Marks

- A specific variety of haemoglobin associated with heart disease was isolated from a blood sample. A sample of this haemoglobin (21.5 mg) is dissolved in water at 25 °C to make 1.50 mL of solution. The osmotic pressure of the solution was measured and found to be 3.61 mmHg. What is the molar mass of this particular type of haemoglobin?

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Answer:

- Calcium oxalate (CaC_2O_4) is only slightly soluble in water (5.73 mg L^{-1} at 25 °C) and can be deposited in renal calculi (kidney stones). What is the molar solubility of calcium oxalate?

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Answer:

Calculate the solubility product constant (K_{sp}) of calcium oxalate at 25 °C.

K_{sp} =