



1. Calculate the concentration of calcium ions present in a saturated calcium phosphate solution. [$\text{p}K_{\text{sp}} \text{CaCO}_3 = 8.31$]

- A) $4.8 \times 10^{-9} \text{ M}$
- B) $6.9 \times 10^{-5} \text{ M}$
- C) $2.6 \times 10^{-6} \text{ M}$
- D) $8.3 \times 10^{-10} \text{ M}$

2. The K_{sp} of silver chloride is 1.77×10^{-10} . Calculate the molar solubility of silver chloride in 0.02M of silver nitrate.

- A) $1.77 \times 10^{-10} \text{ M}$
- B) $1.33 \times 10^{-5} \text{ M}$
- C) $8.85 \times 10^{-9} \text{ M}$
- D) None of the above

3. Calculate the molar solubility of strontium arsenate in water at 25 °C

(Data: $K_{\text{sp}} [\text{Sr}_3(\text{AsO}_4)_2] = 4.29 \times 10^{-19}$).

- A) $6.55 \times 10^{-10} \text{ M}$
- B) $8.31 \times 10^{-5} \text{ M}$
- C) $8.85 \times 10^{-9} \text{ M}$
- D) $7.54 \times 10^{-7} \text{ M}$

4. Indicate for which of the following salts the solubility depends upon the pH.

- A) ZnCO_3
- B) BaSO_4
- C) MgF_2
- D) all the above answers are correct

5. Consider a salt M_2X_3 type with a molar mass of 300 g/mol whose solubility is 3.42 g/liter. Calculate K_{sp} .

- A) 1.3×10^{-4}
- B) 0.0114
- C) 1.5×10^{-6}
- D) 1.9×10^{-10}