Marks
3

- The active ingredient in aspirin is the monoprotic acid, acetylsalicylic acid ($HC_9H_7O_4$) that has a K_a of 3.3×10^{-4} M at 25 °C. What is the pH of a solution obtained when a tablet containing 200 mg of acetylsalicylic acid is dissolved in 125 mL of water?

Answer:

2

- A standard test for the presence of chloride ion in water involves the appearance of a precipitate of AgCl upon addition of 1 mL of $AgNO_3$ (0.03 M) to 100 mL of the water sample. What is the minimum concentration of Cl^- detectable by this method? K_{sp} (AgCl) = 1.8×10^{-10} M^2.

Answer: