

1. $\text{CaBr}_2 + 2 \text{AgNO}_3 \rightarrow 2 \text{AgBr} + \text{Ca}(\text{NO}_3)_2$
 $\text{Ag}^+ + \text{Br}^- \rightarrow \text{AgBr}$
2. NR---silver is below copper
3. $\text{K}_3\text{PO}_4 + 3 \text{Ca}(\text{NO}_3)_2 \rightarrow 6 \text{KNO}_3 + \text{Ca}_3(\text{PO}_4)_2$
 $3 \text{Ca}^{2+} + 2 \text{PO}_4^{3-} \rightarrow \text{Ca}_3(\text{PO}_4)_2$
4. $\text{SrO} + 2 \text{HNO}_3 \rightarrow \text{Sr}(\text{NO}_3)_2 + \text{H}_2\text{O}$
 $\text{SrO} + 2 \text{H}^+ \rightarrow \text{Sr}^{2+} + \text{H}_2\text{O}$
5. NR---all products soluble
6. $\text{KOH} + \text{HCl} \rightarrow \text{KCl} + \text{H}_2\text{O}$
 $\text{H}^+ + \text{OH}^- \rightarrow \text{H}_2\text{O}$
7. $\text{C}_4\text{H}_{10} + \frac{13}{2} \text{O}_2 \rightarrow 4 \text{CO}_2 + 5 \text{H}_2\text{O}$
8. NR---nickel is below zinc
9. NR---copper is below magnesium
10. $2 \text{LiI} + \text{Cl}_2 \rightarrow 2 \text{LiCl} + \text{I}_2$
 $2 \text{I}^- + \text{Cl}_2 \rightarrow 2 \text{Cl}^- + \text{I}_2$
11. $2 \text{Ba} + \text{O}_2 \rightarrow 2 \text{BaO}$
12. $2 \text{Na} + 2 \text{H}_2\text{O} \rightarrow 2 \text{NaOH} + \text{H}_2$
 $2 \text{Na} + 2 \text{H}_2\text{O} \rightarrow 2 \text{Na}^+ + 2 \text{OH}^- + \text{H}_2$
13. $\text{H}_2\text{SO}_4 + \text{Ba}(\text{NO}_3)_2 \rightarrow \text{BaSO}_4 + 2 \text{HNO}_3$
 $\text{SO}_4^{2-} + \text{Ba}^{2+} \rightarrow \text{BaSO}_4$
14. $\text{Ca}(\text{NO}_3)_2 + 2 \text{KOH} \rightarrow \text{Ca}(\text{OH})_2 + 2 \text{KNO}_3$
 $\text{Ca}^{2+} + 2 \text{OH}^- \rightarrow \text{Ca}(\text{OH})_2$
15. $\text{K}_2\text{CO}_3 + 2 \text{HCl} \rightarrow \text{CO}_2 + 2 \text{KCl} + \text{H}_2\text{O}$
 $\text{CO}_3^{2-} + 2 \text{H}^+ \rightarrow \text{CO}_2 + \text{H}_2\text{O}$
16. $\text{Zn} + 2 \text{AgNO}_3 \rightarrow \text{Zn}(\text{NO}_3)_2 + 2 \text{Ag}$
 $\text{Zn} + 2 \text{Ag}^+ \rightarrow \text{Zn}^{2+} + 2 \text{Ag}$
17. NR---bromine is below chlorine
18. $2 \text{AgNO}_3 + \text{Cu} \rightarrow \text{Cu}(\text{NO}_3)_2 + 2 \text{Ag}$
 $2 \text{Ag}^+ + \text{Cu} \rightarrow \text{Cu}^{2+} + 2 \text{Ag}$

