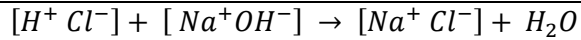


CONDUCTOMETRIC TITRATIONS

Conductivity Titrations:

Acid base titrations: Because of high conductance of OH^- and H_3O^+ , conductivity Titrations are well adapted.

1. Strong acid with a Strong base: (HCl Vs NaOH) Ionic conductance of H^+ is 350, OH^- is 199



At starting acid solution has high Conductivity due to mobile H^+ . Share of Cl^- is low.

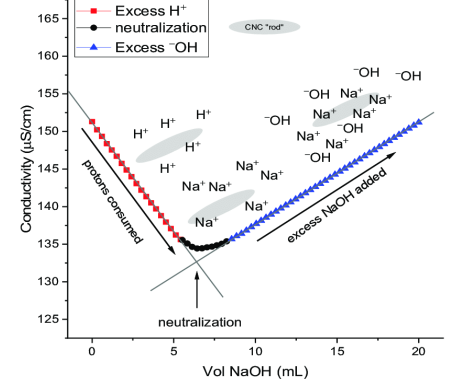
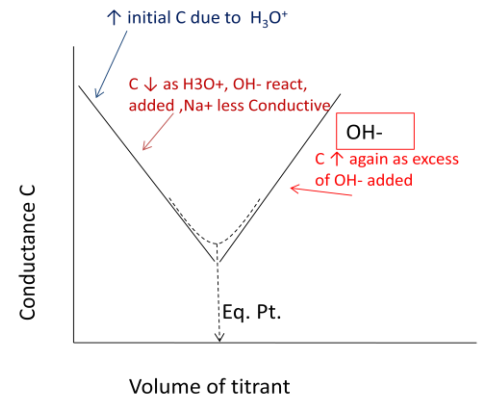
With addition of NaOH, highly mobile H^+ are replaced by low mobile Na^+ .

At end point, i.e. at neutralization only Na^+ and Cl^- are present. Therefore, the C decreases.

Then, with the further addition of NaOH, C increases due to OH^- , because OH^- have more mobility than Na^+ .

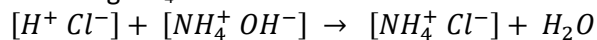
2 lines slightly curved are obtained due to

- Variation in temperature due to heat of neutralization
- Interionic effect
- Increase in volume of solution because of addition of strong acid
- In conductometric titration relative change in C is independent of conc. of st. acid, therefore, dilute solution are titrated with accuracy as compared to conc. solutions.



2. Strong acid with a weak base: (HCl Vs NH_4OH)

With the addition of NH_4OH to HCl Conductance decreases due to replacement of fast moving H^+ with slow moving NH_4^+



After the end point, addition of NH_4OH does not change conductance. Because NH_4OH is weakly ionized electrolyte, has very small conductance compared to

