

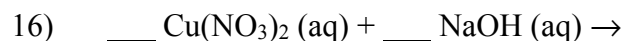
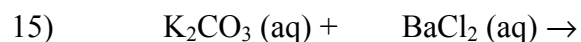
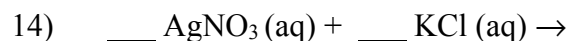
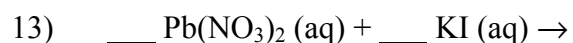
Part A

Write the correct formula for the ionic compound formed from the pair of ions and use the Solubility Rules to determine whether the resulting ionic compounds are soluble (aq) or insoluble (s) in water.

| Ions | Formula | aq/s? | Ions | Formula | aq/s? |
|--|---------|-------|--|---------|-------|
| 1) $\text{Ag}^+ + \text{NO}_3^-$ | | | 7) $\text{Al}^{3+} + \text{SO}_4^{2-}$ | | |
| 2) $\text{Pb}^{2+} + \text{I}^-$ | | | 8) $\text{Fe}^{3+} + \text{OH}^-$ | | |
| 3) $\text{Ba}^{2+} + \text{SO}_4^{2-}$ | | | 9) $\text{Pb}^{2+} + \text{ClO}_4^-$ | | |
| 4) $\text{Rb}^+ + \text{CO}_3^{2-}$ | | | 10) $\text{Mg}^{2+} + \text{F}^-$ | | |
| 5) $\text{Sr}^{2+} + \text{CrO}_4^{2-}$ | | | 11) $\text{NH}_4^+ + \text{PO}_4^{3-}$ | | |
| 6) $\text{Ca}^{2+} + \text{C}_2\text{H}_3\text{O}_2^-$ | | | 12) $\text{Ru}^{3+} + \text{Br}^-$ | | |

Part B

For the following skeleton equations, determine the correct product formulas & states, then balance. Then write complete ionic and net ionic equations.



Part C

For the following word equations, determine the correct reactant formulas. Then determine the product formulas, indicate their states, and balance. Rewrite as complete ionic equation and net ionic equation.

17) Sodium carbonate solution is mixed with iron(III) nitrate solution.

18) A solution of copper(II) nitrate reacts with a solution of ammonium iodide.

19) Lead(II) chlorate solution combines with lithium sulfate solution.

20) Aqueous sodium phosphate reacts with aqueous vanadium(V) nitrate.