Chapter 20 - Solubility Product

Type 1: solid dissolving into water or solution of work with molar solubility

- concepts: solubility product expression, K_sp
- molar solubility: moles of substance dissolving to give 1L saturated solution
- common ion effect on solubility

Type 2: no solid present initially

- concepts: prediction of precipitation, Q_sp vs K_sp
- will precipitation occur?
- what ion concentration is required to initiate precipitation? etc.

Consider the expression for BaF_2

\[ \text{BaF}_2(s) \rightarrow \text{Ba}^{2+} + 2F^- \]

\[ K_{sp} = [\text{Ba}^{2+}][F^-]^2 \]

\[ \text{NOT} \quad K_{sp} = [\text{Ba}^{2+}][2F^-][F^-] \]