

Part A

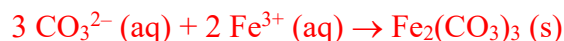
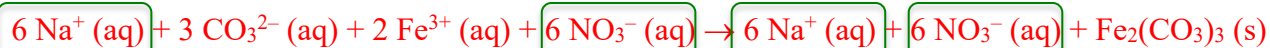
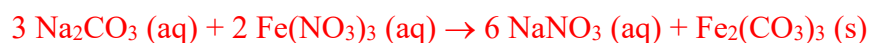
Write the correct formula for the ionic compound formed from the pair of ions and use the Solubility Rules to determine whether the resulting ionic compounds are soluble (aq) or insoluble (s) in water.

Ions	Formula	aq/s?	Ions	Formula	aq/s?
1) $\text{Ag}^+ + \text{NO}_3^-$	AgNO_3	aq	7) $\text{Al}^{3+} + \text{SO}_4^{2-}$	$\text{Al}_2(\text{SO}_4)_3$	aq
2) $\text{Pb}^{2+} + \text{I}^-$	PbI_2	s	8) $\text{Fe}^{3+} + \text{OH}^-$	$\text{Fe}(\text{OH})_3$	s
3) $\text{Ba}^{2+} + \text{SO}_4^{2-}$	BaSO_4	s	9) $\text{Pb}^{2+} + \text{ClO}_4^-$	$\text{Pb}(\text{ClO}_4)_2$	aq
4) $\text{Rb}^+ + \text{CO}_3^{2-}$	Rb_2CO_3	aq	10) $\text{Mg}^{2+} + \text{F}^-$	MgF_2	s
5) $\text{Sr}^{2+} + \text{CrO}_4^{2-}$	SrCrO_4	s	11) $\text{NH}_4^+ + \text{PO}_4^{3-}$	$(\text{NH}_4)_3\text{PO}_4$	aq
6) $\text{Ca}^{2+} + \text{C}_2\text{H}_3\text{O}_2^-$	$\text{Ca}(\text{C}_2\text{H}_3\text{O}_2)_2$	aq	12) $\text{Ru}^{3+} + \text{Br}^-$	RuBr_3	aq

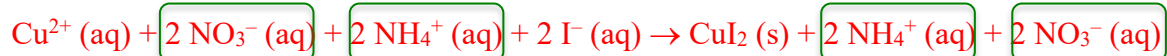
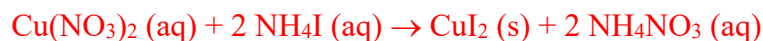
Part B

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.

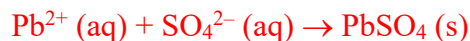
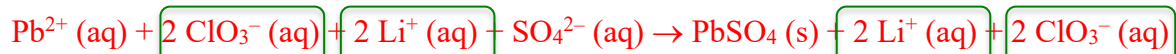
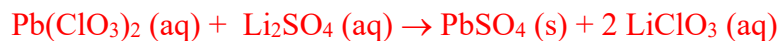
13) Sodium carbonate (aq) + iron(III) nitrate (aq) → sodium nitrate + iron(III) carbonate



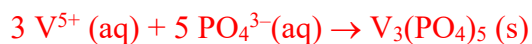
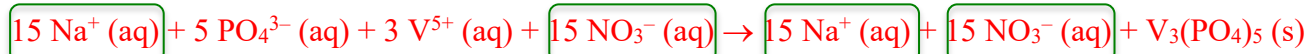
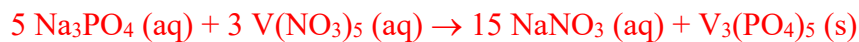
14) Copper(II) nitrate (aq) + ammonium iodide (aq) → copper(II) iodide + ammonium nitrate



15) Lead(II) chlorate (aq) + lithium sulfate (aq) → lead(II) sulfate + lithium chlorate



16) Sodium phosphate (aq) with vanadium(V) nitrate (aq) → sodium nitrate + vanadium(V) phosphate

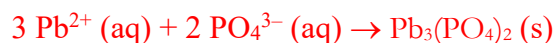
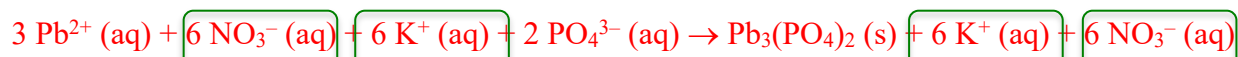


Part C

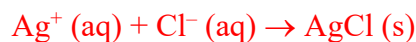
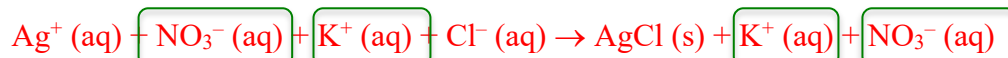
For the following skeleton equations, determine the names of the reactants and swap anions to determine the names of the products. Next, determine the correct product formulas & states, then balance. Then write complete ionic and net ionic equations.



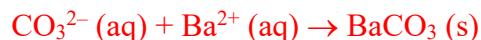
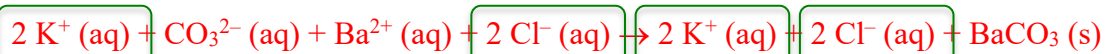
lead(II) nitrate + potassium phosphate → lead(II) phosphate + potassium nitrate



silver nitrate + potassium chloride → silver chloride + potassium nitrate



potassium carbonate + barium chloride → potassium chloride + barium carbonate



cobalt(II) nitrate + sodium hydroxide → cobalt(II) hydroxide + sodium nitrate

