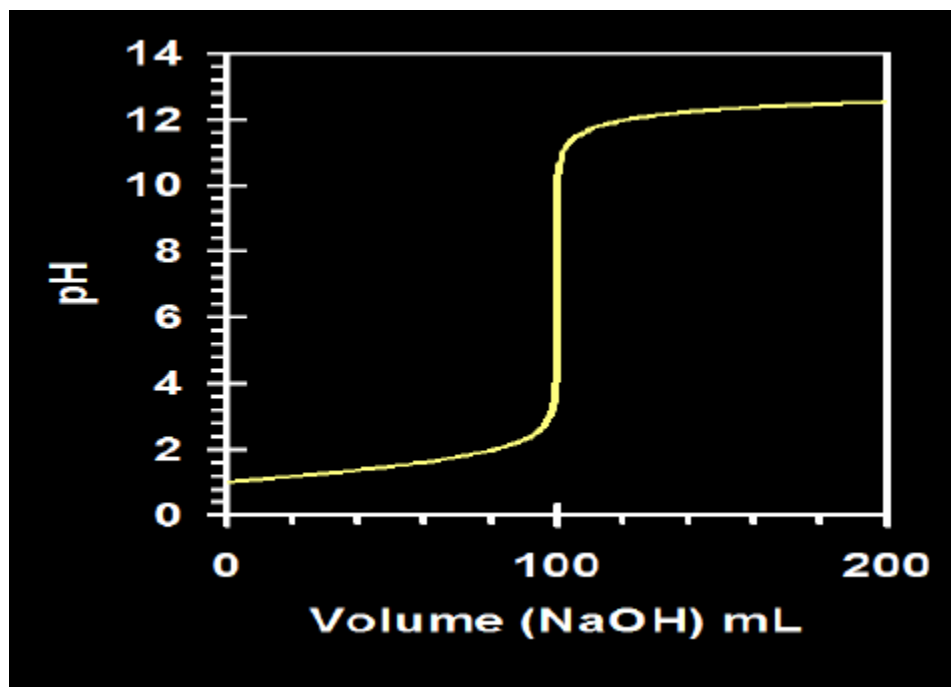


Sections 16.14 - 16.15: pH Curve for Strong Acid - Strong Base Titrations

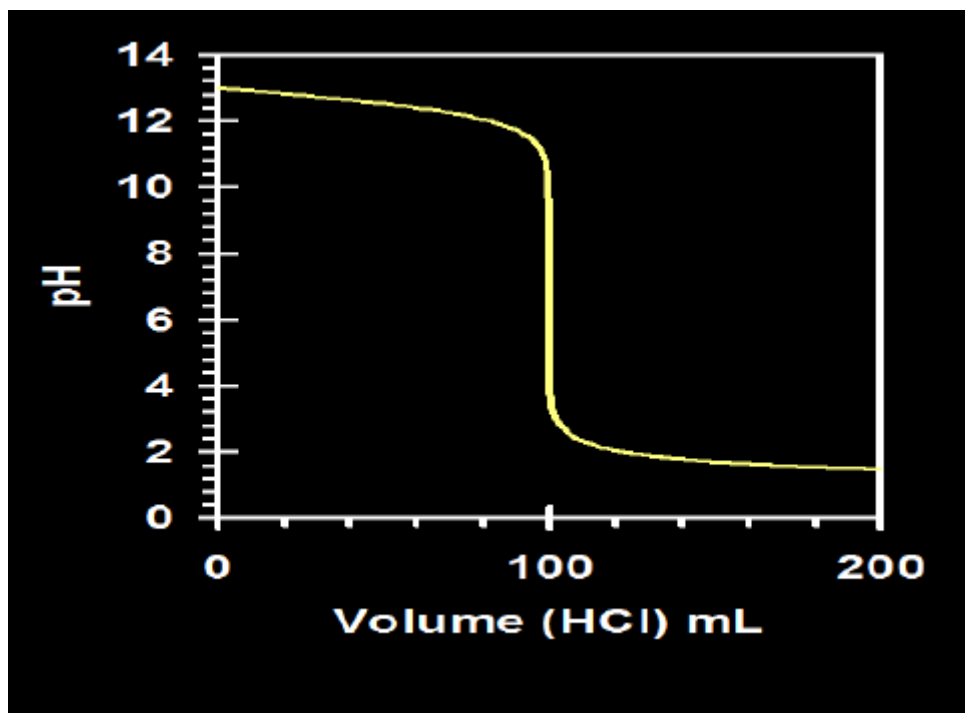
The plot of “pH vs. Volume of Titrant Added” is called the Titration Curve, or the pH Curve. In the previous example, the titrant was NaOH. Hence, the pH curve for a strong **acid**-strong **base** titration is:



In this curve, the equivalence point is at $\text{pH} = 7.00$. Before the equivalence point, $[\text{H}^+]$ and pH can be calculated by dividing the moles of $[\text{H}^+]$ remaining by the total volume of the solution (**acid** + **base**) in Liters. After the equivalence point, $[\text{OH}^-]$ and the pOH can be calculated by dividing the moles of OH^- remaining by the total volume of the solution (**acid** + **base**) in Liters.

Note: In order to calculate pH , use the relation $\text{pH} + \text{pOH} = 14.00$.

If the titrant is HCl, then the pH curve for a strong **acid**-strong **base** titration is:



In this curve, the equivalence point is at $\text{pH} = 7.00$. Before the equivalence point, $[\text{OH}^-]$ and the pOH can be calculated by dividing the moles of OH^- remaining by the total volume of the solution (**acid + base**) in Liters. After the equivalence point, $[\text{H}^+]$ and the pH can be calculated by dividing the moles of H^+ remaining by the total volume of the solution (**base + acid**) in Liters.

Note: In order to calculate pH , use the relation $\text{pH} + \text{pOH} = 14.00$.