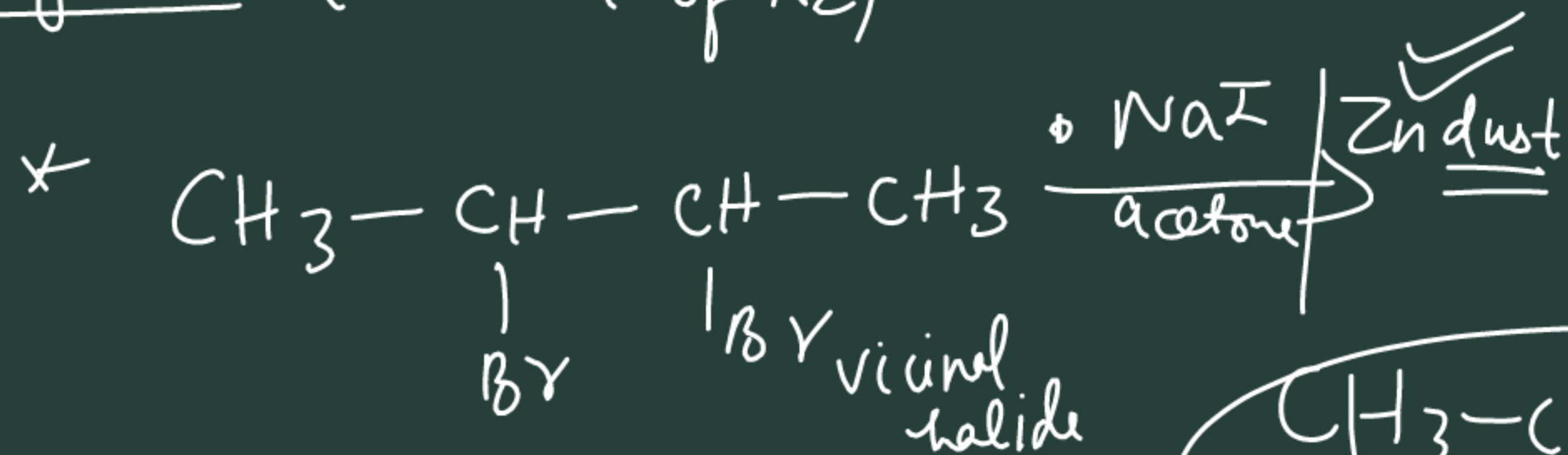
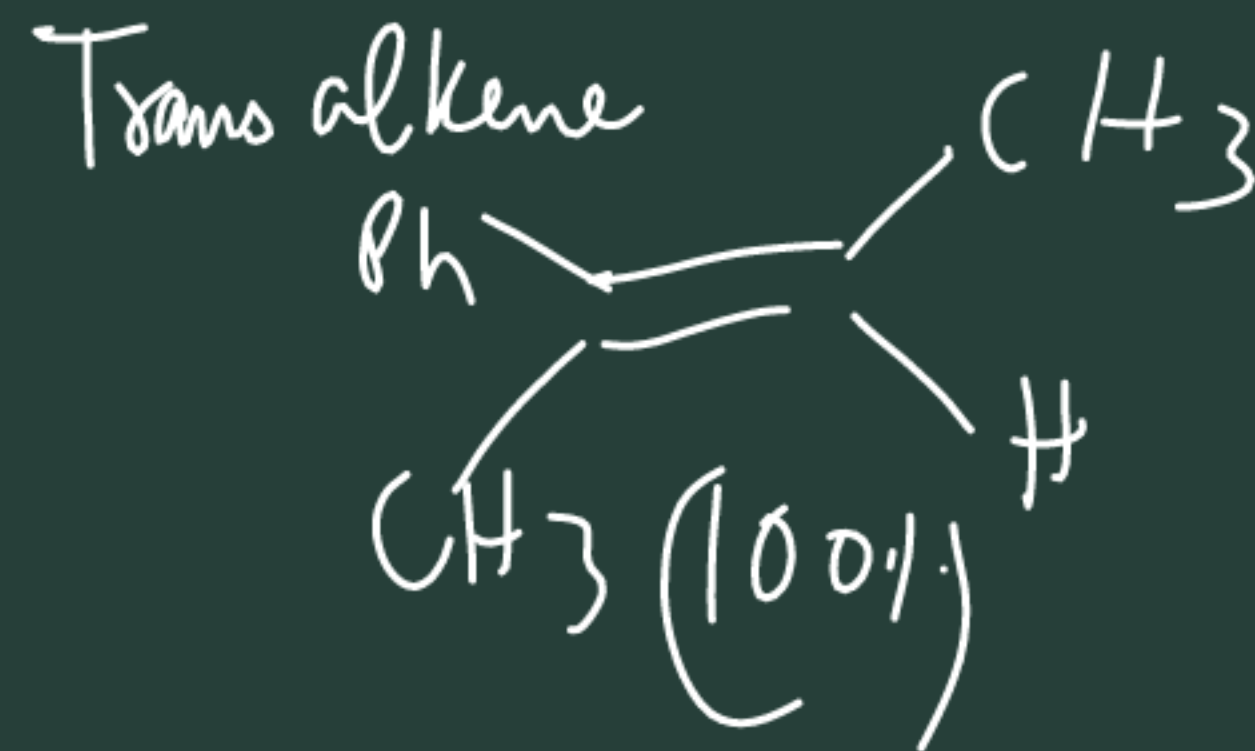
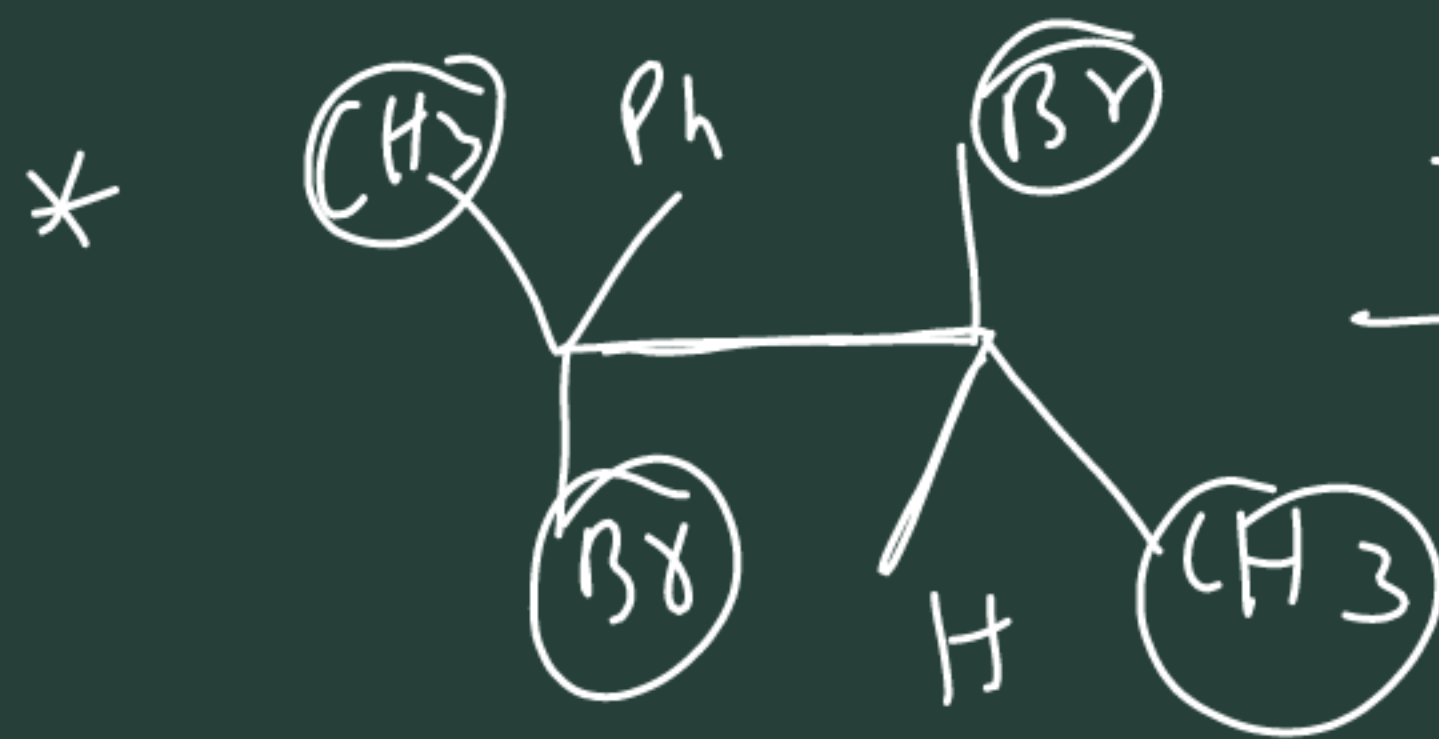
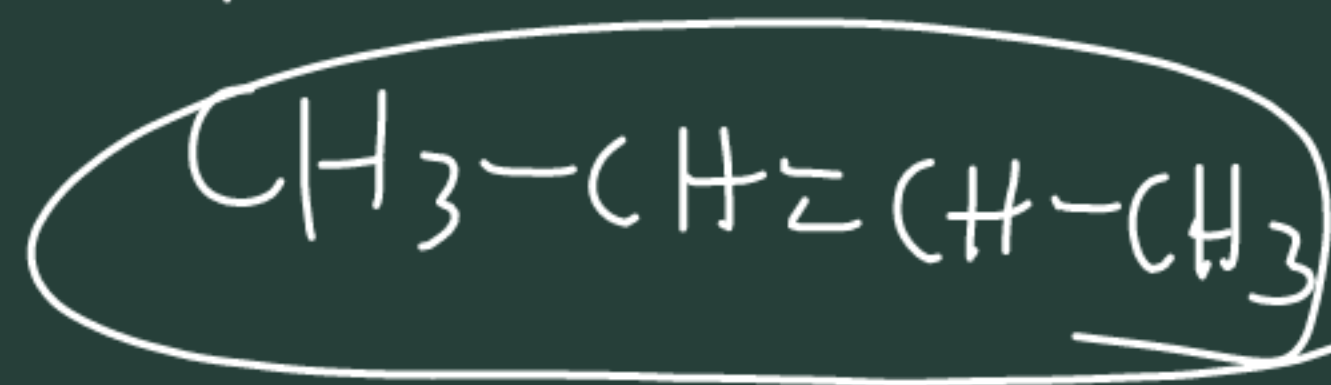


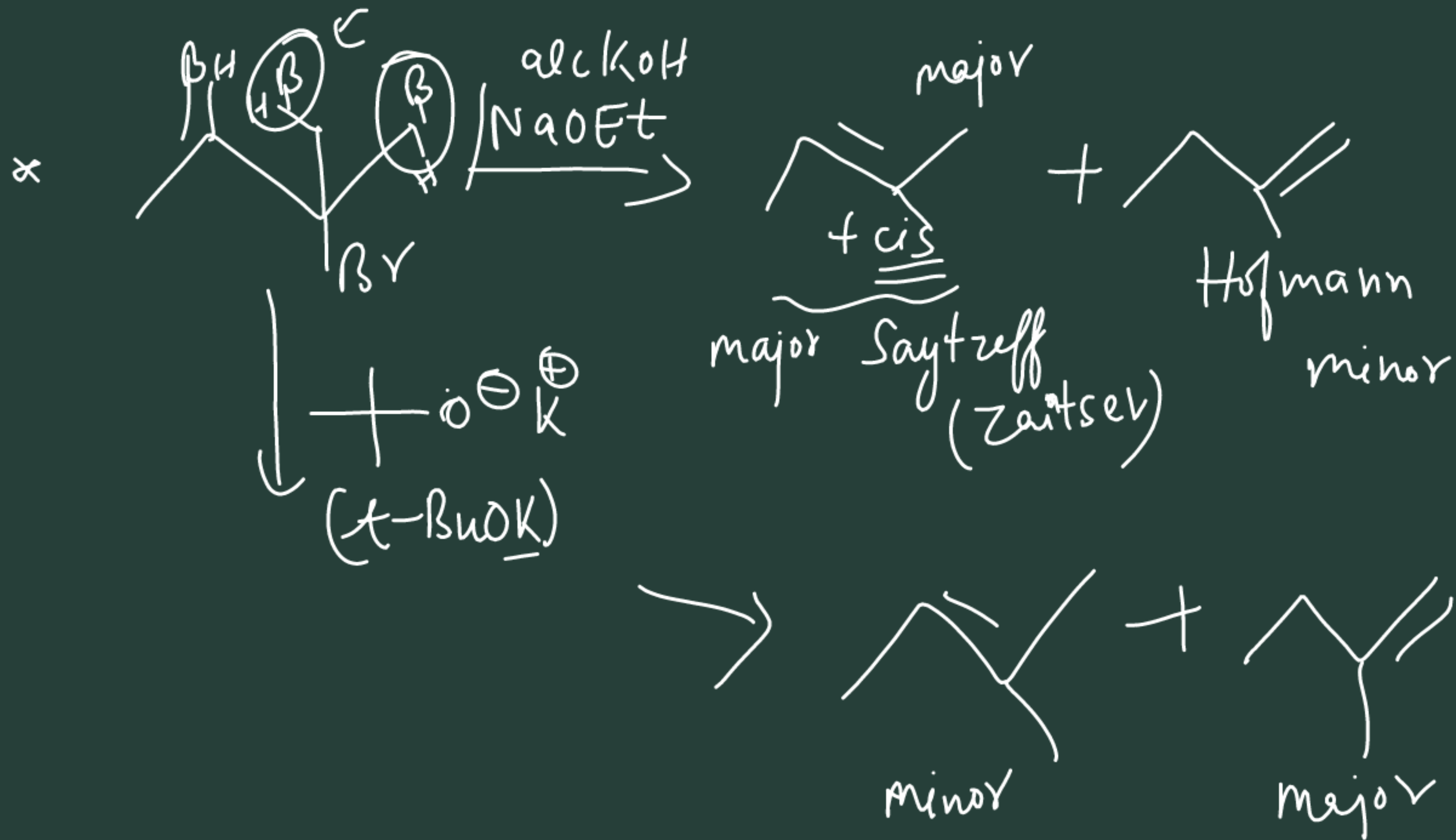
27 Dehalogenation (Removal of X_2) ^{& elimination}



rate = k [alkyl halide] [Zn]

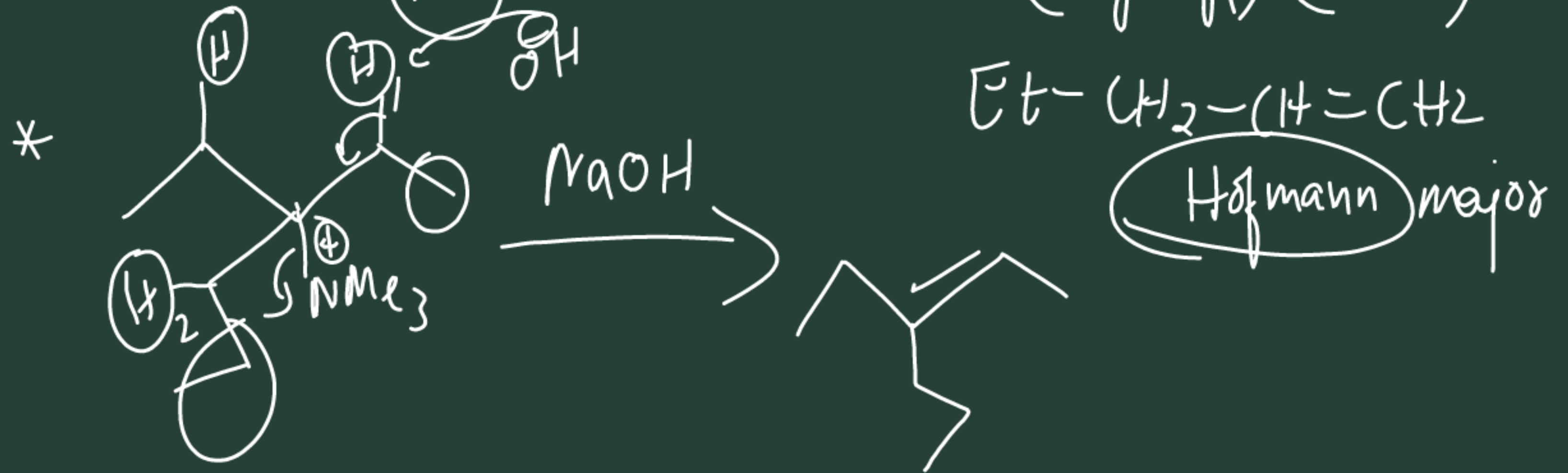
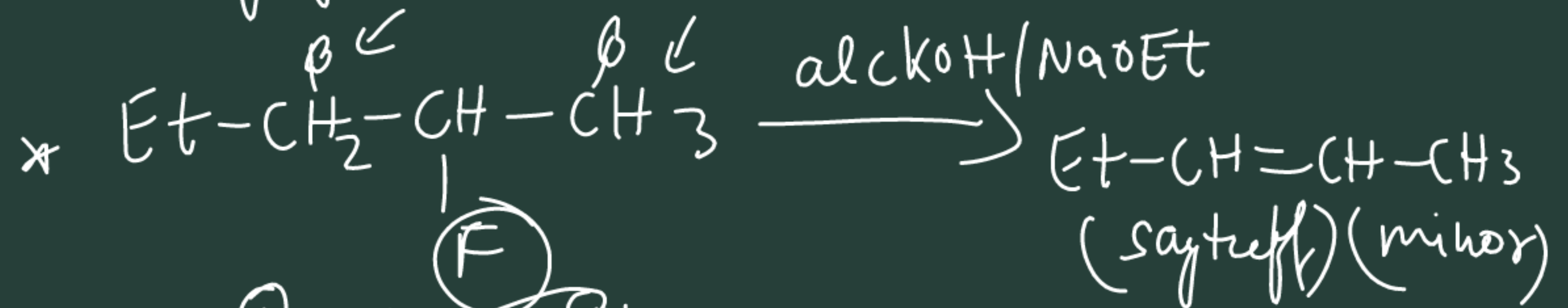


Orientation in E₂ → Hofmann vs Saytzeff



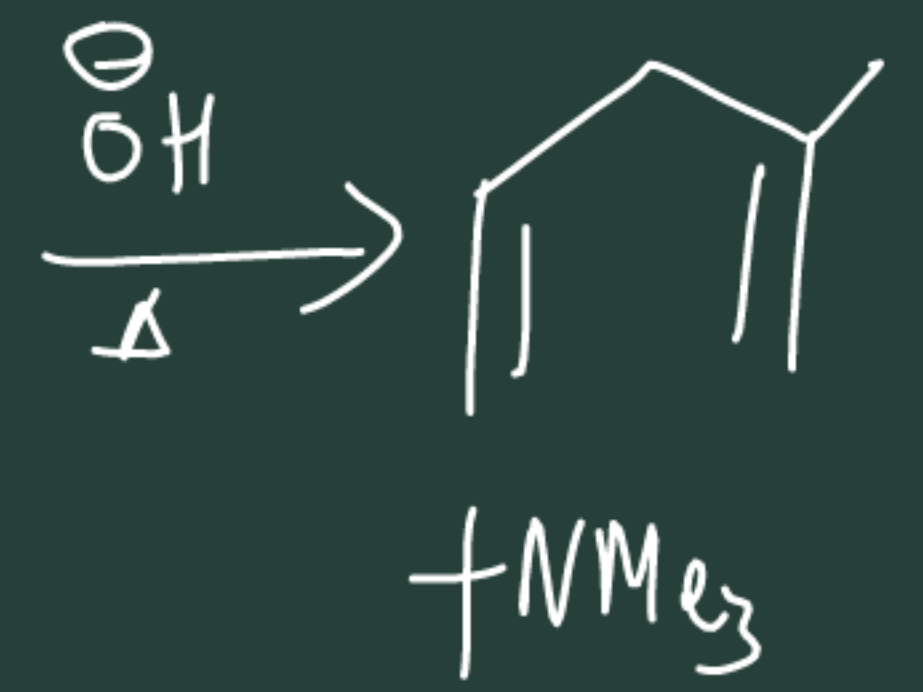
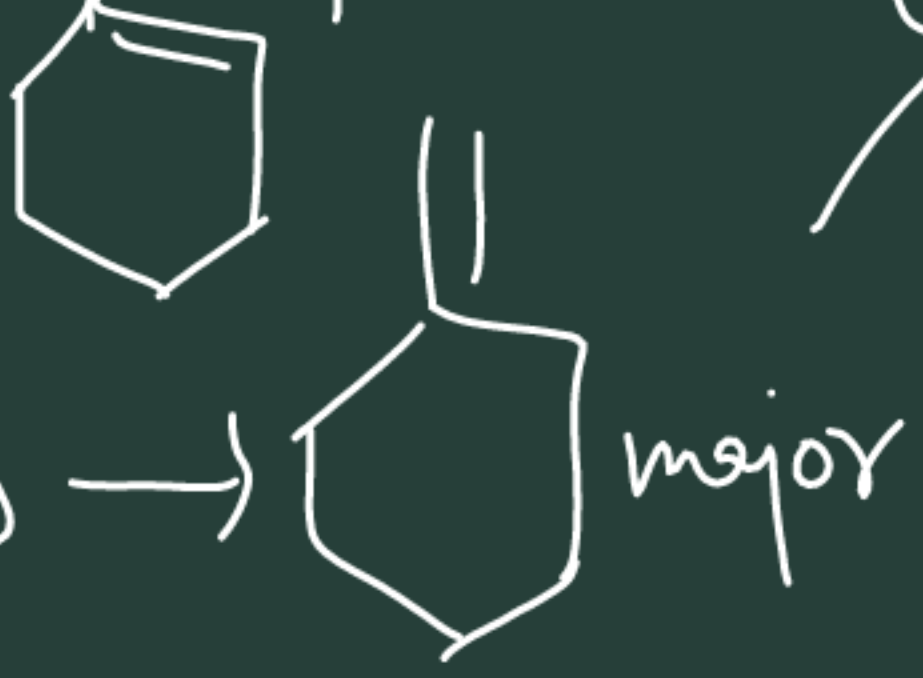
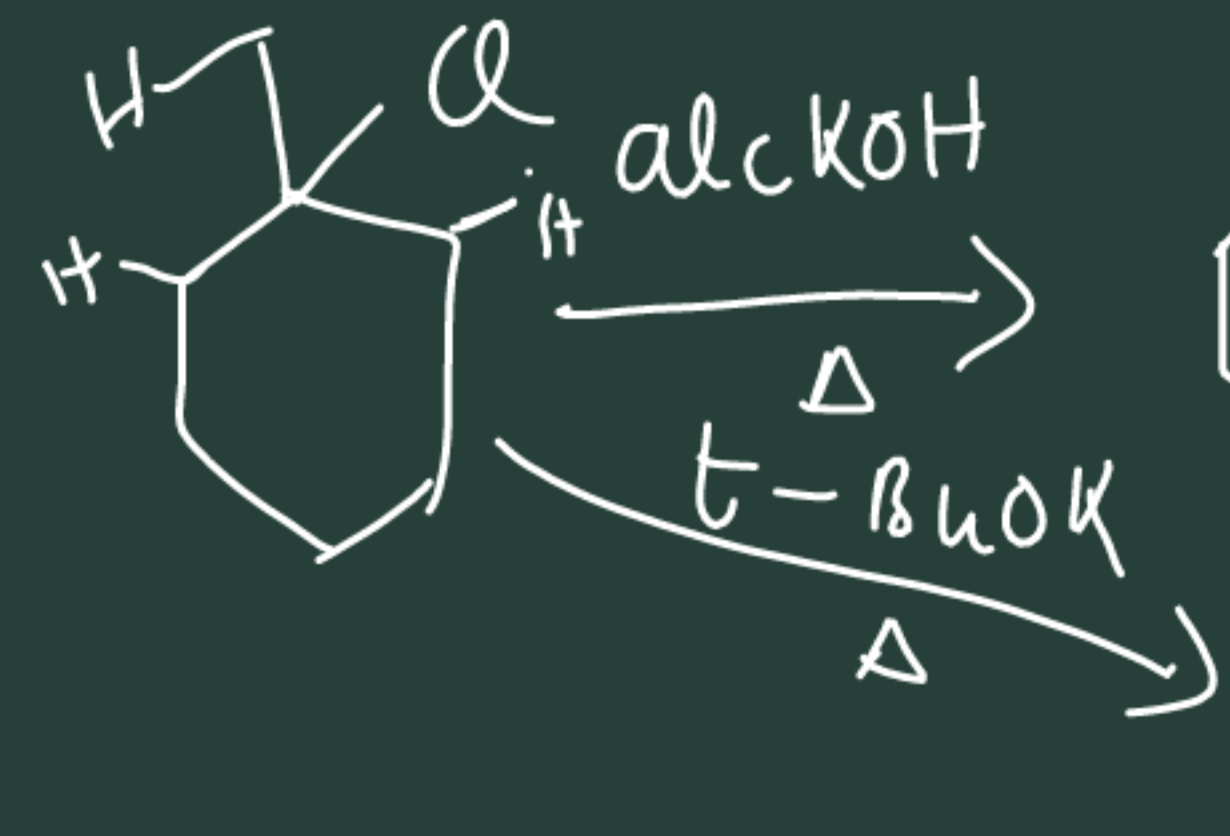
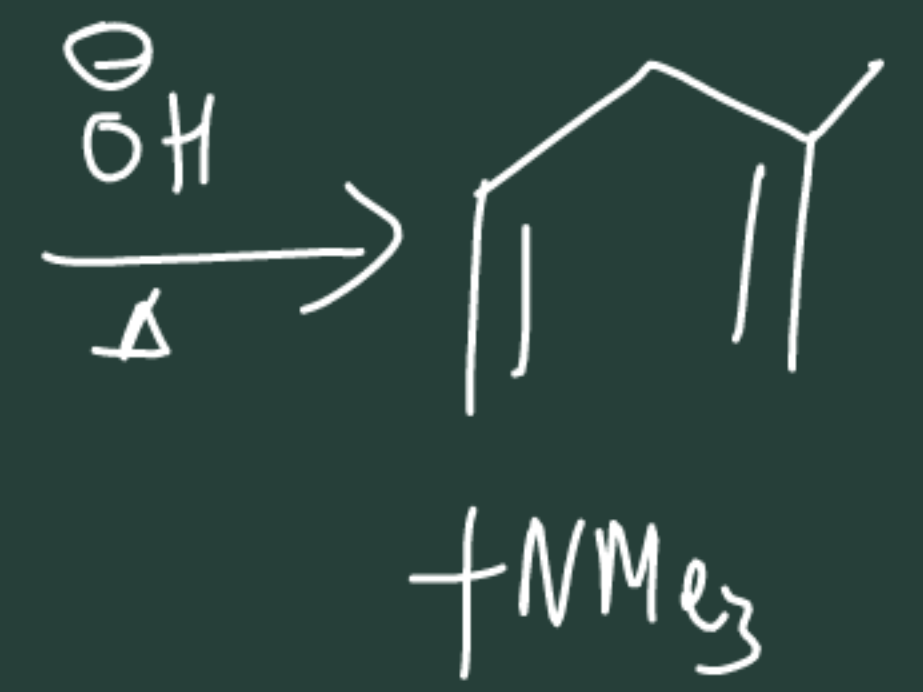
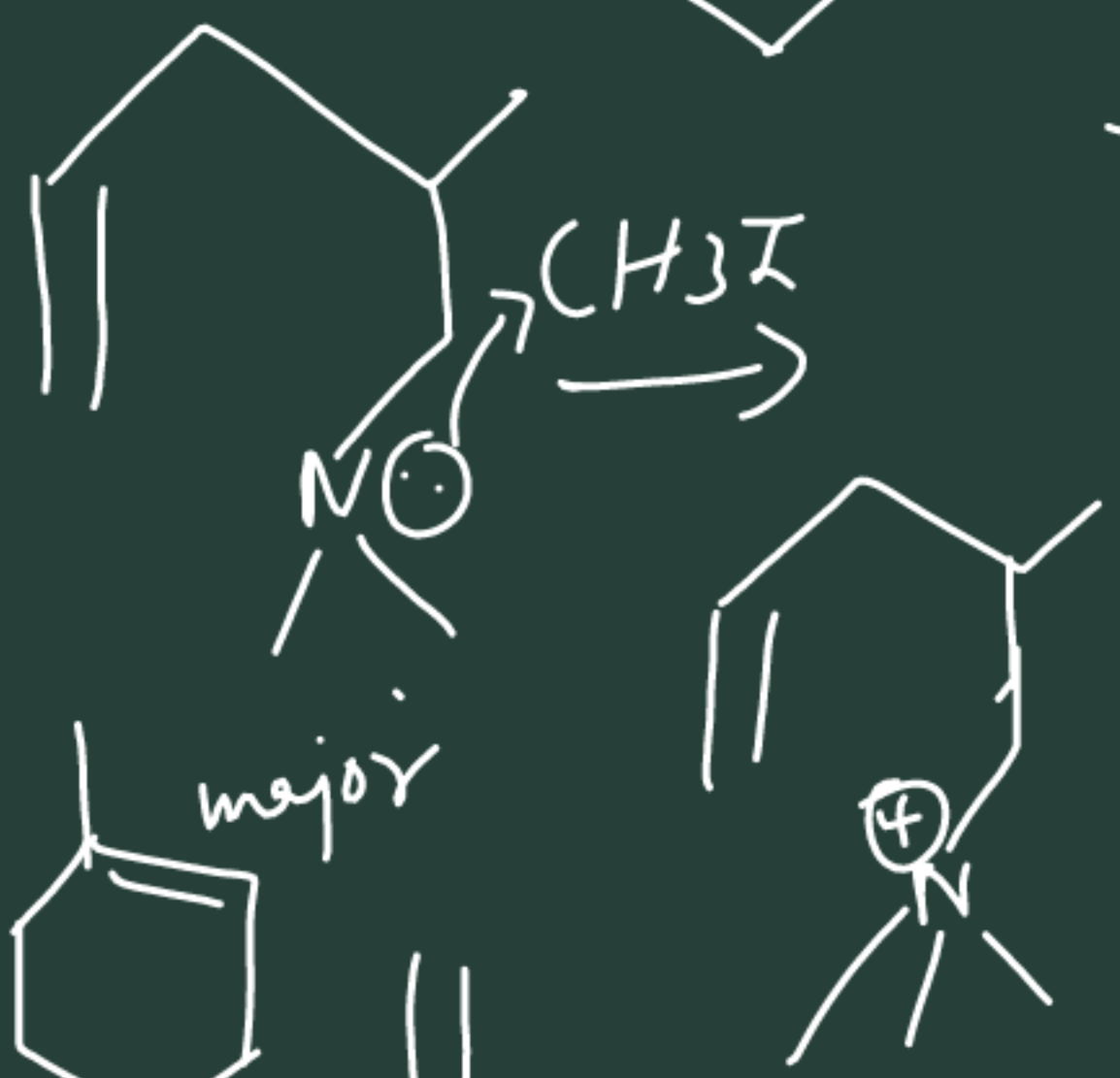
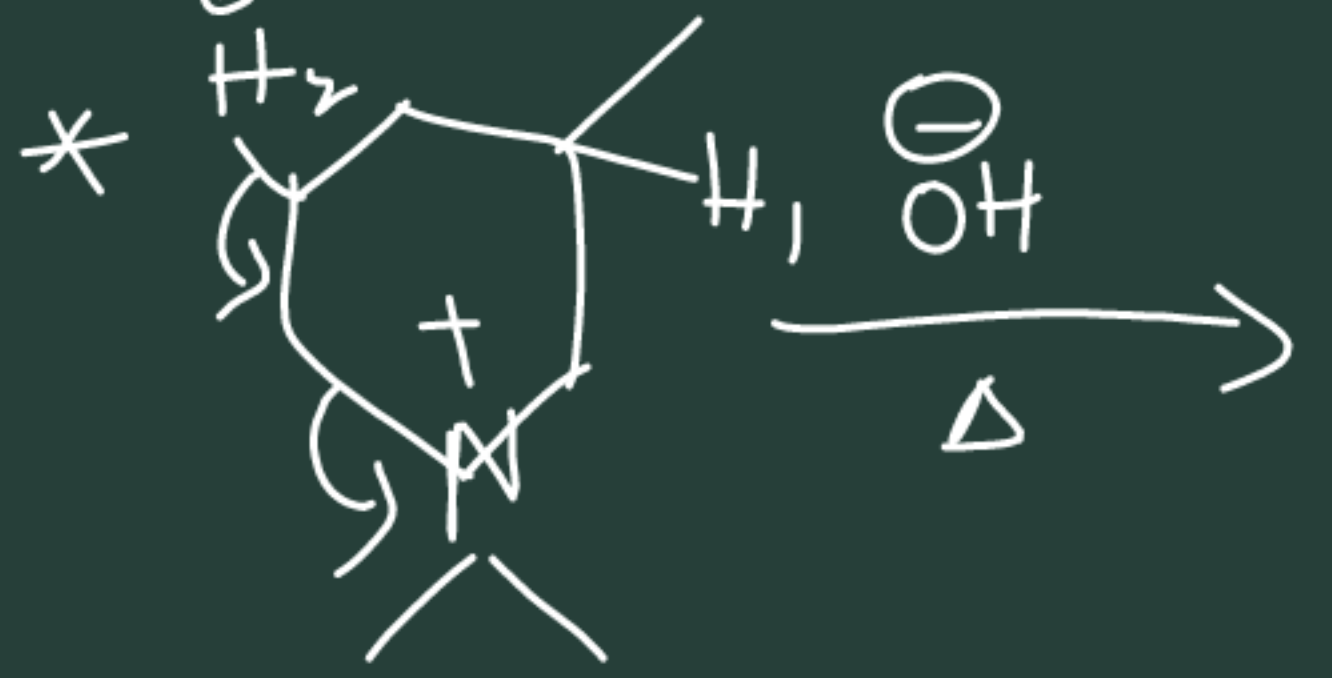
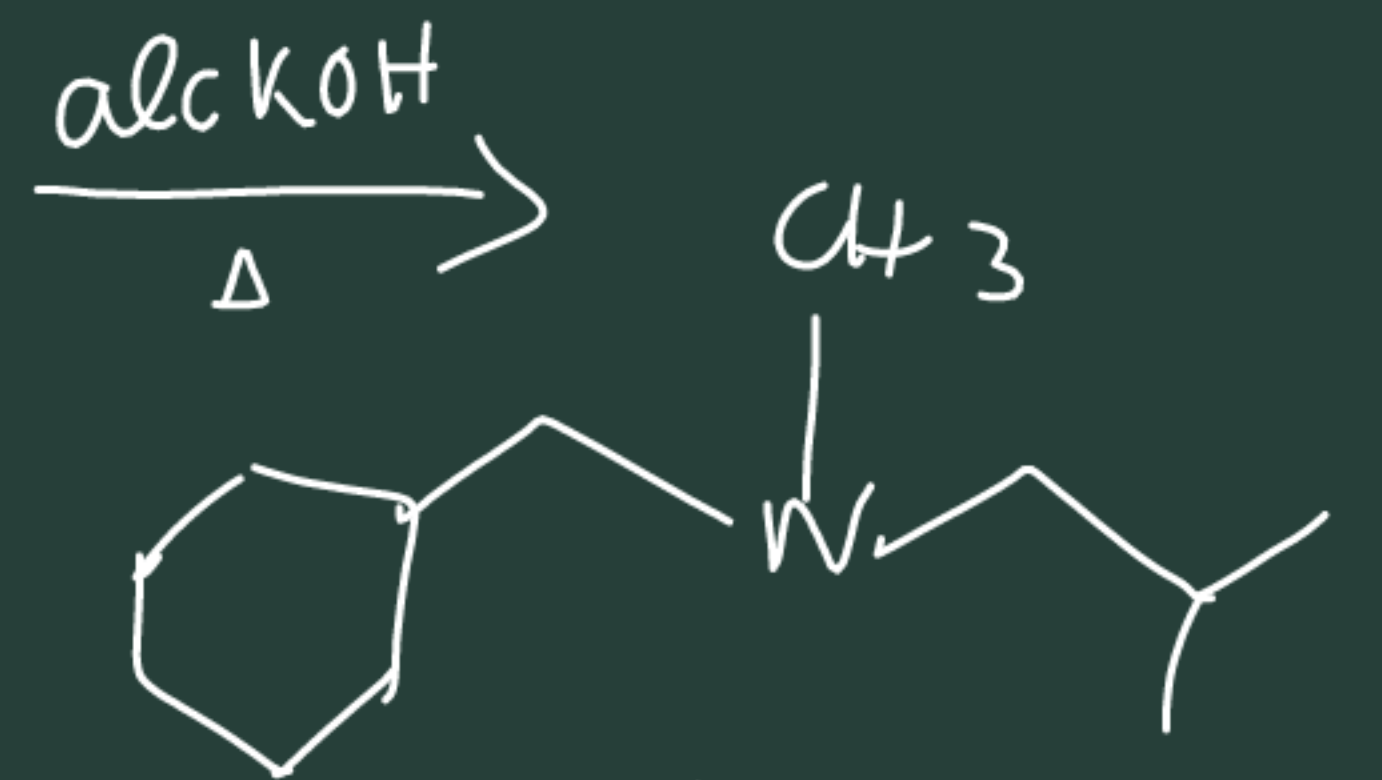
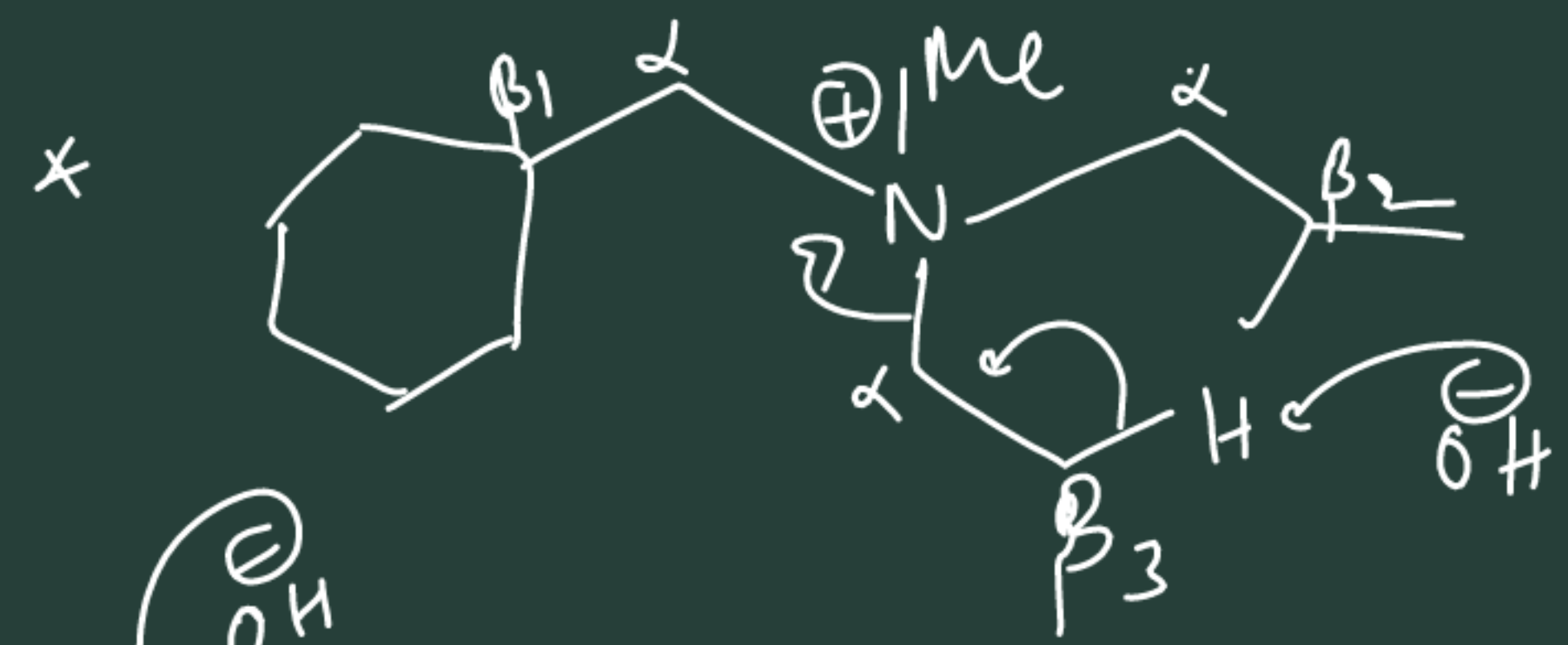
① Bulky base favours Hofmann alkene
→ like t^\ominusO

② poor leaving group favours Hofmann

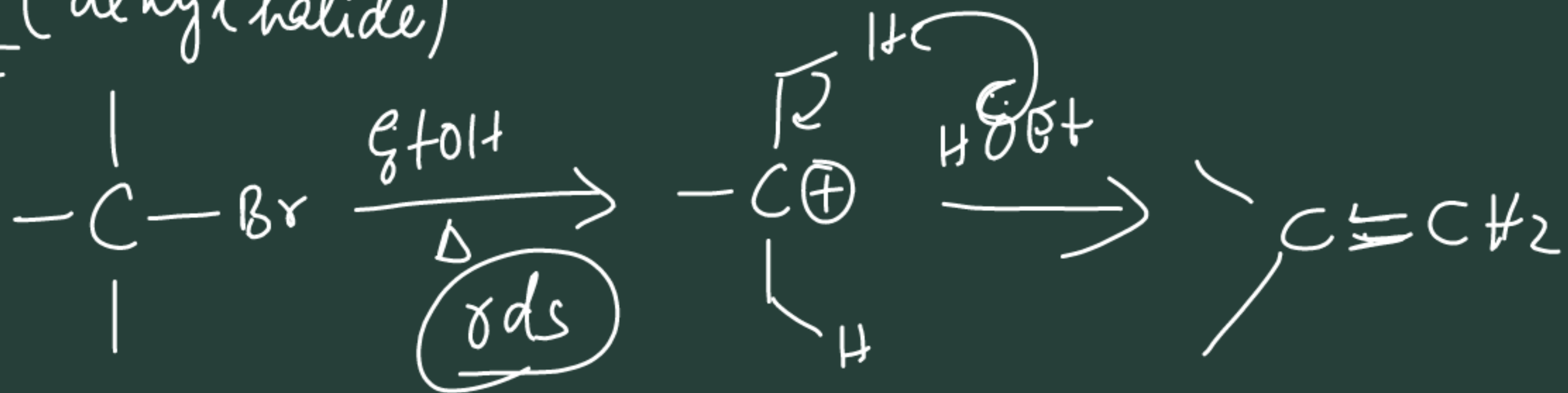




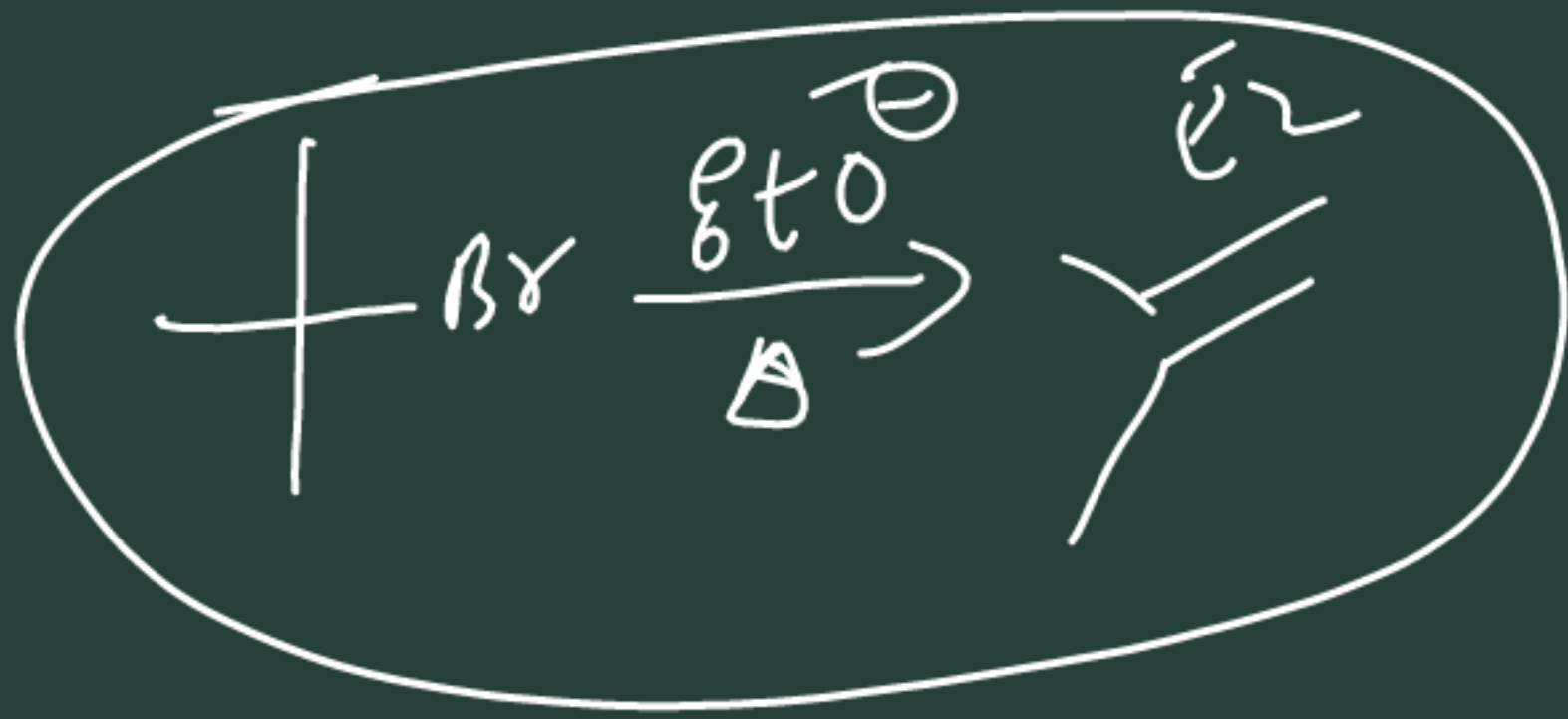
v.gmp
**



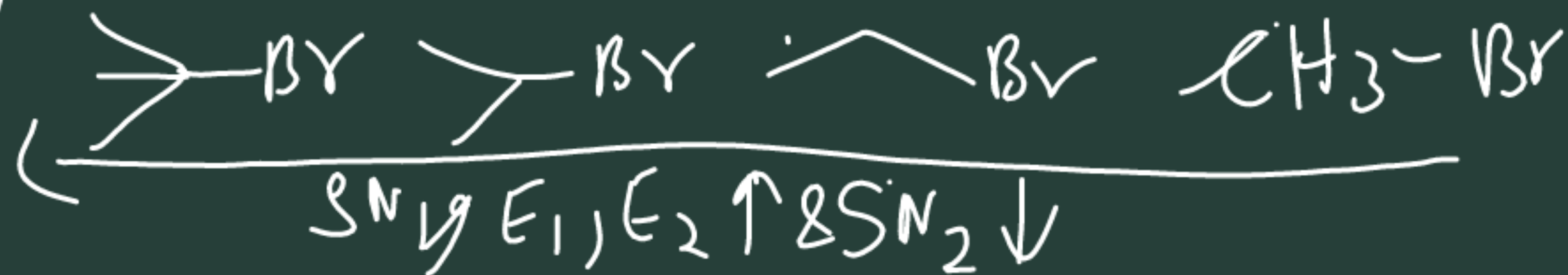
E₁ elimination (alkyl halide)

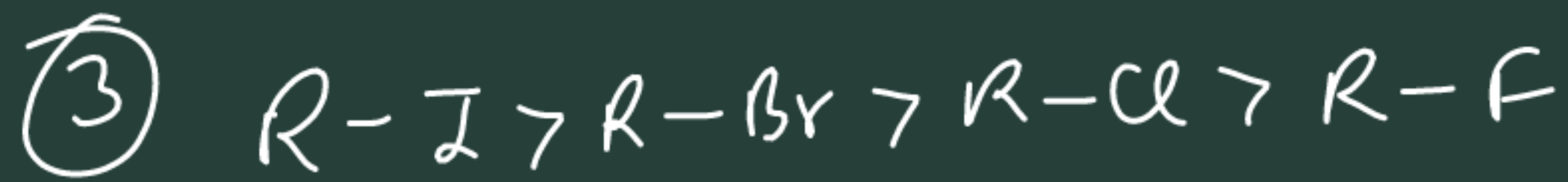


Characteristics



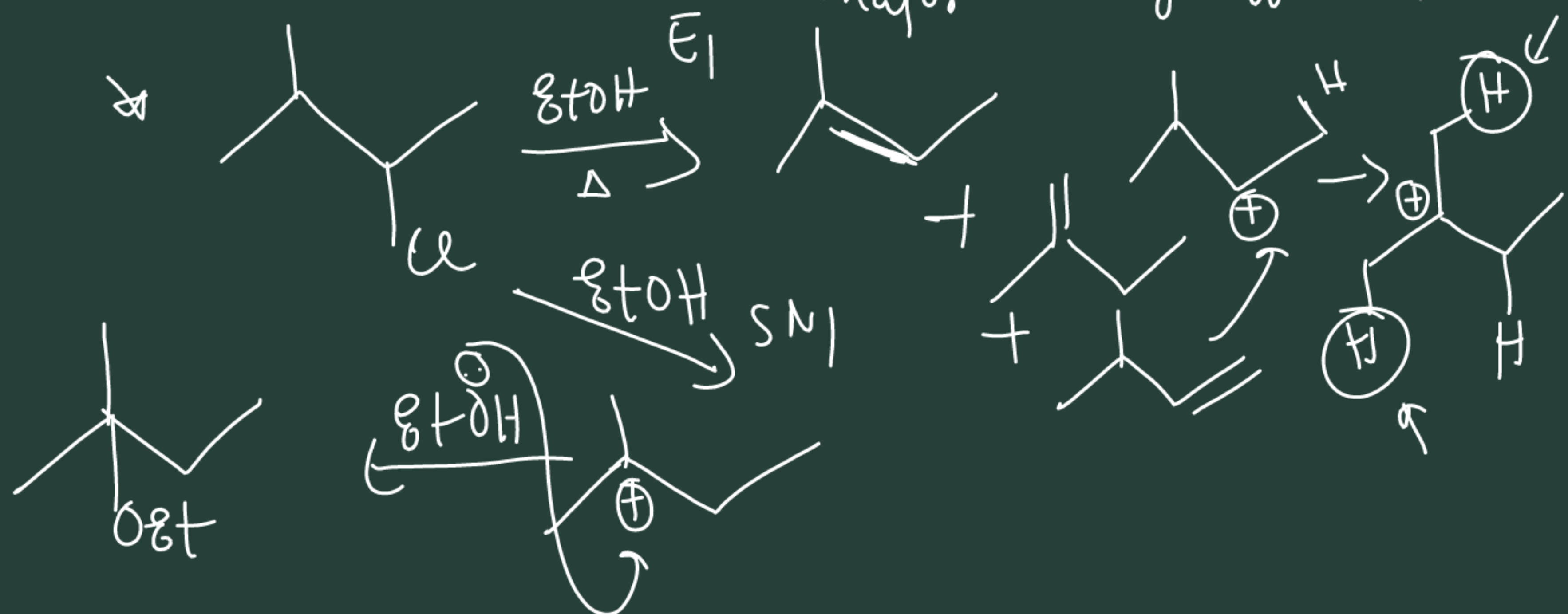
- 1) rate $\propto [\text{R}-\text{Br}]$ $O=1; M=1$
- 2) formation of the carbocation is the rds.

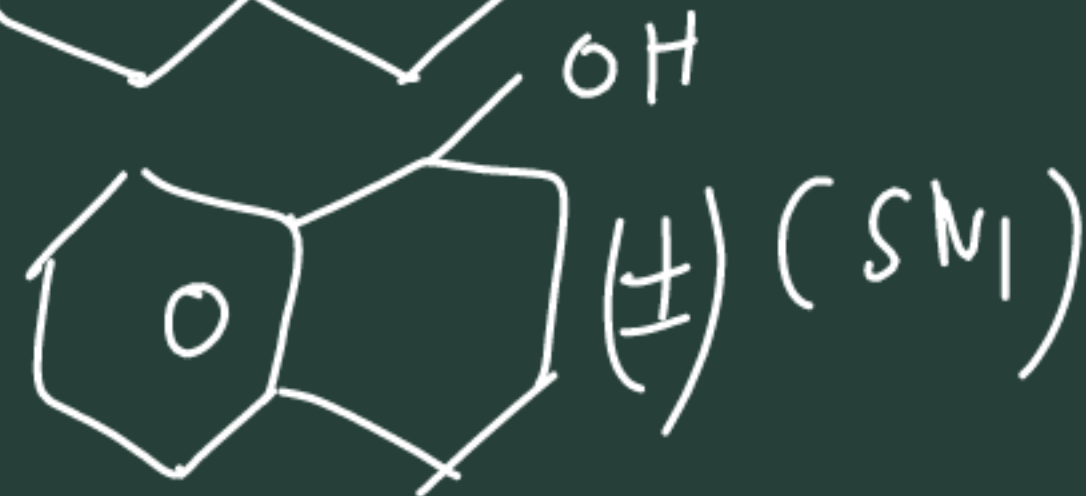
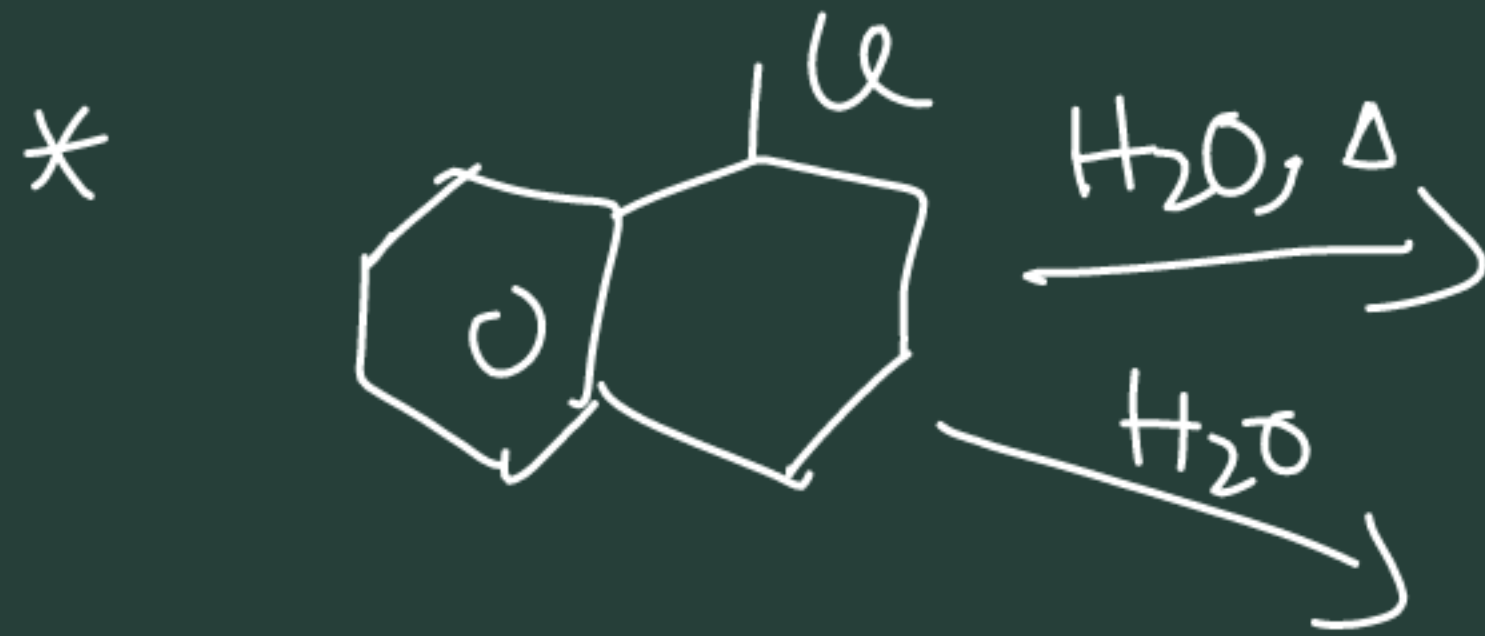
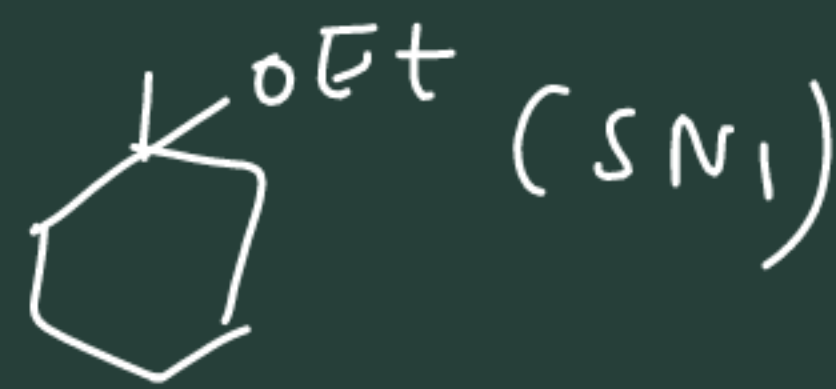
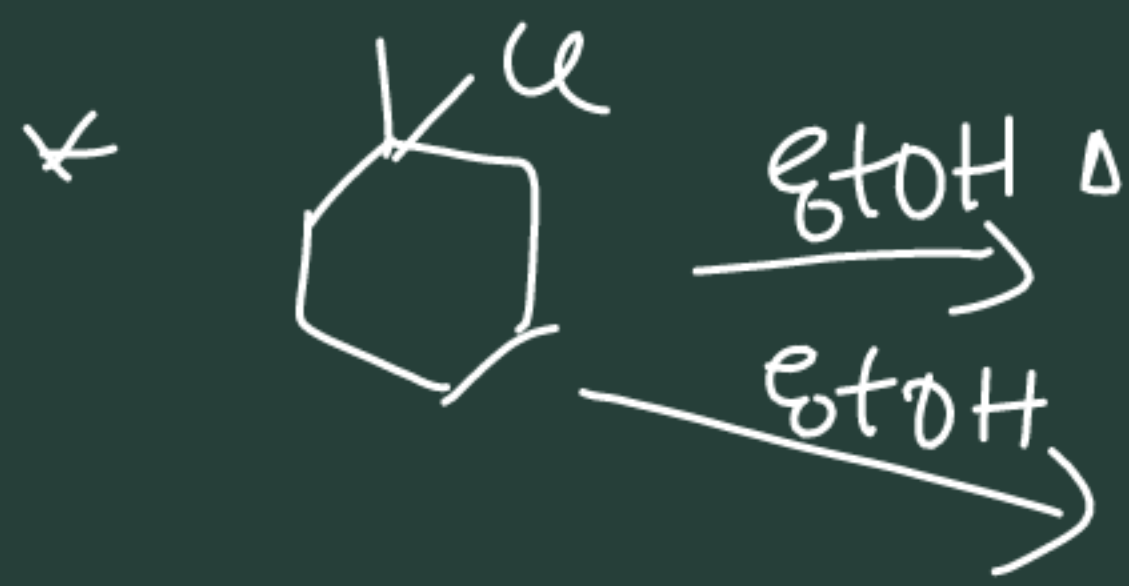




④ Rearrangement occurs in this rxn

⑤ More ~~with~~ stable will be the major product always
(Say tertiary major)

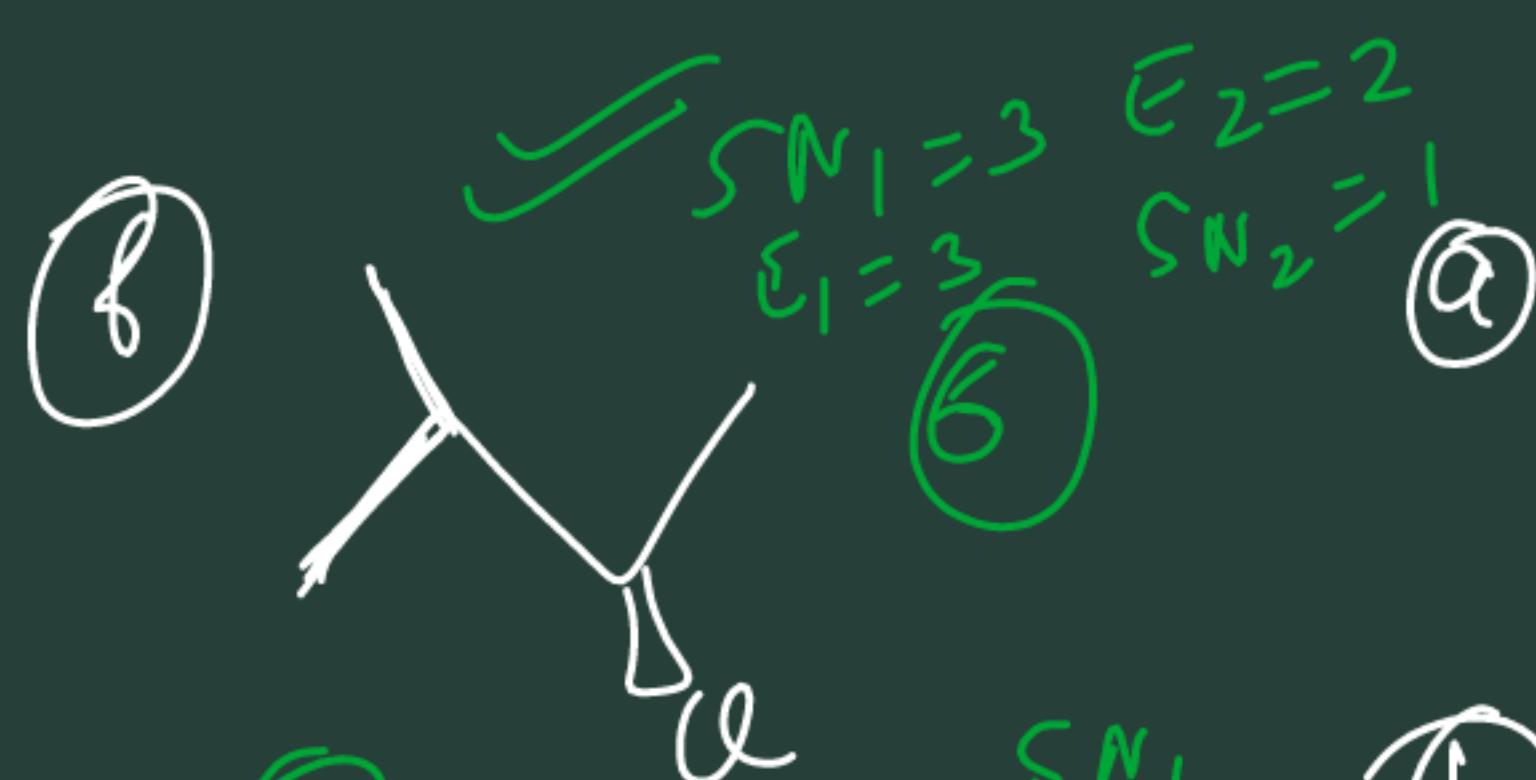




Total S_N1, S_N2, E₁, E₂
= 3

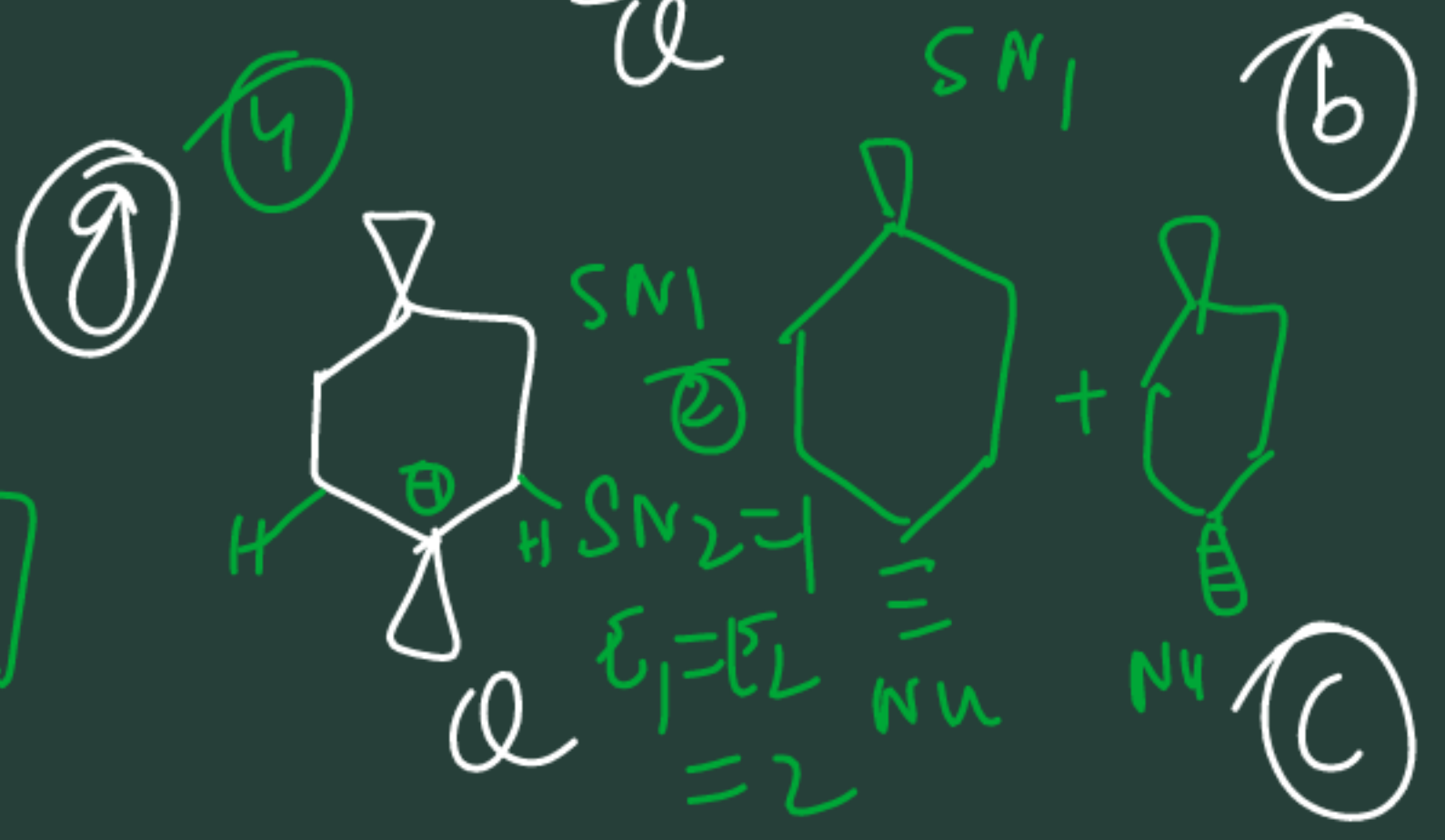
S_N1 → 1
S_N2 → 0
E₂ → 2
E₁ → 2





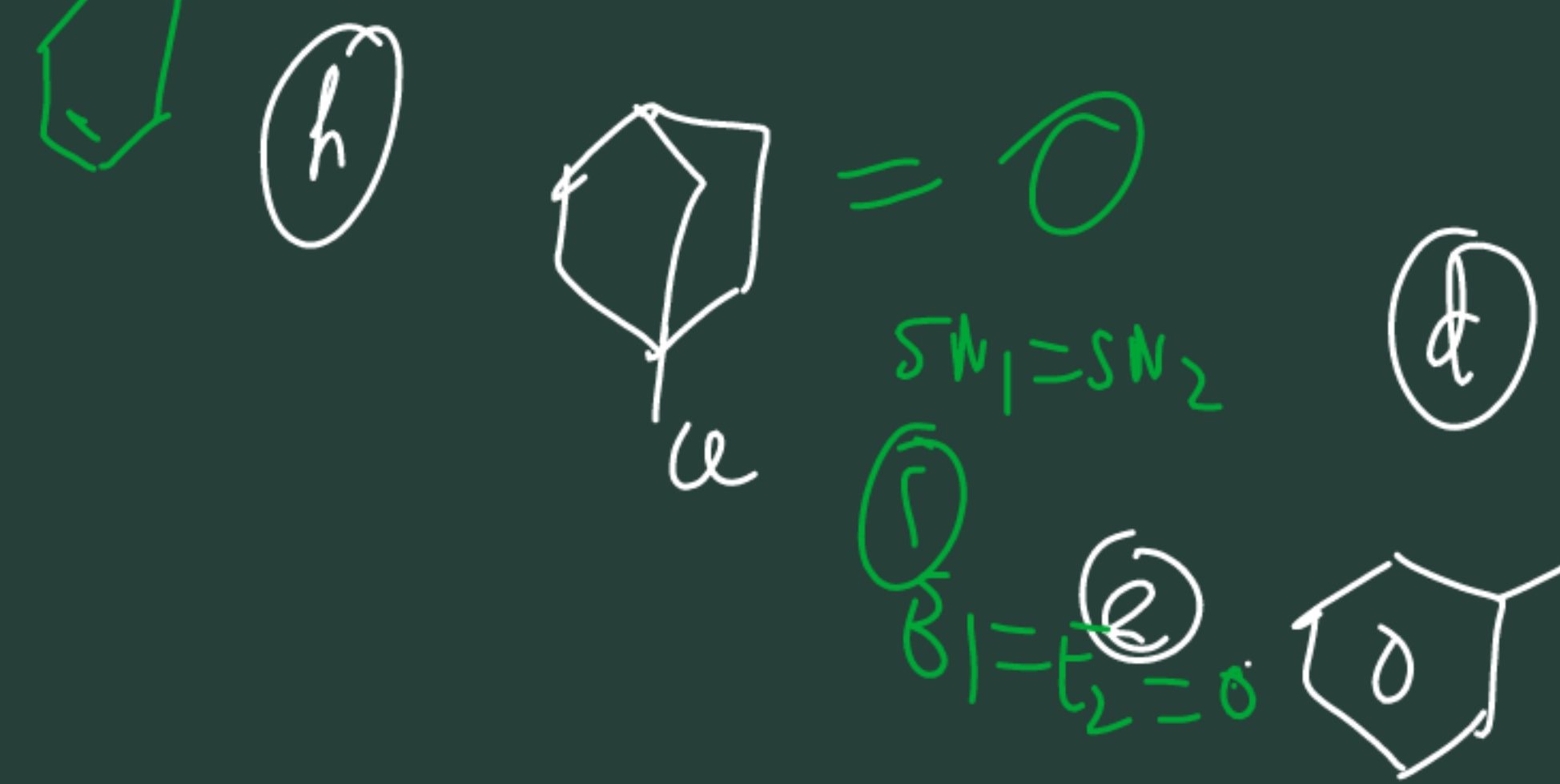
S_N1	S_N2	$E1$	$E2$	Total
1	1	1	1	2

a



S_N1	S_N2	$E1$	$E2$	Total
1	1	1	1	2

Same



$S_N1 = 3$
 $S_N2 = 1$
 $E1 = 3$
 $E2 = 1$
 Total = 6

d

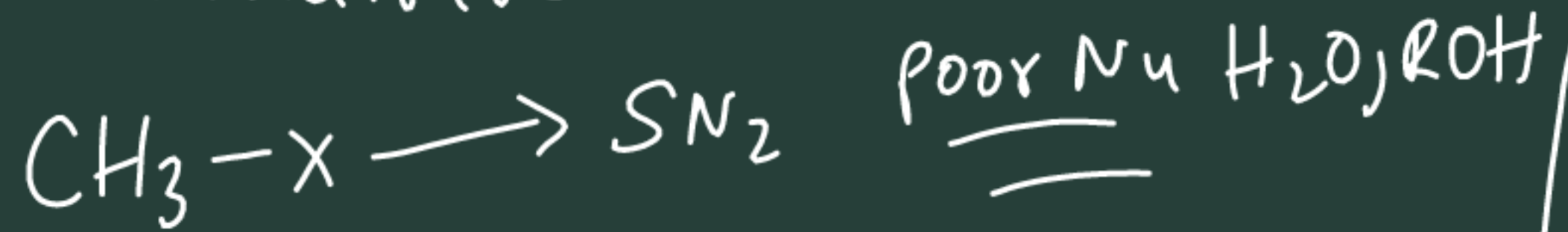
e

f

g

h

Elimination vs substitution



Good Nu
 $\text{I}^\ominus, \text{PhS}^\ominus$ (poor base)
 $\text{SN}_2 \checkmark$



excellent SN_2

Strong base
 $\Delta \rightarrow$ elimination
 (E_2)



||

excellent SN_2

E_2



SN_1, E_1
 (Δ)

SN_2

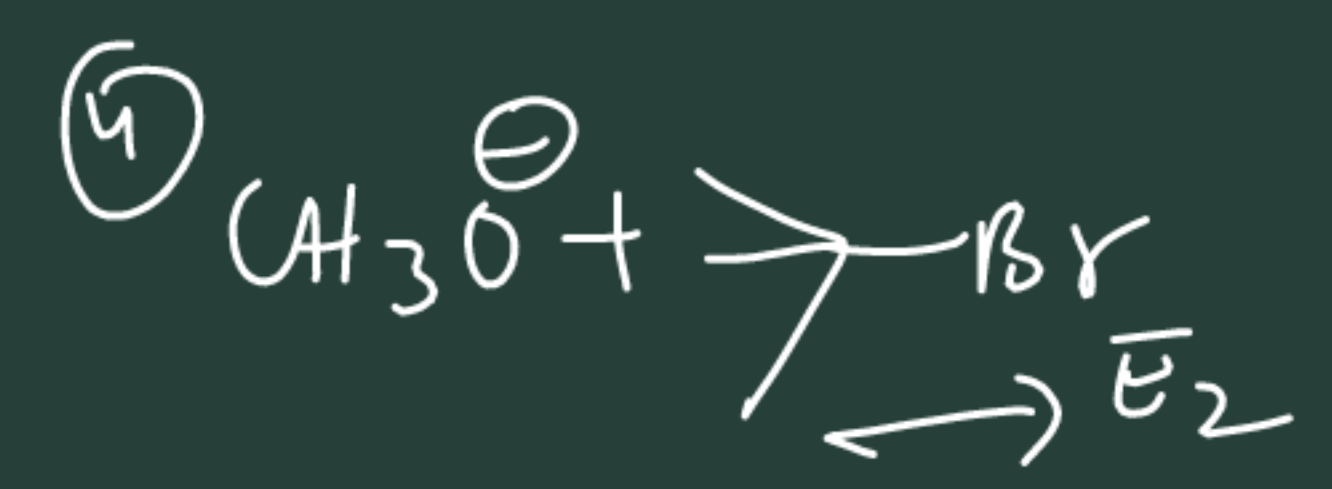
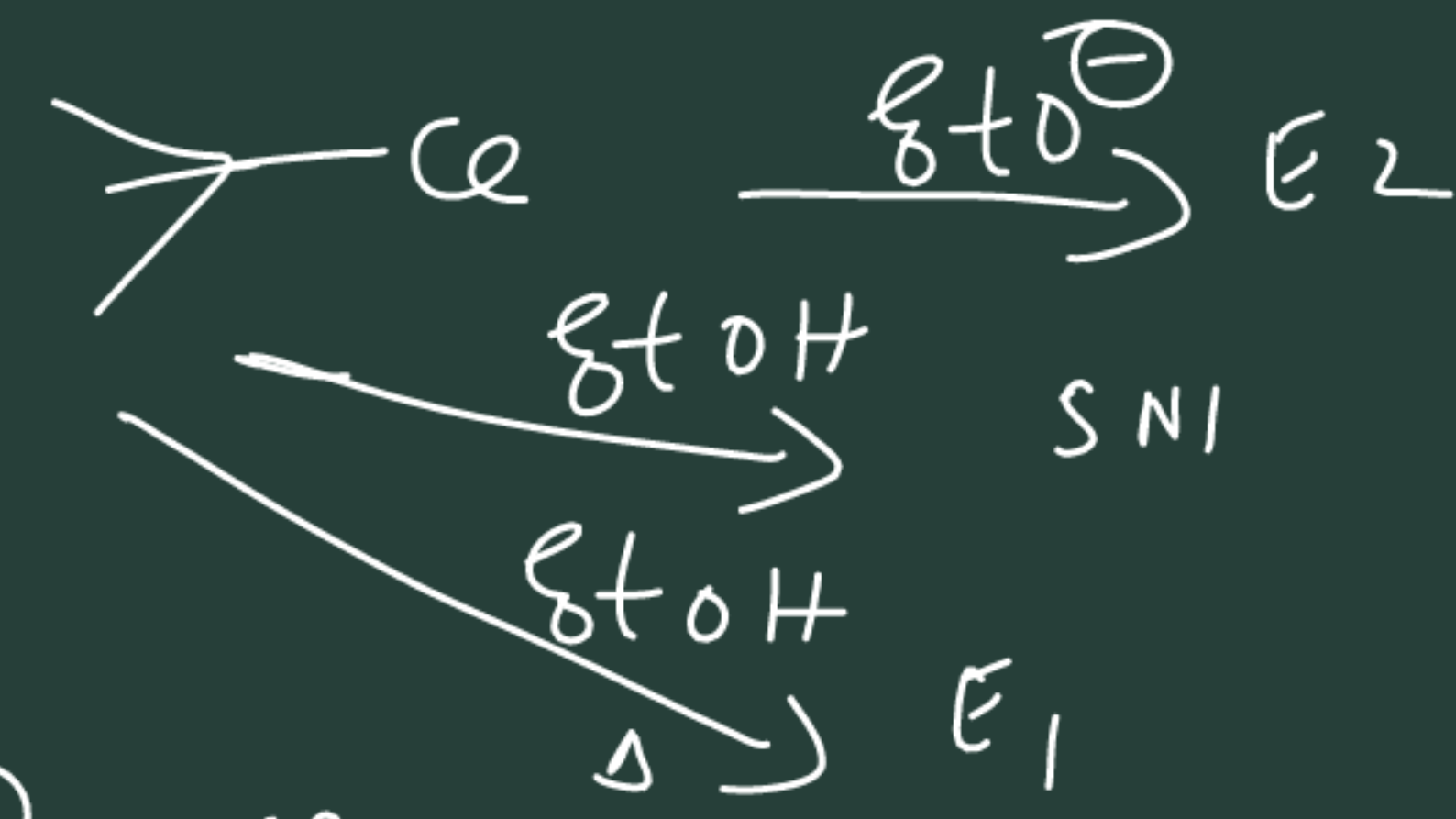
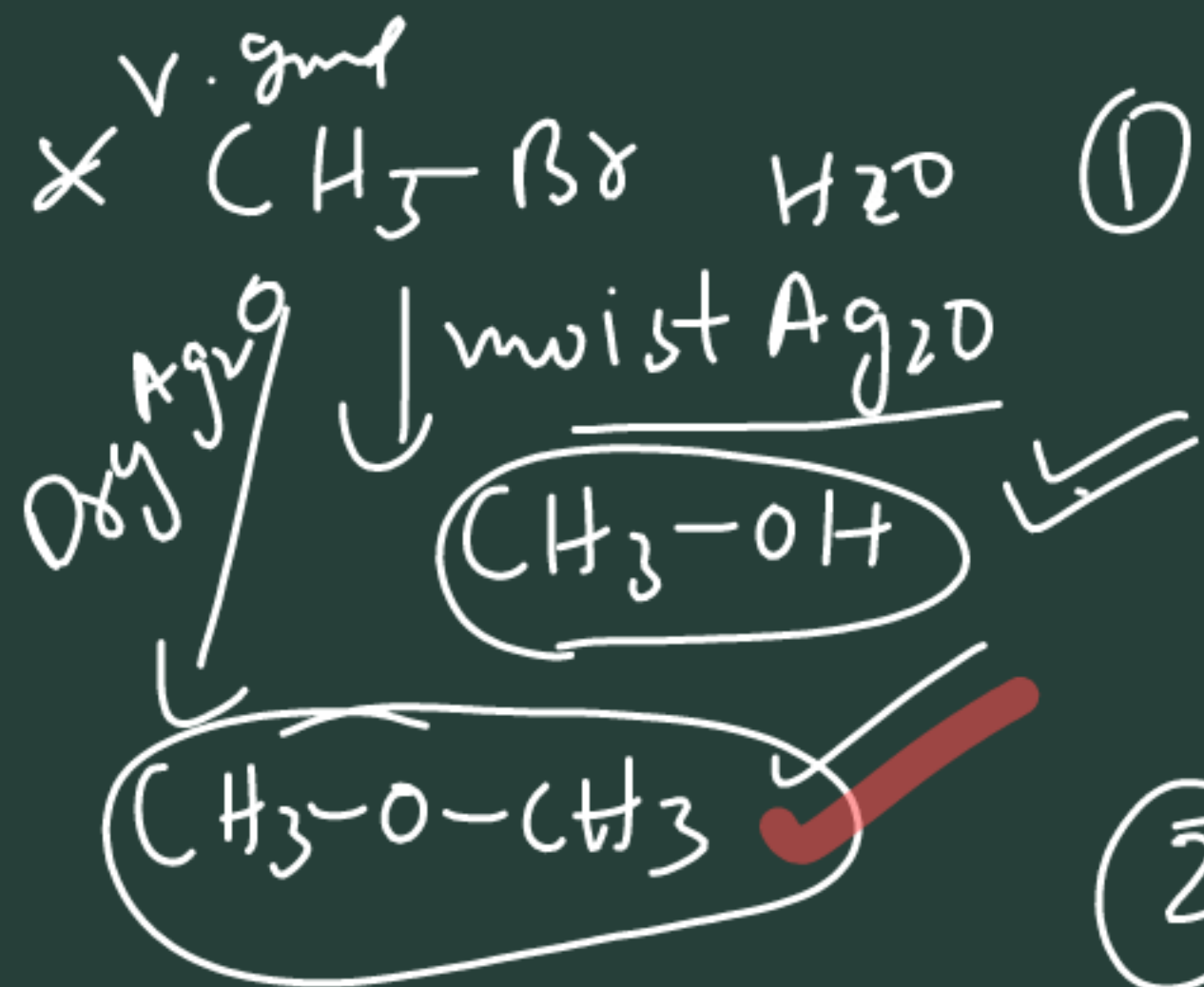
E_2, SN_2
 (Δ)



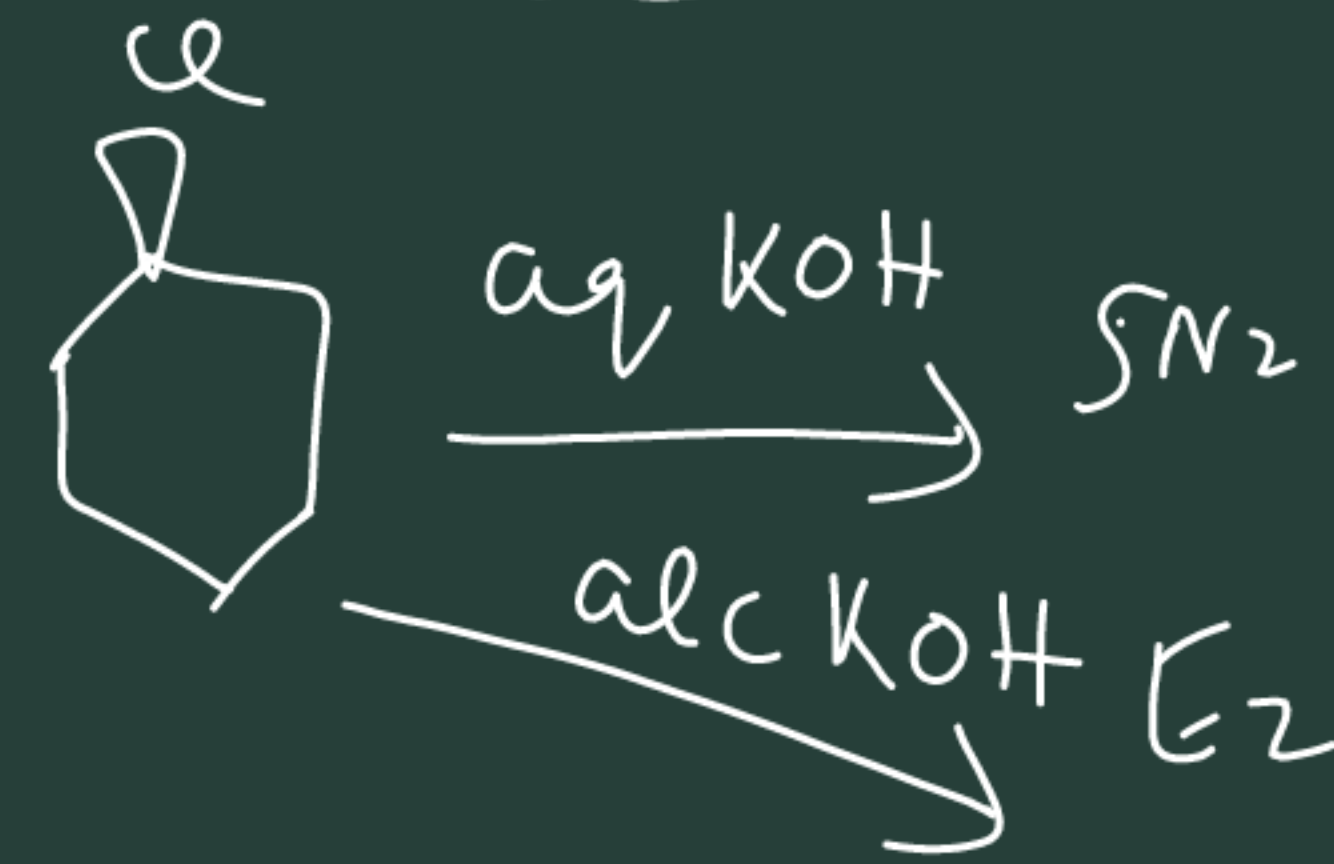
SN_1, E_1
 (Δ)

X

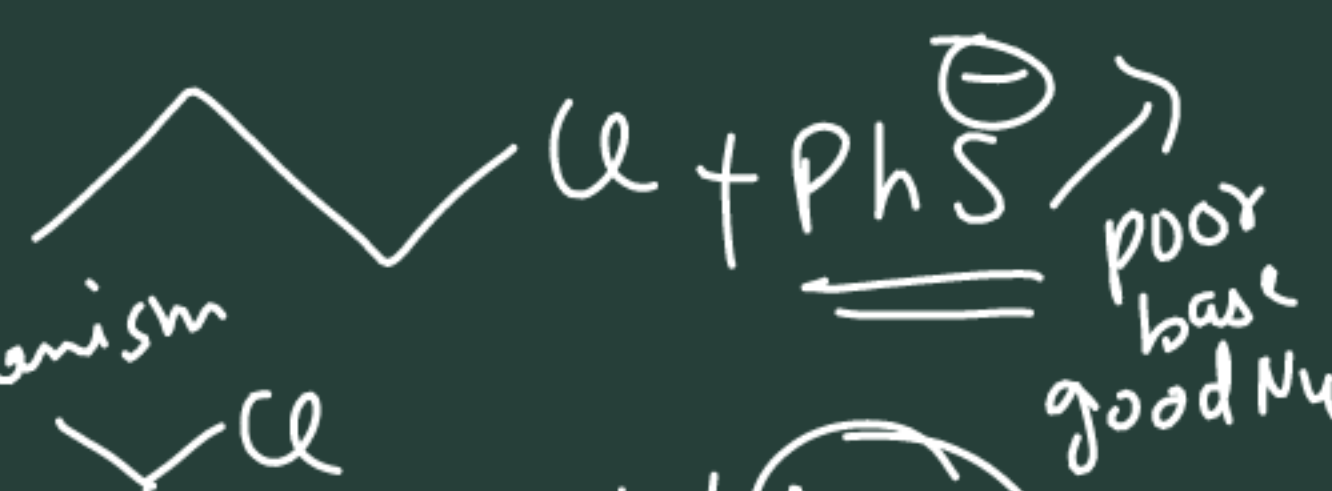
E_2



(2)

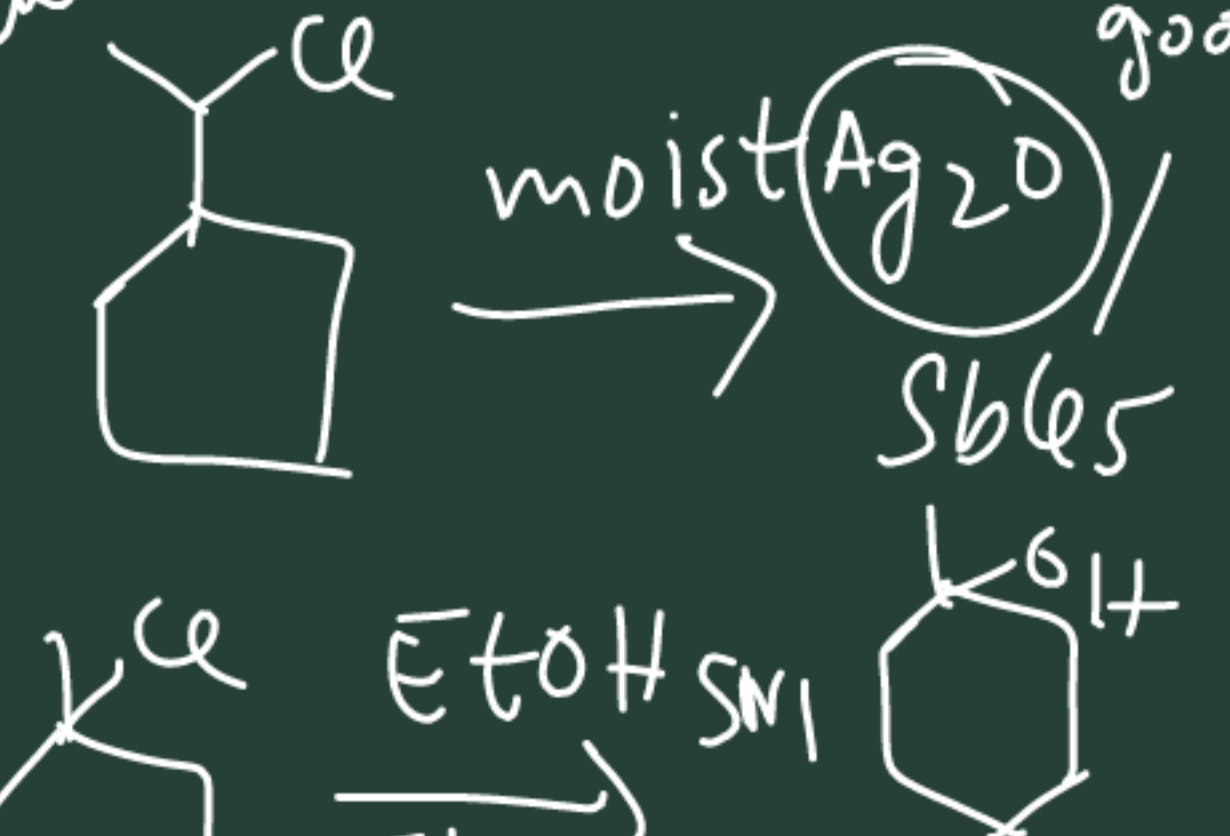


(5) $\text{S}_\text{N}2$

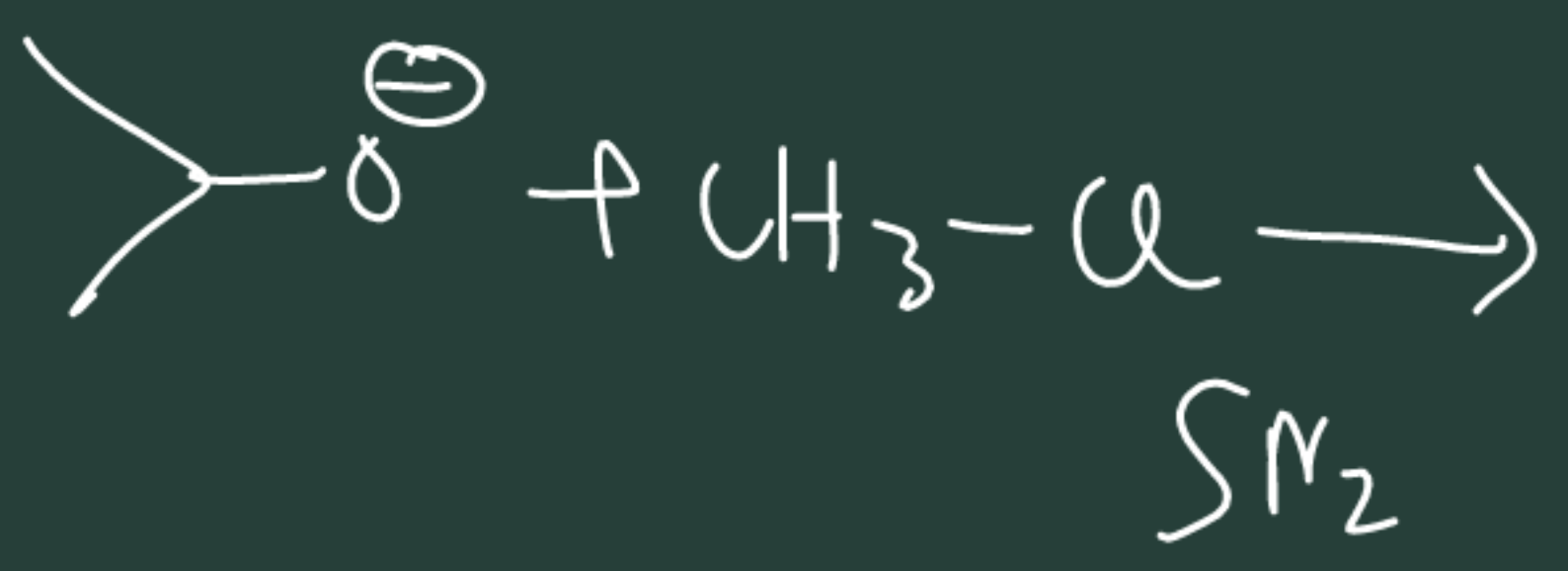


* L.A. promotes $\text{S}_\text{N}1$ mechanism

(6)



(3)



Draw prod uct *

