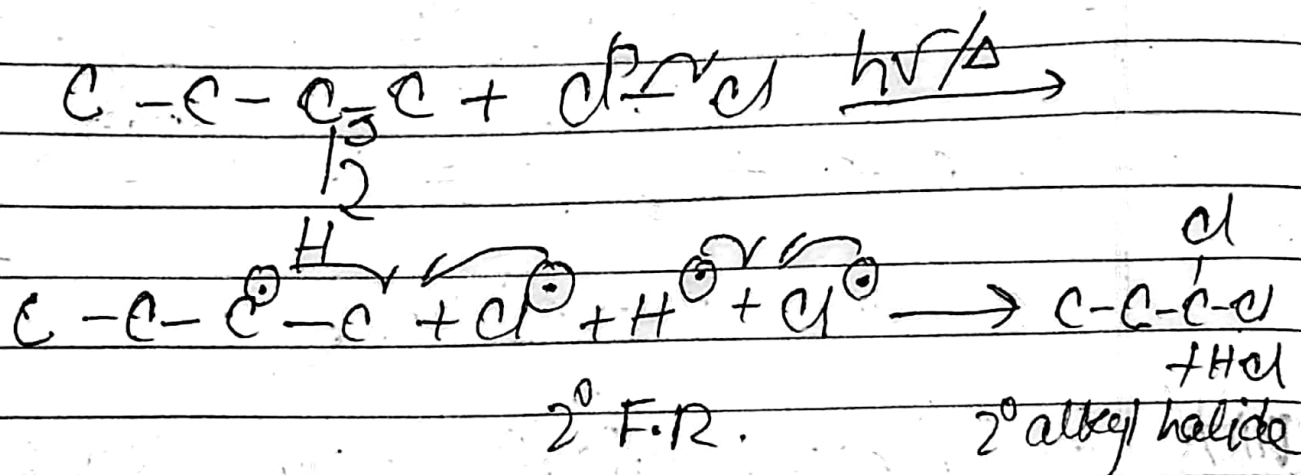
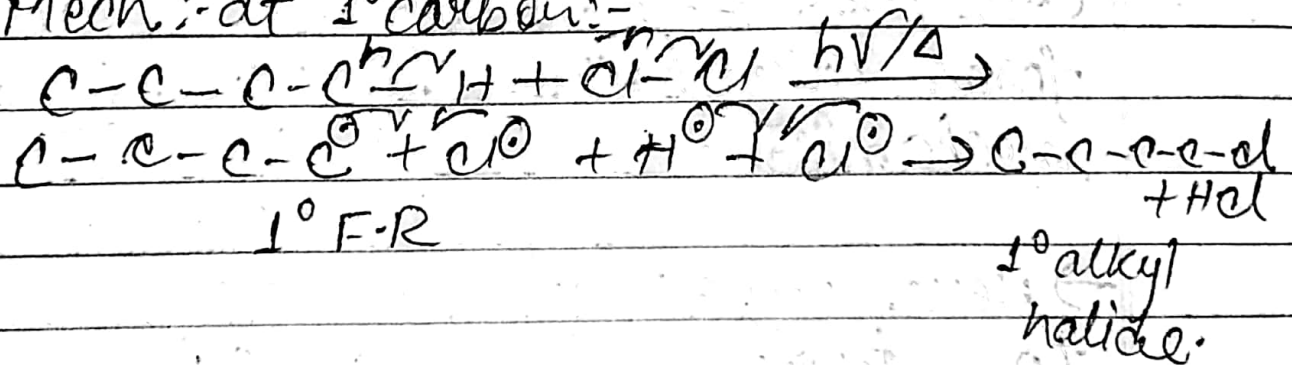


hence gives two types of product -
 2° give ~~minor~~ ^{major} product (formed in more % or, more amount) while
 1° give minor product.

→ Mech: - At 2° carbon.



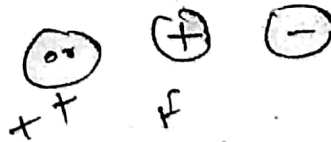
Mech: - at 1° carbon:-



(VIII) By electrophilic Substitution reaction:-
 Those reaction in which strong electrophile replace to weak electrophile
 → when toluene react with halogen ($\text{Cl}_2, \text{Br}_2, \text{I}_2$) in presence of metal then form aromatic (aryl) halide or haloarene by ionic mechanism.

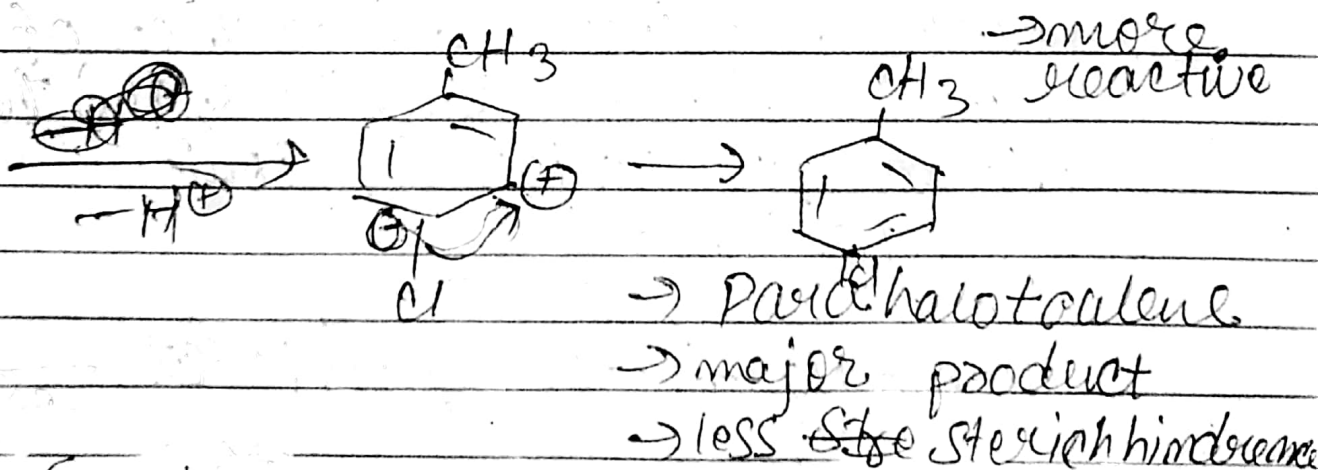
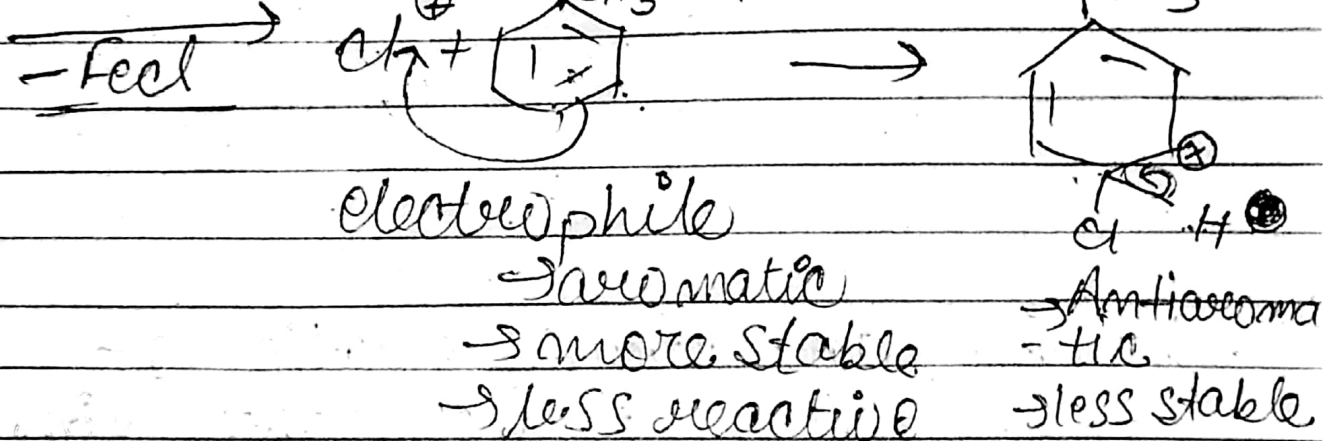
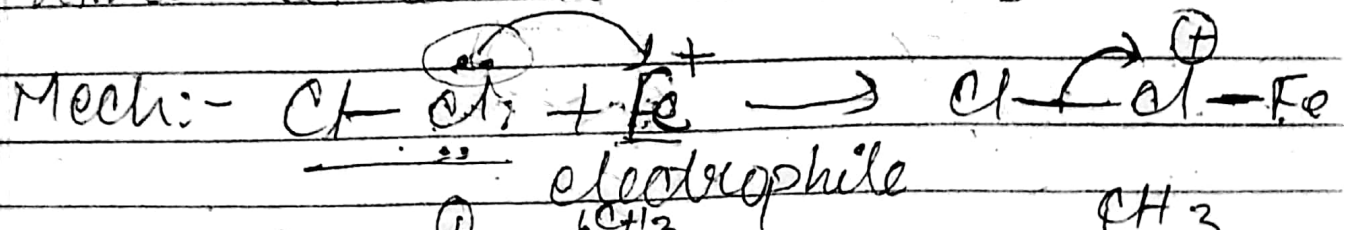
Fe

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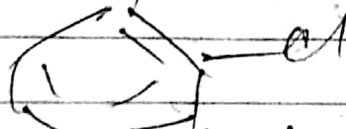


→ Here, para halo product formed as major product because less steric hindrance (fits) between Cl and CH₃.

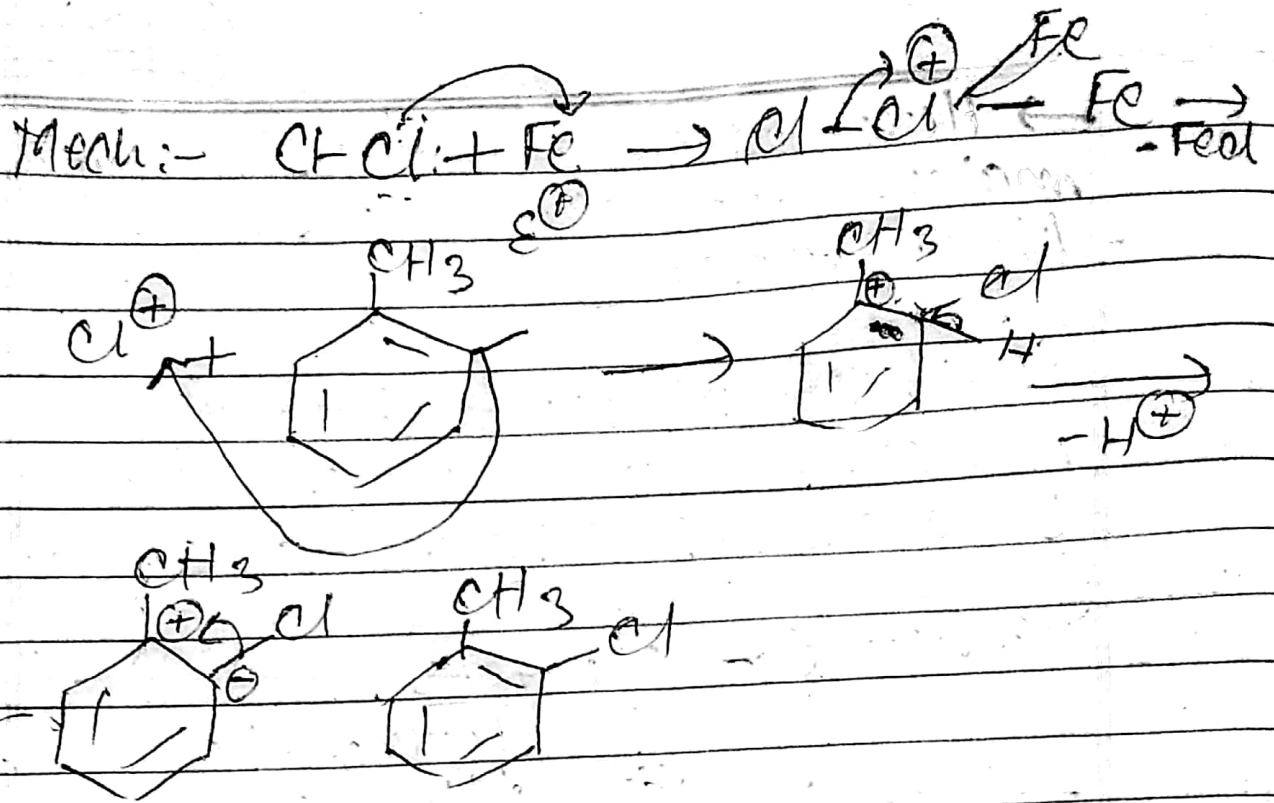
→ Here ortho halo product formed as minor product because more steric hindrance betⁿ Cl and CH₃.



Similarly:



- ortho halotoluene
- minor product
- more steric hindrance.



*) ✱ By Sandmeyer's reaction :-
 (Q) when aniline react with $\text{NaNO}_2 / \text{HCl} / \text{HNO}_2$ in presence of cuprous halide $\text{CuCl} (\text{Cu}_2\text{Cl}_2)$ then form aryl halide by ionic mechanism

