

Buffer and Titration Practice Problems

1. Write the molecular, ionic and net ionic reactions for adding hypochlorous acid (HClO) with calcium hydroxide.
molecular _____
ionic _____
net ionic _____
2. Calculate the pH of a 2.00 L solution containing 0.885 moles of hypochlorous acid (HClO) and 0.905 moles of NaClO. Given K_a for HClO is 3.0×10^{-8} .
3. Calculate the pH if 50.0 mL of 0.125M nitric acid is added to a 2.00L buffer system composed of 0.250M acetic acid and 0.250M lithium acetate.

4. How many milliliters of 0.95M NaOH must be added to 35.0 mL of 0.85M CH₃COOH to reach the equivalence point? What is the pH at the equivalence point? Given: K_a for acetic acid is 1.8 x 10⁻⁵

5. Calculate the pH when 25.0 mL of 0.100M HBr is added to 15.0 mL of 0.100M LiOH.