Name-Saksham Singh
Id-22BTEE004

01

[REACTION MECHANISM]

- Substitution Reaction (S_n)
  - Sn^1 Reaction — Unimolecular Reaction — Two Step Process
  - Sn^2 Reaction — Bimolecular Reaction — One Step Process
- Rearrangement Reaction (Isomerism)
  - Position Rearrangement
  - Chain
  - Functional
  - Tautomerism
  - Geometism
- Elimination Reaction (E)
  - E_1 Reaction — Unimolecular Elimination Reaction
  - E_2 Reaction — Bimolecular Elimination Reaction
- Addition Reaction
  - Initiation Process
  - Propagation Process
  - Termination Process

Teacher name - Shobha Thakur

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02

[Substitution Reaction]

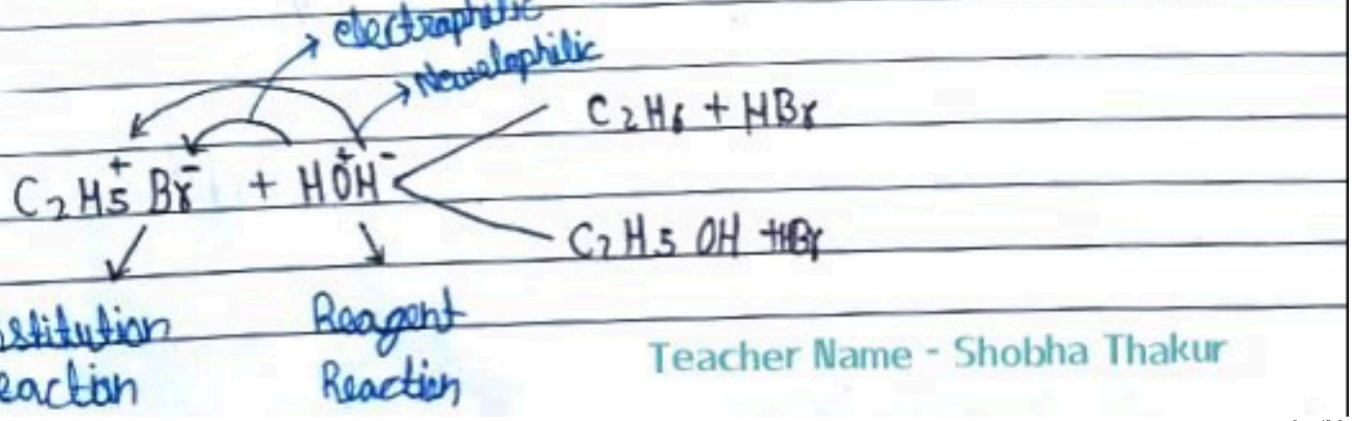
In Substitution in item groups are replace by another groups or the groups of item are know as substitution. there are two types of reaction.

Exemaple ⇒ $C_2H_5^+OH^- -- H^+Br^- \longrightarrow C_2H_5Br + H_2O$

Substitution

[SUBSTITUTION REACTION]

- Newleophilic Substitution (न्यूक्लियोफिलिक सब्स्टीट्यूशन)
  - S_N1 Reaction — Unimaticular Newleophilic Substitution Reaction
  - S_N2 Reaction — Bimotecular Newleophilic Substitution Reaction
- Electrophilic Substitution (इलेक्ट्रोफिलिक सब्स्टीट्यूशन)
  - S_E1 Reaction — unimaticular Electraphilic Substitution Reaction
  - S_E2 Reaction — Bimalacular Electraphilic Substitution Reaction



Teacher Name - Shobha Thakur

① NEWELEOPHILIC SUBSTITUTION REACTION -

when the neculophilic as in the reagent attack on the substitution and substitution the weaker neculophilic are know as neculophilic substitution reaction.

the camman neculophilic are Cl, Br, I, CN, OH, RCH_2 --- NH_2 etc. [-]

Neculophilic reaction are two types -

(i) S_N1 Neculophilic substitution reaction or 1st order neclopheric substitution reaction))

⇒ It is the unimalecular substitution reaction.

⇒ It is the 2 step reaction.

1st step always slow reaction.

2nd step are fast reaction.

$$C_2H_5Br \longrightarrow C_2H_5^+ + Br^- \quad \text{--- ① step}$$

$$C_2H_5^+ + OH^- \longrightarrow C_2H_5OH \quad \text{--- ② step.}$$

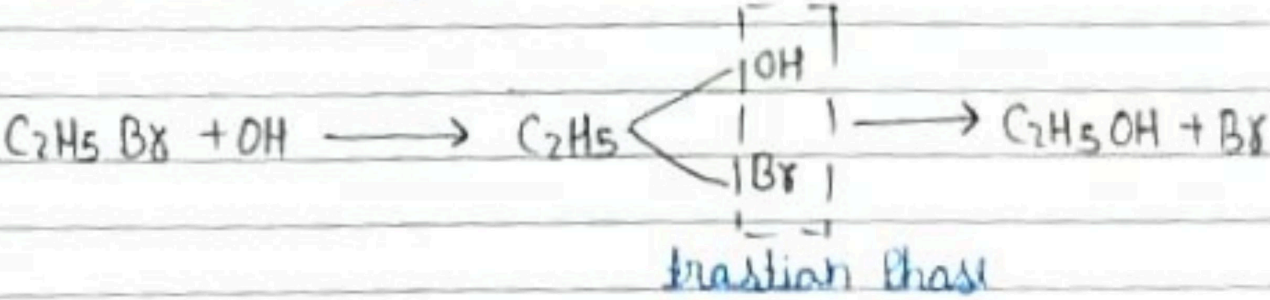
[Rate ∝ Conicutrantion of substitution]

(ii) S_N2 Nucleophilic substitution Reaction or IInd order Nucleophilic substitution reaction :

⇒ It is Bimolecular substitution reaction.

⇒ It is one step reaction.

⇒ In S_N2 reaction the rate of the reaction always the dipendent on consantaions of substitution or constation reagent both.



[Rate ∝ Concentration of substitution and concentration of reagent]