

Acid–Base Titration with Conductivity Worksheet

Data Table

Titration Data	
Volume of Barium Hydroxide (mL)	
Final Volume of the Buret (mL)	
Initial Volume of the Buret (mL)	
Volume of Sulfuric Acid added at endpoint (mL)	
Total Sulfuric Acid added to have the Conductivity Tester Glow Again (mL)	

Observations

Discussion Questions and Calculations

1. Given the sulfuric acid was 0.1 M, what was the initial concentration of the barium hydroxide solution?
2. When sulfuric acid is added to the initial barium hydroxide solution, what are the two balanced net-ionic equations that occur?
3. Why does the conductivity of the solution decrease when sulfuric acid is added?
4. Given a K_{sp} of 1.0×10^{-10} for $BaSO_4$, what is the concentration of Ba^{2+} at the equivalence point?
5. When another 0.5 mL of 0.1M sulfuric acid is added past the equivalence point, the concentration of $Ba^{2+}(aq)$ in the solution decreases. Why?