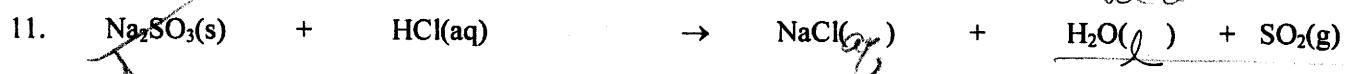
# Molecular, complete and net ionic equations worksheet

Write the balanced molecular, complete ionic, and net ionic equations for each of the following reactions. Assume all reactions occur in aqueous solution. (Use the solubility rules when needed.)

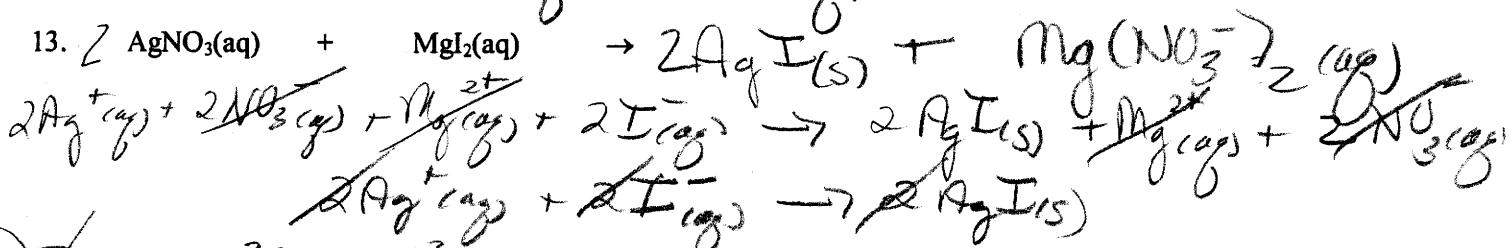
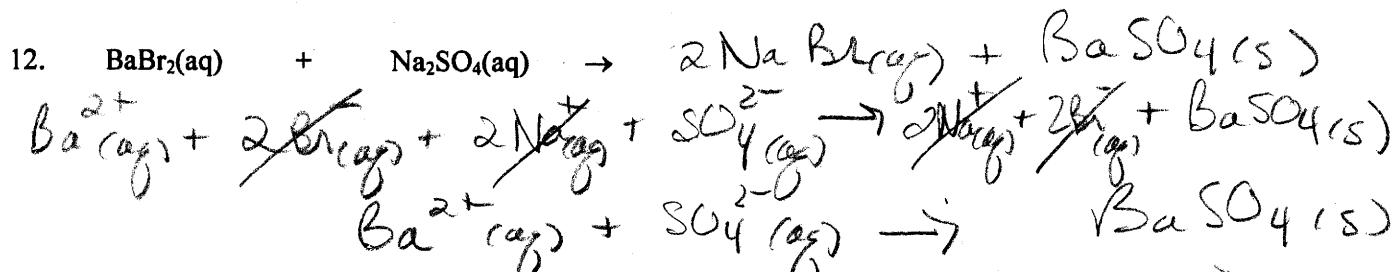
1.  $2\text{NaCl(aq)} + \text{Pb(NO}_3)_2\text{(aq)} \rightarrow \cancel{\text{PbCl}_2\text{(s)}}^{\text{leave together}} + 2\text{NaNO}_3\text{(aq)}$
- ~~$2\text{Na}^+(\text{aq}) + 2\text{Cl}^-(\text{aq}) + \text{Pb}^{+2}(\text{aq}) + 2\text{NO}_3^-(\text{aq}) \rightarrow \text{PbCl}_2\text{(s)} + 2\text{Na}^+ + 2\text{NO}_3^-$~~
- ~~Net Ionic  $2\text{Cl}^-(\text{aq}) + \text{Pb}^{+2}(\text{aq}) \rightarrow \boxed{\text{PbCl}_2\text{(s)}}$~~
2.  $\text{Na}_2\text{CO}_3\text{(aq)} + \text{FeCl}_2\text{(aq)} \rightarrow \text{FeCO}_3\text{(s)} + 2\text{NaCl(aq)}$
- ~~$2\text{Na}^+(\text{aq}) + \text{CO}_3^{2-}(\text{aq}) + \text{Fe}^{+2}(\text{aq}) + 2\text{Cl}^-(\text{aq}) \rightarrow \text{FeCO}_3\text{(s)} + 2\text{Na}^+(\text{aq}) + 2\text{Cl}^-(\text{aq})$~~
- $\text{CO}_3^{2-}(\text{aq}) + \text{Fe}^{+2}(\text{aq}) \rightarrow \text{FeCO}_3\text{(s)}$
3.  $\text{Mg(OH)}_2\text{(aq)} + \text{HCl(aq)} \rightarrow \text{MgCl}_2\text{(aq)} + \text{H}_2\text{O(l)}$
- ~~$\cancel{\text{Mg}^{+2}(\text{aq})} + 2\text{OH}^-(\text{aq}) + 2\text{H}^+(\text{aq}) + \cancel{2\text{H}_2\text{O(l)}} \rightarrow \cancel{\text{Mg}^{+2}(\text{aq})}, 2\text{Cl}^-(\text{aq}) + 2\text{H}_2\text{O(l)}$~~
- ~~$2\text{H}^+(\text{aq}) + 2\text{OH}^-(\text{aq}) \rightarrow 2\text{H}_2\text{O(l)}$~~
4.  $\text{K}_2\text{(C}_2\text{O}_4)\text{(aq)} + \text{CaCl}_2\text{(aq)} \rightarrow 2\text{KCl(aq)} + \text{Ca(C}_2\text{O}_4)_2\text{(s)}$
- ~~$2\text{K}^+(\text{aq}) + \text{C}_2\text{O}_4^{2-}(\text{aq}) + \text{Ca}^{+2}(\text{aq}) + 2\text{Cl}^-(\text{aq}) \rightarrow 2\text{K}^+(\text{aq}) + 2\text{Cl}^-(\text{aq}) + \text{Ca(C}_2\text{O}_4)_2\text{(s)}$~~
- $\text{C}_2\text{O}_4^{2-} + \text{Ca}^{+2} \rightarrow \text{Ca(C}_2\text{O}_4)_2$  Oxalate ion not ox thio ester
5.  $2(\text{NH}_4)_3\text{PO}_4\text{(aq)} + 3\text{Zn(NO}_3)_2\text{(aq)} \rightarrow 6\text{NH}_4\text{NO}_3\text{(aq)} + \text{Zn}_3(\text{PO}_4)_2\text{(s)}$
- ~~$6\text{NH}_4^+(\text{aq}) + 2\text{PO}_4^{3-}(\text{aq}) + 3\text{Zn}^{+2}(\text{aq}) + 6\text{NO}_3^-(\text{aq}) \rightarrow 6\text{NH}_4^+(\text{aq}) + 6\text{NO}_3^-(\text{aq}) + \text{Zn}_3(\text{PO}_4)_2$~~
- $3\text{Zn}^{+2}(\text{aq}) + 2\text{PO}_4^{3-}(\text{aq}) \rightarrow \text{Zn}_3(\text{PO}_4)_2\text{(s)}$
6.  $3\text{LiOH(aq)} + \text{VCl}_3\text{(aq)} \rightarrow 3\text{LiCl(aq)} + \text{V(OH)}_3\text{(s)}$
- ~~$3\text{Li}^+(\text{aq}) + 3\text{OH}^-(\text{aq}) + \text{V}^{+3}(\text{aq}) + 3\text{Cl}^-(\text{aq}) \rightarrow 3\text{Li}^+(\text{aq}) + 3\text{Cl}^-(\text{aq}) + \text{V(OH)}_3\text{(s)}$~~
- $3\text{OH}^-(\text{aq}) + \text{V}^{+3}(\text{aq}) \rightarrow \text{V(OH)}_3\text{(s)}$
7.  $\text{Na}_2\text{CO}_3\text{(aq)} + \text{HCl(aq)} \rightarrow 2\text{NaCl(aq)} + \text{CO}_2\text{(g)} + \text{H}_2\text{O(g)}$
- ~~$2\text{Na}^+(\text{aq}) + \text{CO}_3^{2-}(\text{aq}) + 2\text{H}^+(\text{aq}) + 2\text{Cl}^-(\text{aq}) \rightarrow 2\text{Na}^+(\text{aq}) + 2\text{Cl}^-(\text{aq}) + \text{H}_2\text{CO}_3\text{(aq)}$~~
- $\text{H}_2\text{CO}_3\text{(aq)} \rightarrow \text{H}_2\text{O(l)} + \text{CO}_2\text{(g)}$



~~omit~~



~~omit~~



~~omit~~

~~Do this~~

