**Chemistry 3.6 AS 91392** Demonstrate understanding of equilibrium principles in aqueous systems



Writing Excellence answers to **Solubility of sparingly soluble salts** questions

|  |  |
| --- | --- |
| **Solubility of sparingly soluble salts QUESTION** | |
| **Question:**  Silver carbonate, Ag2CO3, is a sparingly soluble salt.  *K*s(Ag2CO3) = 8.10 × 10–12 at 25ºC *M*(Ag2CO3) = 276 g mol–1  (a) Write the solubility product expression, *K*s, for silver carbonate (Ag2CO3).  (b) Calculate the mass of Ag2CO3 that will dissolve in 50 mL of water to make a saturated solution at 25ºC. | |
| **ANSWER** | |
| 1. write the equation for the dissociation of salt |  |
| 2. Write the solubility product expression, *K*s, for the salt |  |
| 3. calculate the solubility, s  2:1 salt  Let s = solubility  *Ks* = 4*s*3    *3sgf and units* |  |
| 4. calculate number of moles  *n* = *c* × *v*  *3sgf and units* |  |
| 5. calculate mass of salt  *m* = *n* × *M*  *3sgf and units* |  |

NOTE: The white column is how your answer would appear on your test paper so make sure you **write out complete sentences**. The grey area is just to help you structure your answer and would not appear in the question.