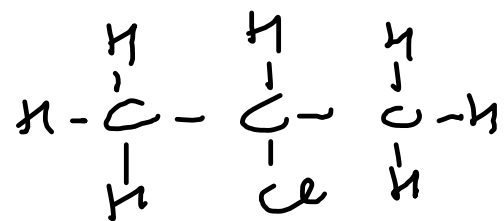


# Chap 6 ALKYL HALIDES

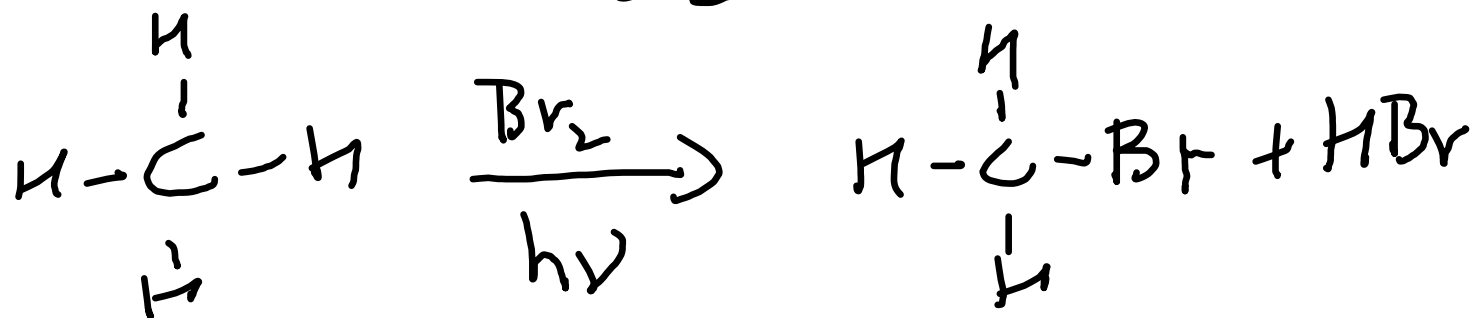
nomenclature



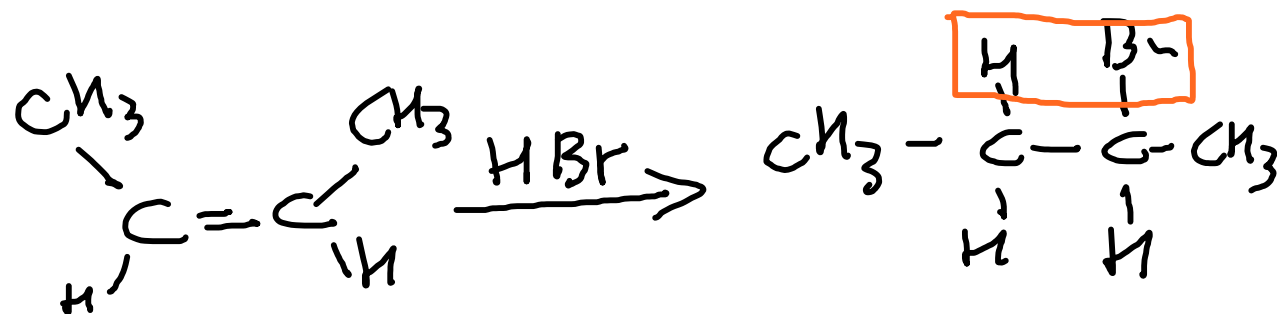
2-chloropropane  
isopropyl chloride

## PREPARATION

### 1) FREE RADICAL HALOGENATION

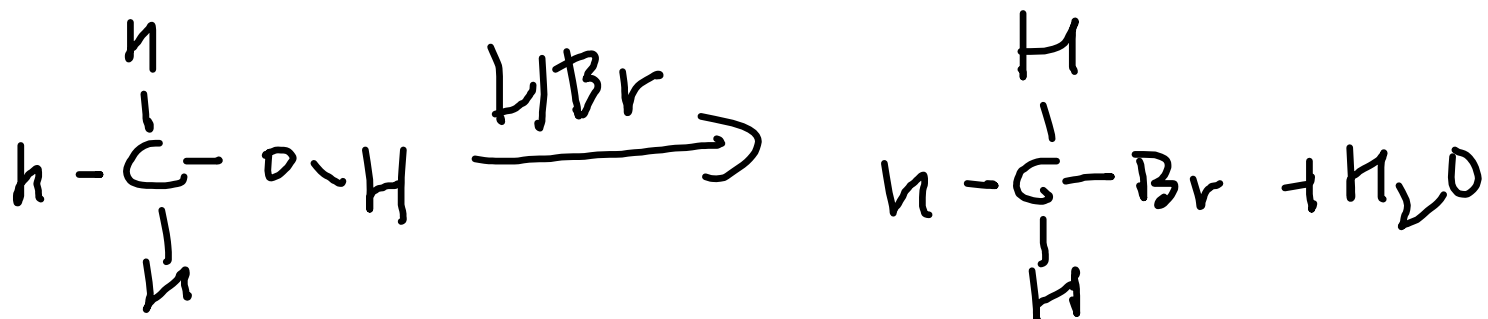


2) HYDROHALOGENATION OF ALKENES  
H F, Cl, Br or I

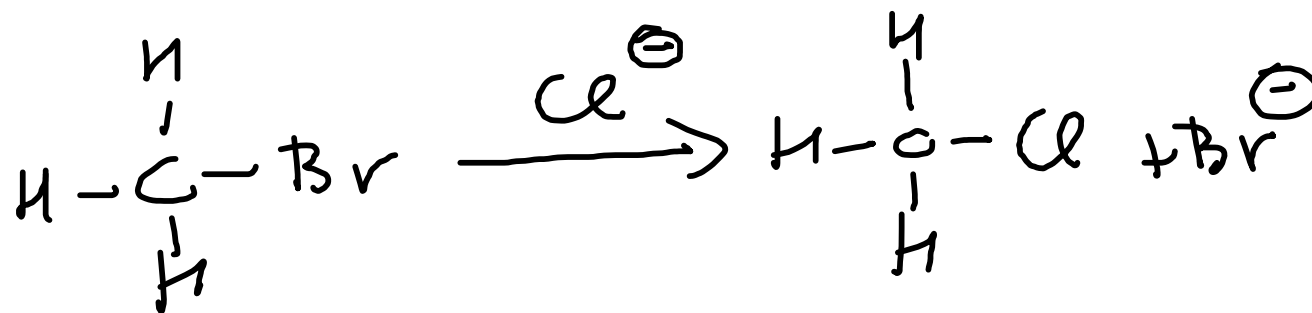


ADDITION  
REACTION

3) FROM ALCOHOLS



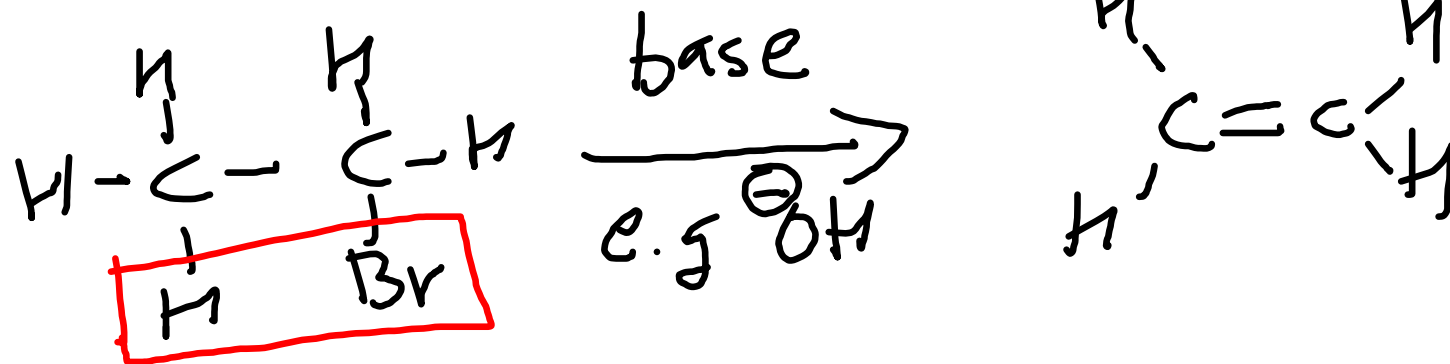
n) FROM ANOTHER ALKYL  
HALIDE



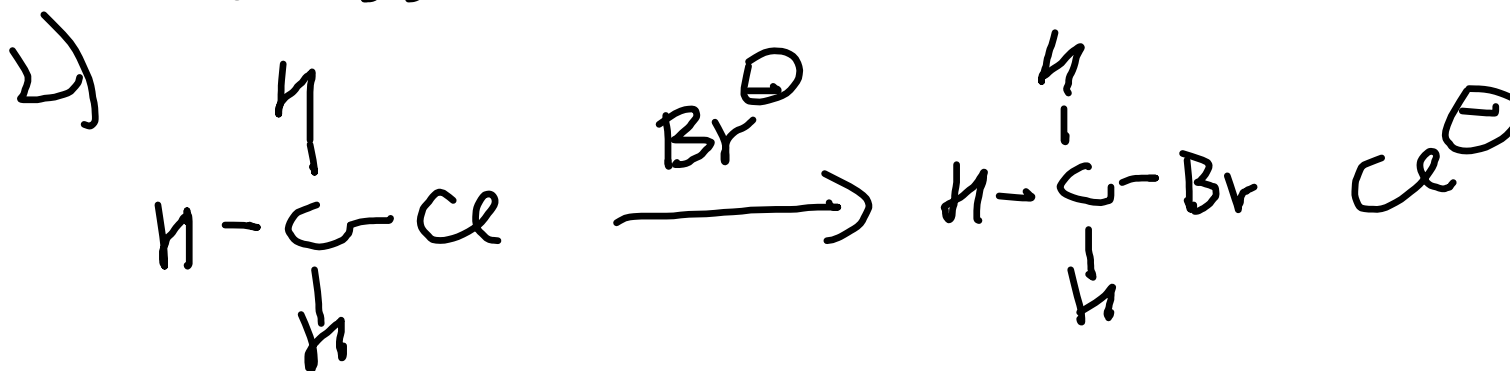
SUBSTITUTION  
REACTION

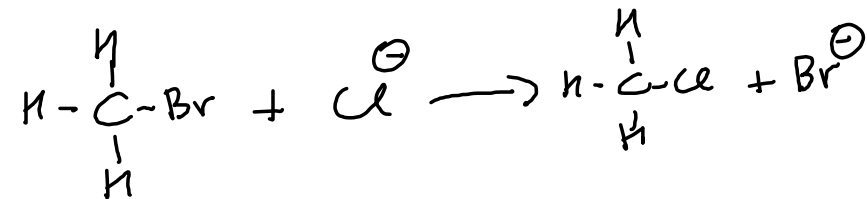
# REACTIONS

## 1) ELIMINATION



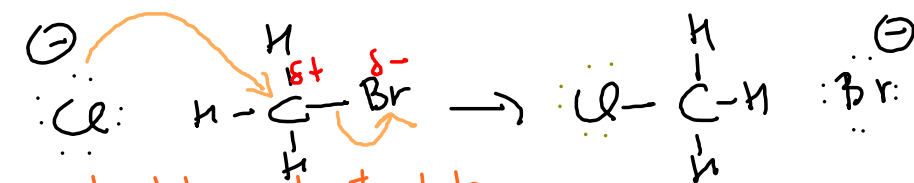
# SUBSTITUTION





$$\text{RATE} = k [\text{CH}_3\text{Br}] [\text{Cl}^{\ominus}]$$

→ BOTH  $\text{CH}_3\text{Br}$  and  $\text{Cl}^{\ominus}$   
ARE IN THE RATE  
LIMITING STEP

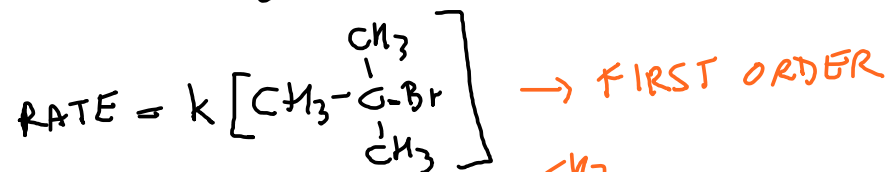
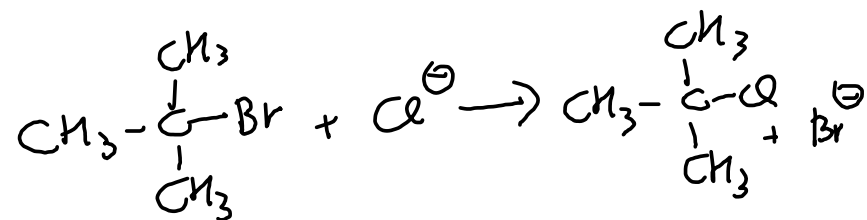


nucleophile seeks  $\oplus$   $\delta$  electrophile seeks  $\ominus$   $\delta$

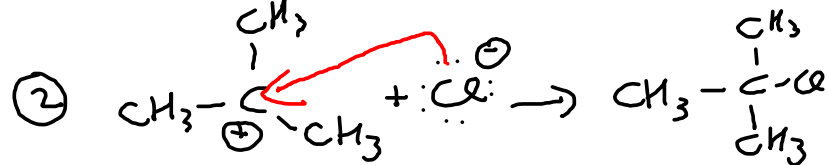
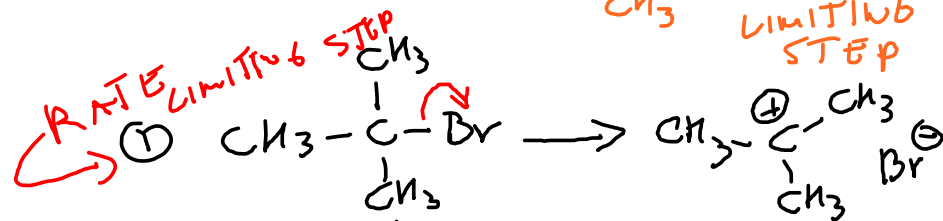
Nucleophilic substitution reaction

$\text{S}_{\text{N}}2$  second order

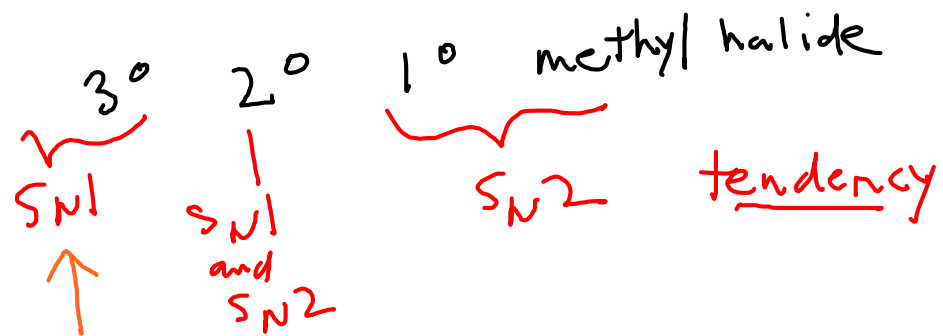




→ ONLY  $\text{CH}_3-\underset{\text{CH}_3}{\overset{\text{CH}_3}{\text{C}}}-\text{Br}$  IN RATE LIMITING STEP



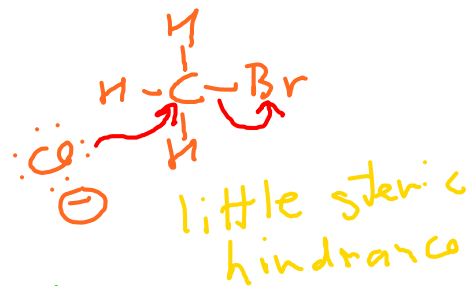
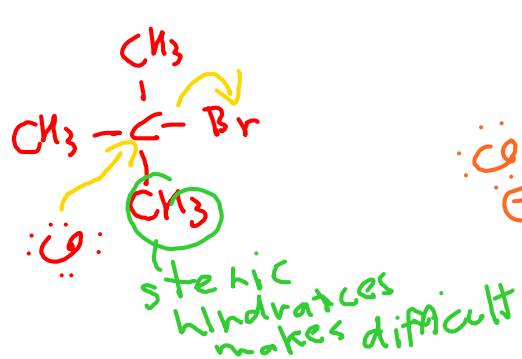
$\text{S}_{\text{N}}1$  - First order

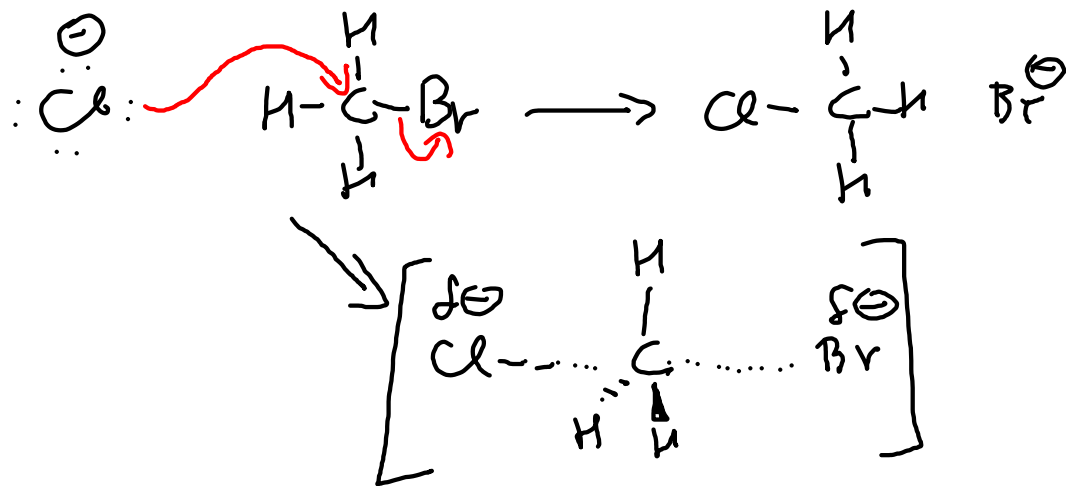



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$3^\circ$   
 carbocation  
 more stable

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Walden inversion

