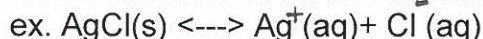


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Chemistry 12
Solubility Lesson #10

THE COMMON ION EFFECT and other ways to alter the solubility of a salt

What does it mean to INCREASE or DECREASE the solubility of a salt?



INCREASE SOLUBILITY, reaction shifts to favour the PRODUCTS.



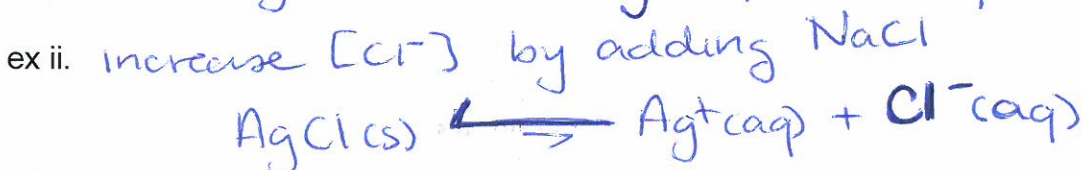
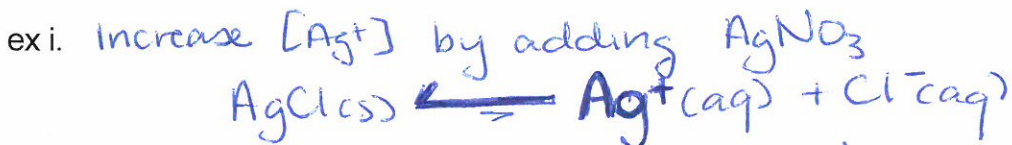
DECREASE SOLUBILITY, reaction shifts to favour the REACTANTS.



Recall LE CHATELIER'S PRINCIPLE; **changing the concentration of dissolved ions in the equilibrium will shift the equilibrium:**

A. DECREASING the solubility of a salt

If we INCREASE the concentration of one of the ions in solution, according to Le Chatelier the reaction will shift to the REACTANTS



THIS PROCEDURE IS CALLED THE COMMON ION EFFECT!

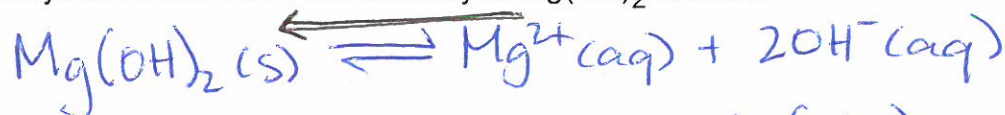
The *common ion effect* is often used in chemistry to deliberately prevent a particular salt from dissolving to any great extent or to force a particular dissolved ion to leave a solution.

IMPT

IMPT

Example 1: The solubility of $\text{Mg}(\text{OH})_2$ is about 0.5 M at 25 °C.

State two ways to **DECREASE** the solubility of $\text{Mg}(\text{OH})_2$ in water.



- ① increase $[\text{Mg}^{2+}]$ by adding $\text{Mg}(\text{NO}_3)_2$
- ② increase $[\text{OH}^-]$ by adding NaOH

