

Answers to practice determining whether a precipitate forms:

1. no precipitate
2. a) precipitate, b) calcium sulfate, CaSO_4 , c) $\text{Ca}^{2+}(\text{aq}) + \text{SO}_4^{2-}(\text{aq}) \rightarrow \text{CaSO}_4(\text{s})$
3. a) precipitate, b) iron(III) hydroxide, $\text{Fe}(\text{OH})_3$, c) $\text{Fe}^{3+}(\text{aq}) + 3 \text{OH}^{-}(\text{aq}) \rightarrow \text{Fe}(\text{OH})_3(\text{s})$
4. a) precipitate, b) copper(II) phosphate, $\text{Cu}_3(\text{PO}_4)_2$, c) $3 \text{Cu}^{2+}(\text{aq}) + 2 \text{PO}_4^{3-}(\text{aq}) \rightarrow \text{Cu}_3(\text{PO}_4)_2(\text{s})$
5. no precipitate
6. a) precipitate, b) barium sulfate, BaSO_4 , c) $\text{Ba}^{2+}(\text{aq}) + \text{SO}_4^{2-}(\text{aq}) \rightarrow \text{BaSO}_4(\text{s})$
7. no precipitate
8. a) precipitate, b) lead(II) carbonate, PbCO_3 , c) $\text{Pb}^{2+}(\text{aq}) + \text{CO}_3^{2-}(\text{aq}) \rightarrow \text{PbCO}_3(\text{s})$
9. a) precipitate, b) cobalt(II) phosphate, $\text{Co}_3(\text{PO}_4)_2$, c) $3 \text{Co}^{2+}(\text{aq}) + 2 \text{PO}_4^{3-}(\text{aq}) \rightarrow \text{Co}_3(\text{PO}_4)_2(\text{s})$
10. a) precipitate, b) copper(I) chloride, CuCl , c) $\text{Cu}^{+}(\text{aq}) + \text{Cl}^{-}(\text{aq}) \rightarrow \text{CuCl}(\text{s})$