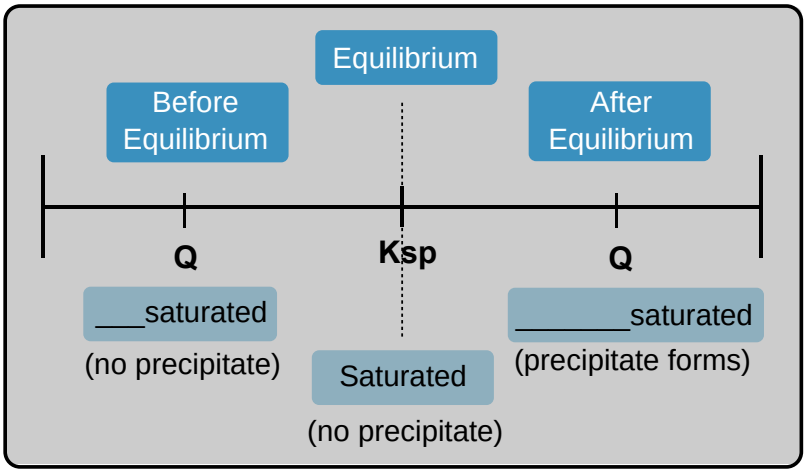
CONCEPT: PRECIPITATION: Ksp vs Q

- Recall: Ksp helps to determine how soluble an ionic solid can be in a solvent at equilibrium.
- Recall: Q (Reaction Quotient) is a ratio of product to reactant at a particular time.
  - □ Comparing **Ksp vs *Q*** will help determine if a _____ is likely to form.
- **Solution Saturation:** _____ of solute that has been dissolved in a solvent.
  - □ The degree of solution saturation can be determined by relative value of Ksp to Q.



EXAMPLE: Will $BaSO_4$ precipitate out when 8.2×10^{-7} M $BaCO_3$ is mixed with 5.7×10^{-6} M $SrSO_4$? Ksp of $BaSO_4$ is 1.1×10^{-10}.

PRACTICE: Two mixtures are added into one flask at 25ºC, one mixture contains 0.55 mL of 0.75 M BaF_2 and another 0.25 mL of 1.3 M $Mg(OH)_2$. Ksp of Magnesium Fluoride, MgF_2, is 7.4×10^{-9}. Identify the correct option.

a) MgF_2 solid will form

b) MgF_2 solid forms, along with Mg^{+2} and F^- ions

c) solution is unsaturated, precipitate does not form

d) solution is saturated, precipitate forms