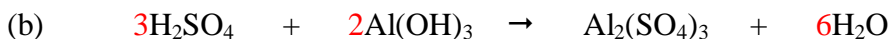
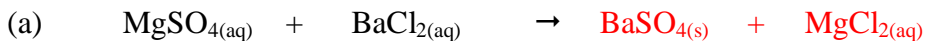


1. Balance the following reactions: (2 pts)

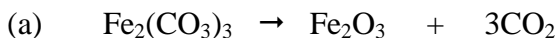


2. Complete and balance the following double displacement reactions and include phase labels, (s), (l), (g), or (aq): (6 pts)

Soluble	Except	Insoluble	Except
$\text{Na}^+, \text{K}^+, \text{Li}^+, \text{NH}_4^+$	None	CO_3^{2-}	Group 1A, NH_4^+
NO_3^-	None	PO_4^{3-}	Group 1A, NH_4^+
$\text{Cl}^-, \text{Br}^-, \text{I}^-$	$\text{Ag}^+, \text{Pb}^{2+}, \text{Hg}^{2+}$	S^{2-}	Group 1A, NH_4^+
SO_4^{2-}	$\text{Ca}^{2+}, \text{Ag}^+, \text{Pb}^{2+}, \text{Ba}^{2+}$	OH^-	Group 1A, $\text{Ca}^{2+}, \text{Ba}^{2+}$



3. Classify the following reactions: (2 pts)

**Decomposition****Single Displacement**