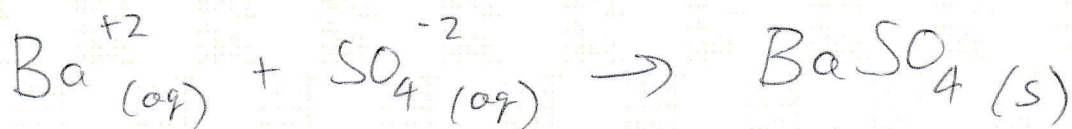
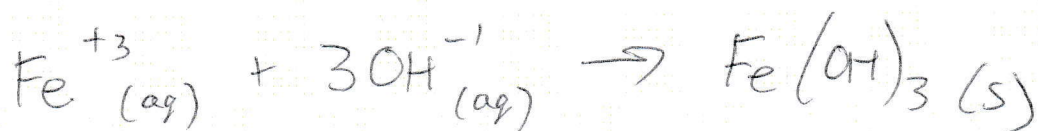
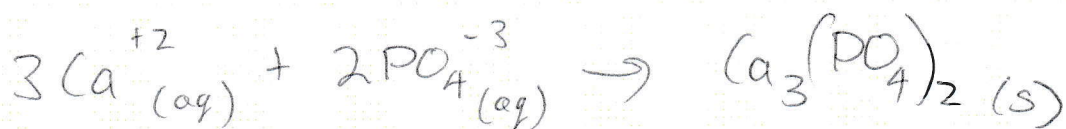


Answers to week 5

1. Use the solubility rules to determine if the following ionic solids are soluble or insoluble in water.

Ionic Solid	Soluble or Insoluble?
CuCO_3	insoluble
$\text{Ca}_3(\text{PO}_4)_2$	insoluble
K_2SO_4	soluble
MgCl_2	soluble
$\text{Ca}(\text{NO}_3)_2$	soluble
$\text{Fe}(\text{OH})_3$	insoluble
BaSO_4	insoluble

2. For the ionic solids that are soluble in water from question 1, write ionic equations to show the ions that would be produced (dissociation).



3. Using a solubility table complete the following table. Write a balanced ionic equation leaving out the spectator ions. If there are no precipitates produced then write down no reaction.

AQUEOUS SOLUTIONS MIXED	BALANCED IONIC EQUATION	SPECTATOR IONS
Lead II nitrate and Potassium hydroxide	$\text{Pb}^{+2}_{(aq)} + 2\text{OH}^{-}_{(aq)} \rightarrow \text{Pb}(\text{OH})_2(s)$	$\text{NO}_3^{-1}_{(aq)}$ and K^{+1}
Copper II sulphate and aluminium chloride	No Reaction	—
Iron III sulfate and potassium carbonate	$2\text{Fe}^{3+}_{(aq)} + 3\text{CO}_3^{2-}_{(aq)} \rightarrow \text{Fe}_2(\text{CO}_3)_3(s)$	SO_4^{2-} and K^{+}
Not possible.	No reaction. $\rightarrow \text{Fe}_3\text{Sn}_2(s)$	$\text{CH}_3\text{COO}^{-}$ and SO_4^{2-}
Barium hydroxide and magnesium iodide	$\text{Mg}^{+2}_{(aq)} + 2\text{OH}^{-}_{(aq)} \rightarrow \text{Mg}(\text{OH})_2(s)$	Ba^{+2} and I^{-1}
Strontium II iodide and Barium hydroxide	$\text{Sr}^{+2}_{(aq)} + 2\text{OH}^{-}_{(aq)} \rightarrow \text{Sr}(\text{OH})_2(s)$	Ba^{+2} and I^{-1}
Calcium hydroxide and ammonium phosphate	$3\text{Ca}^{+2}_{(aq)} + 2\text{PO}_4^{-3}_{(aq)} \rightarrow \text{Ca}_3(\text{PO}_4)_2$	OH^{-} and NH_4^{+}