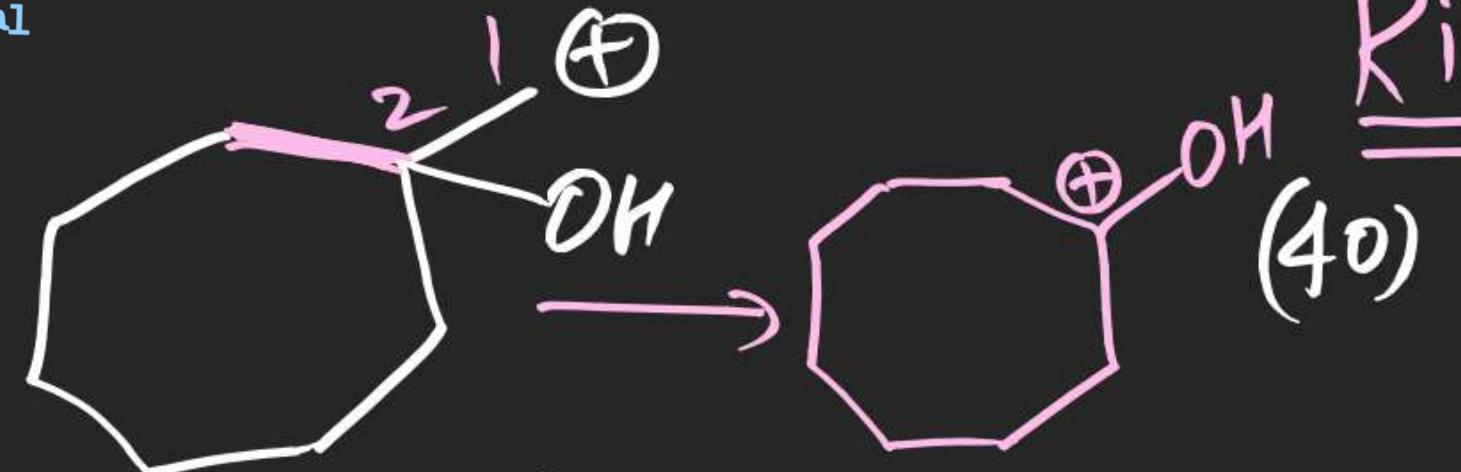
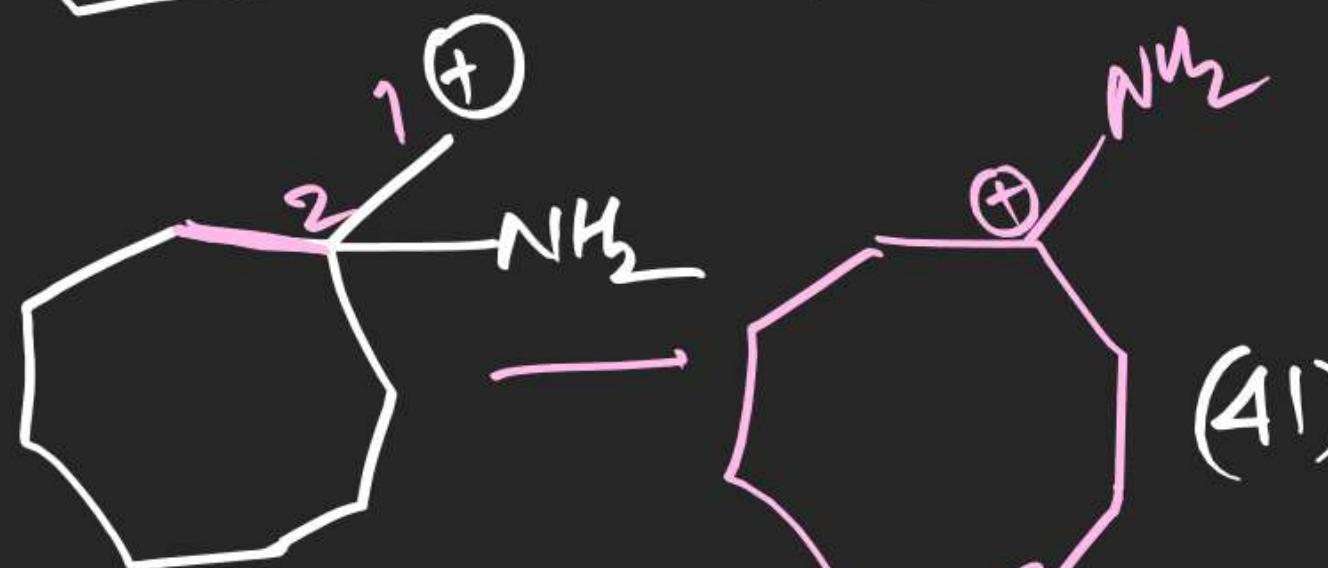


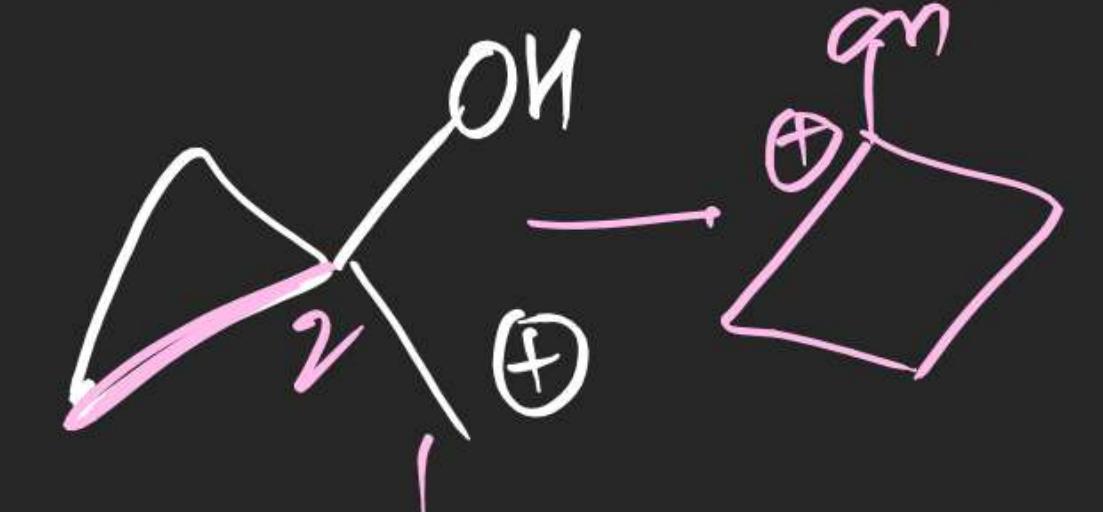
(37)



(38)

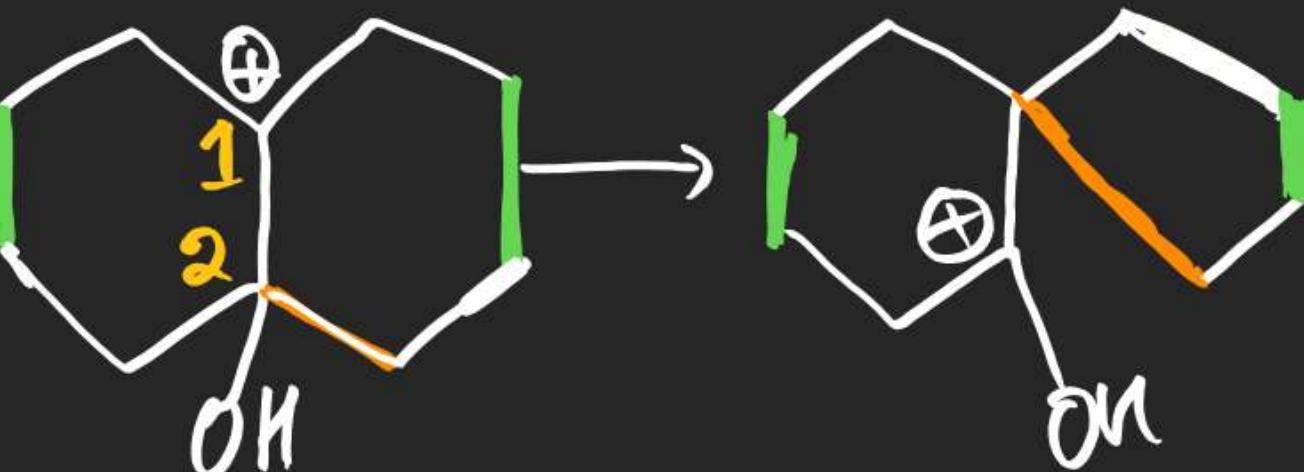


(39)



Ring Contraction (1,2 shift)

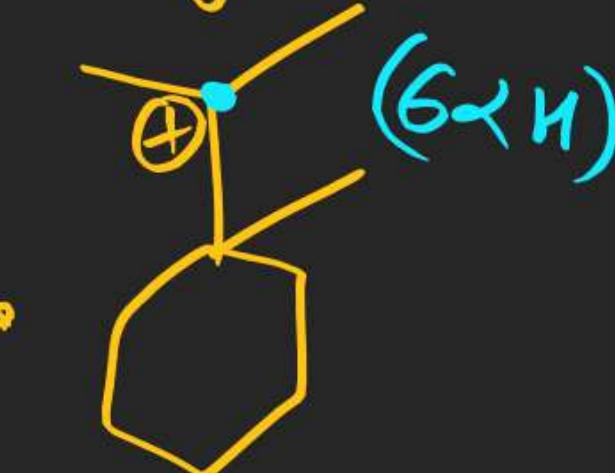
(40)

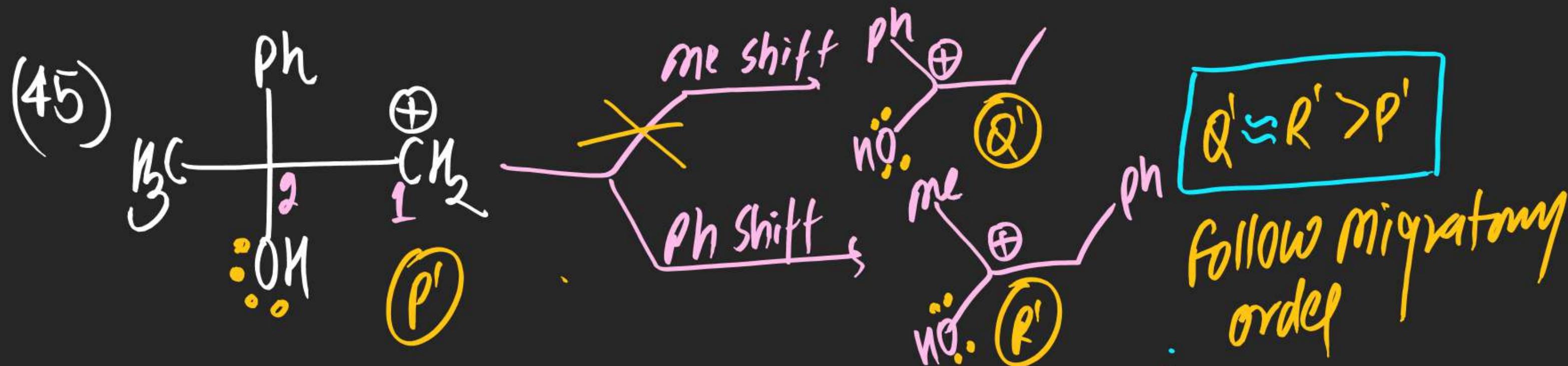
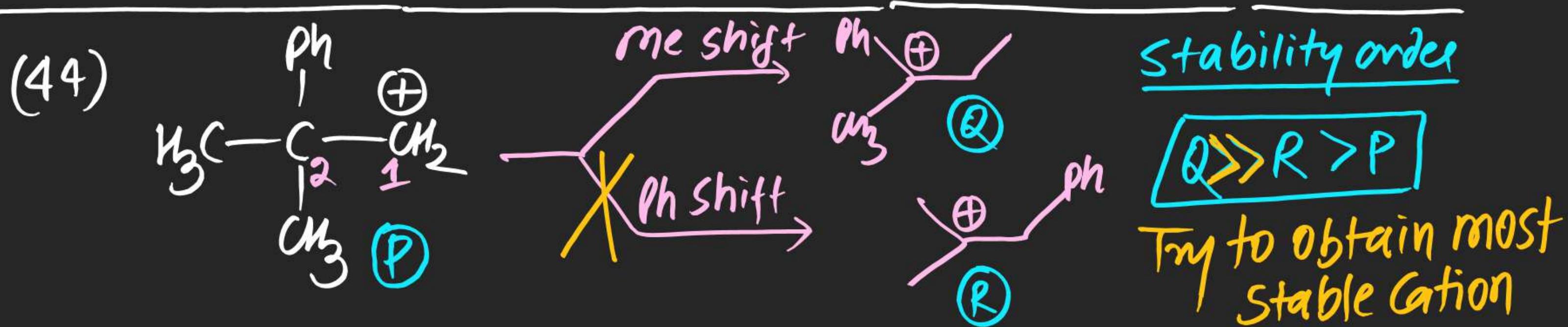
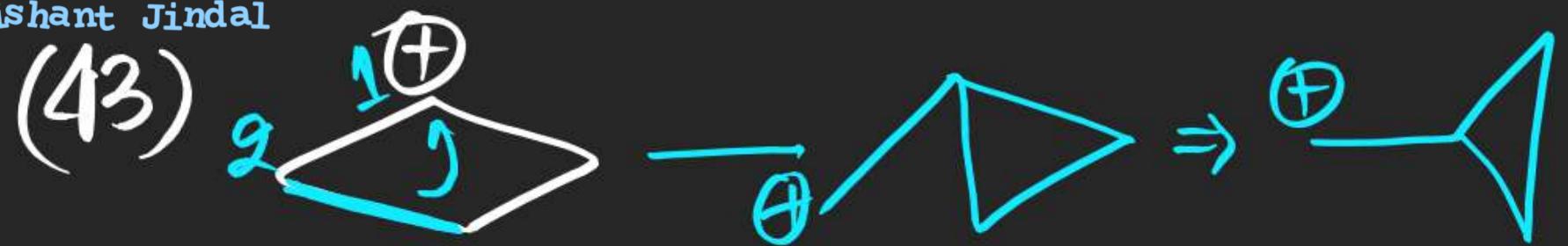


(41)

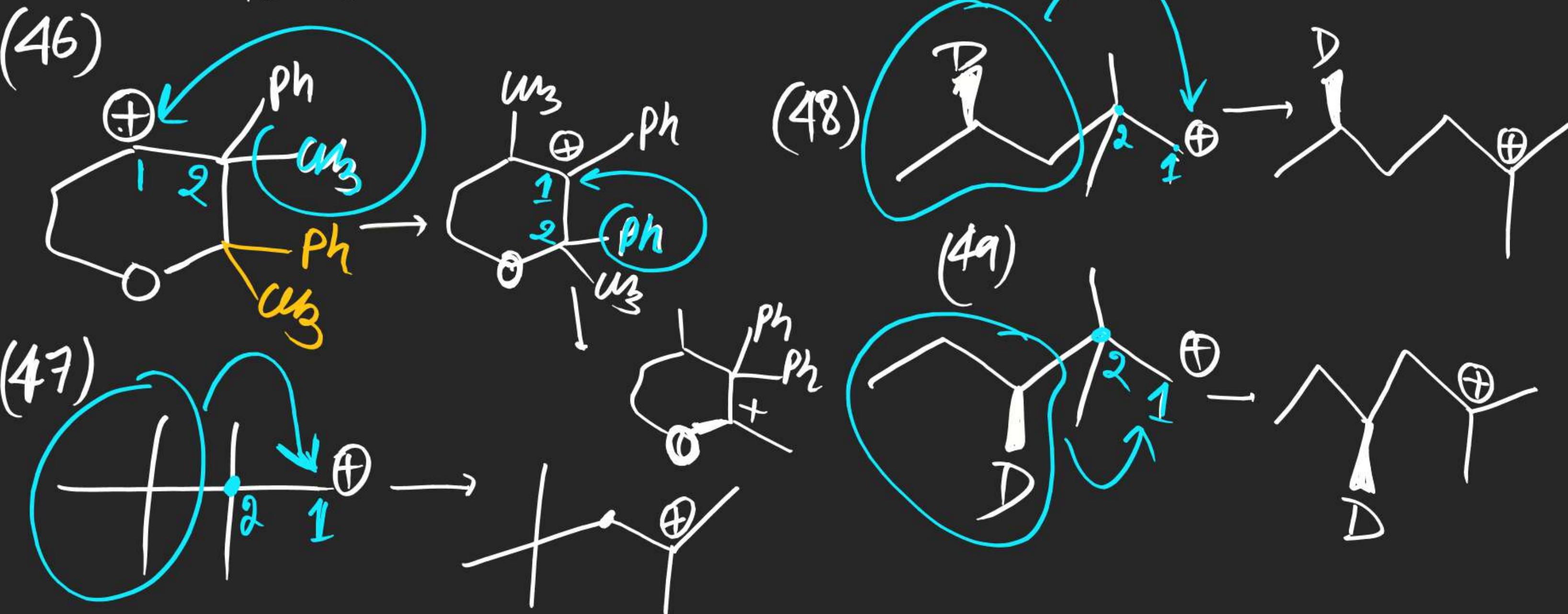


(42)

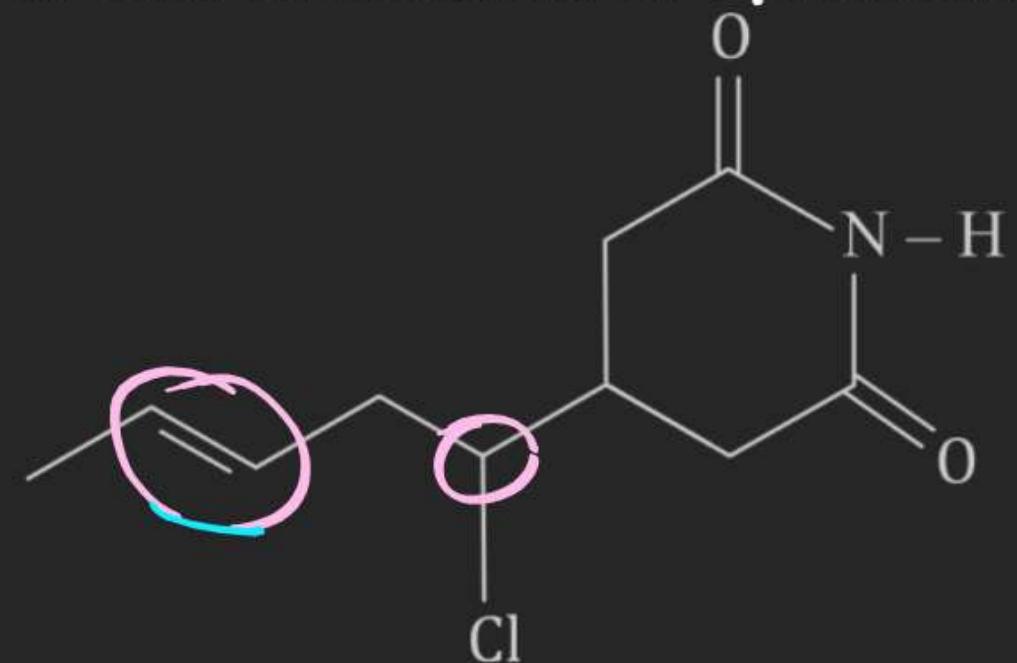




Note: when Cation is Back Bonding stabilised just after Recombination follow migratory order otherwise Try to obtain most stable Cation



Q.88 Total number of stereoisomers are possible for the given compound is:



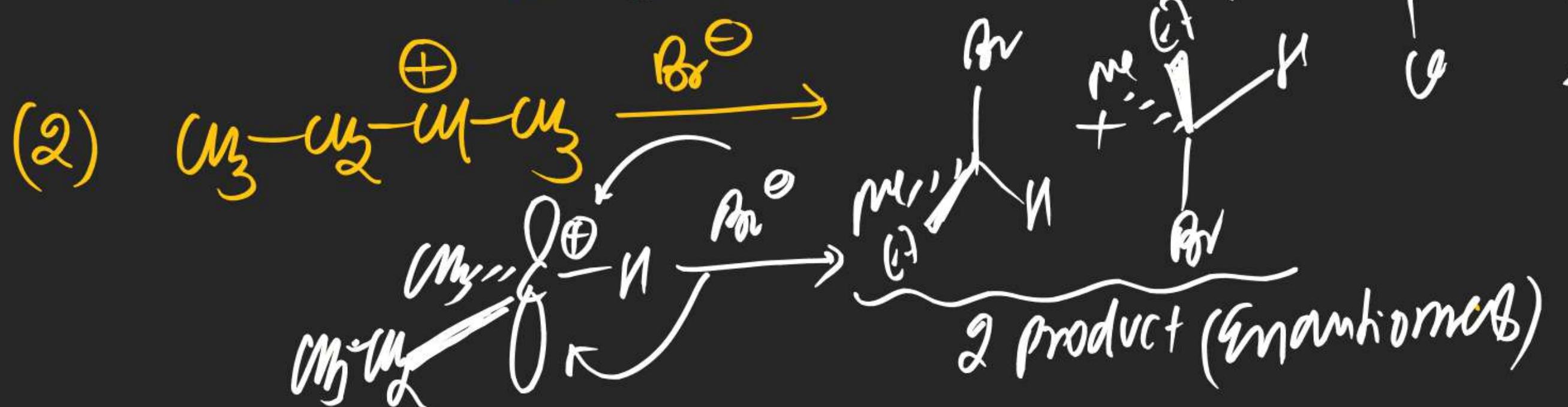
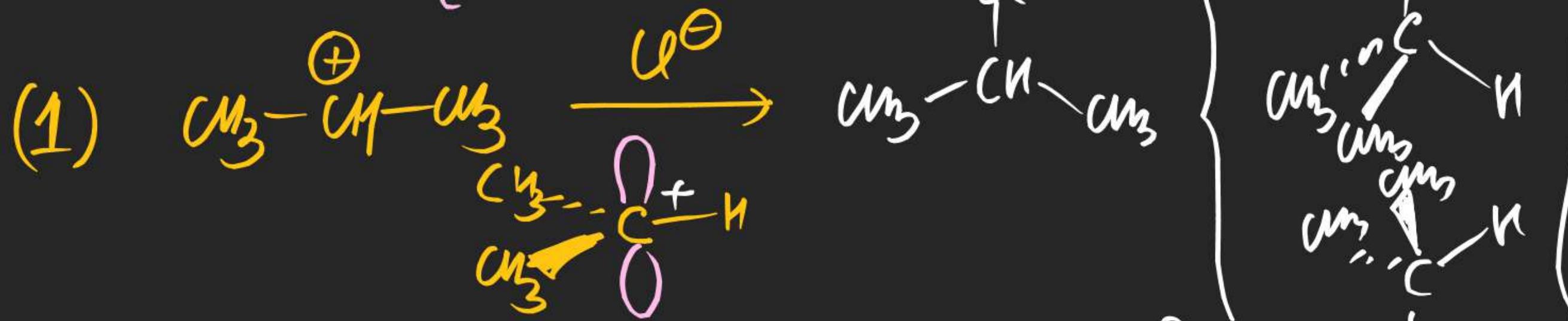
$$\text{Total stereoisomers} = 2^2 = 4$$

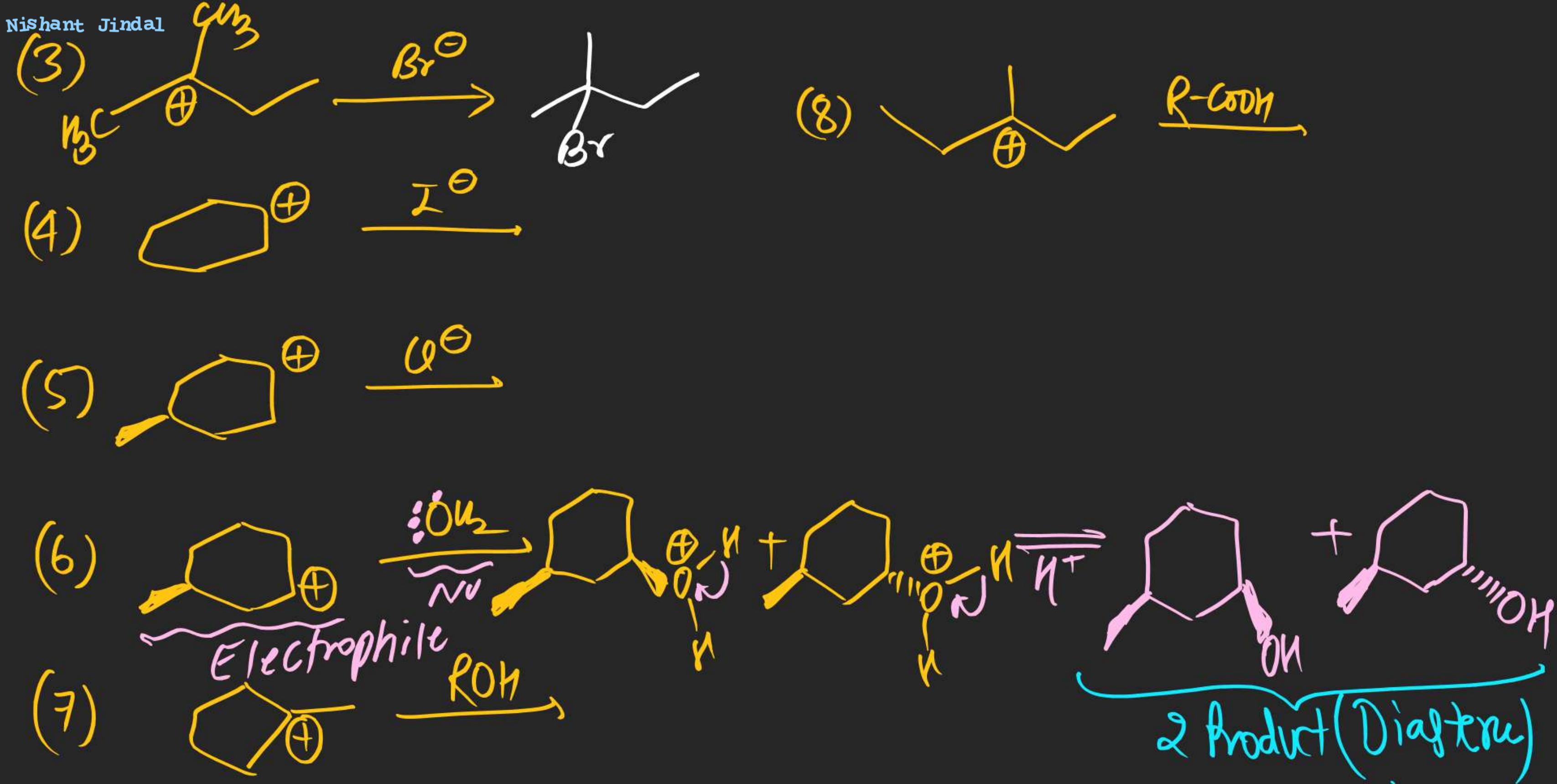
(H) Rx & shown By Carbocation:

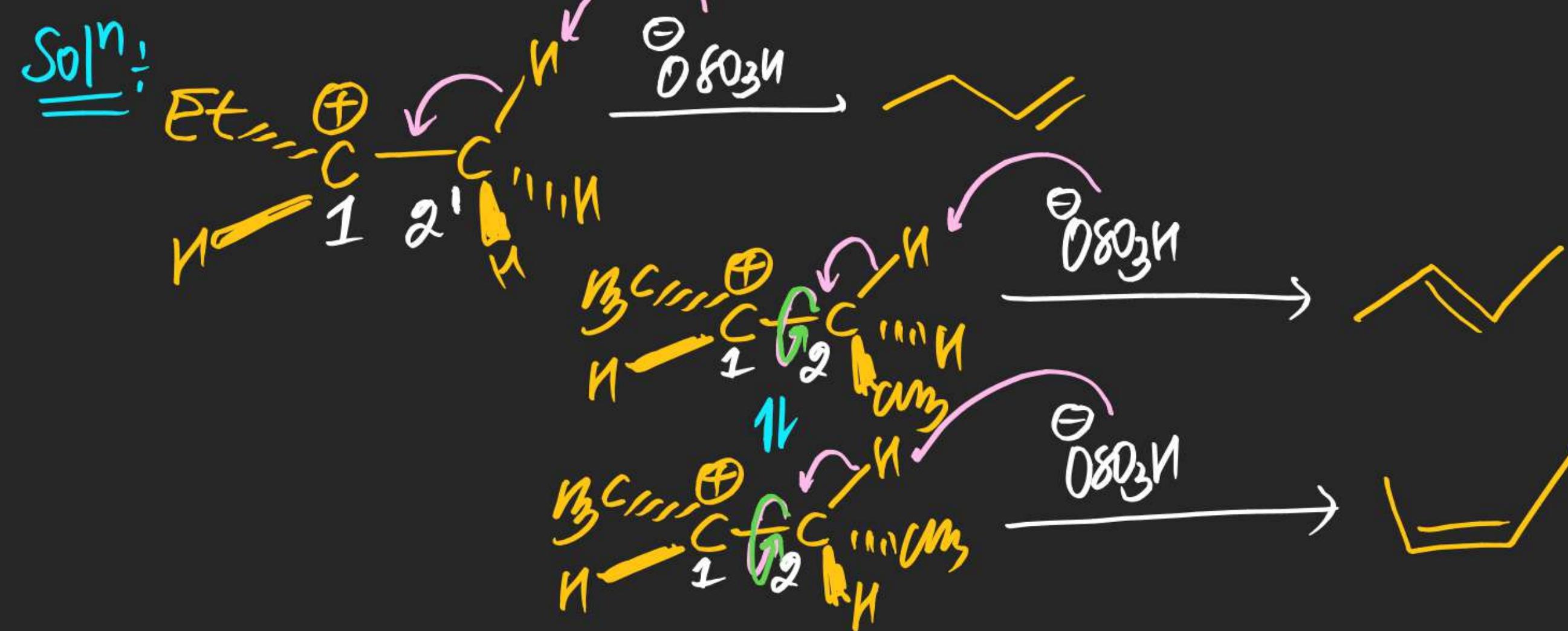
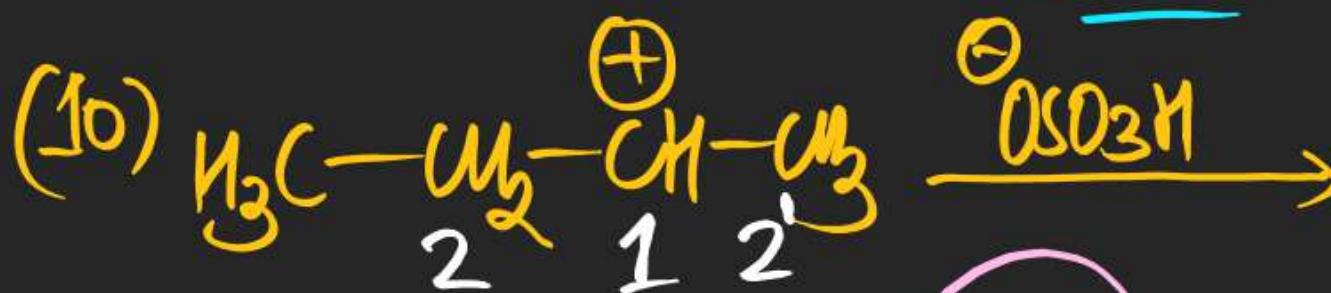
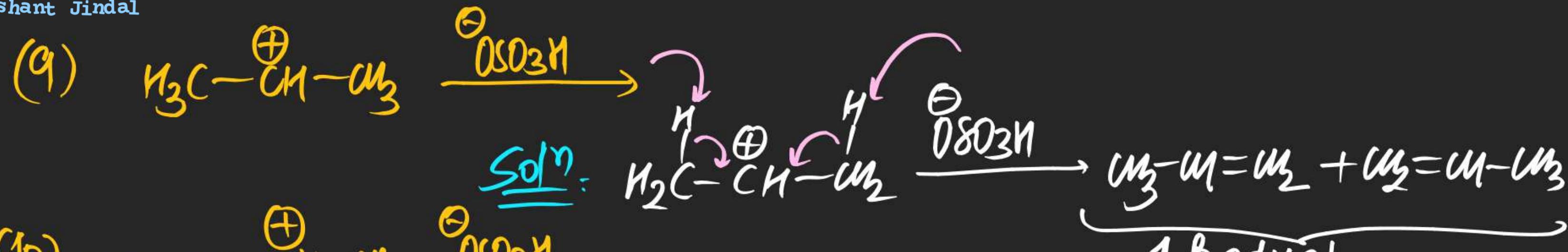
Combination [In Presence of Nucleophile like X^\ominus , BO_3^\ominus , RON , R-COON - - - -]

or

Elimination [In Presence of Base like $\text{O}_2\text{O}_3\text{H}^\ominus$, KPO_4^\ominus - - - -]





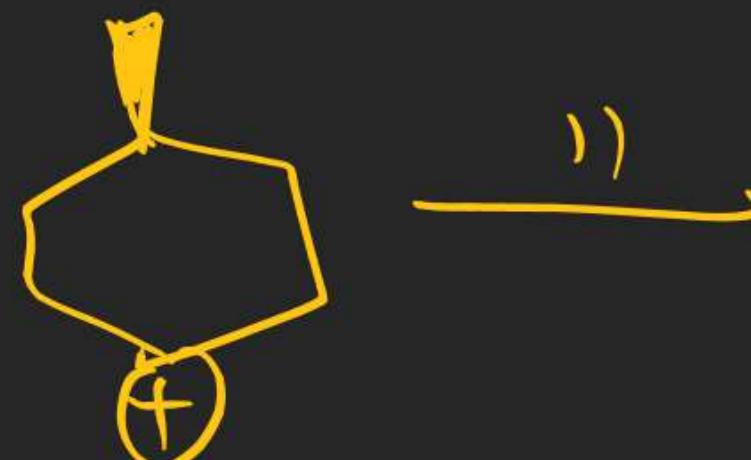




3 Products

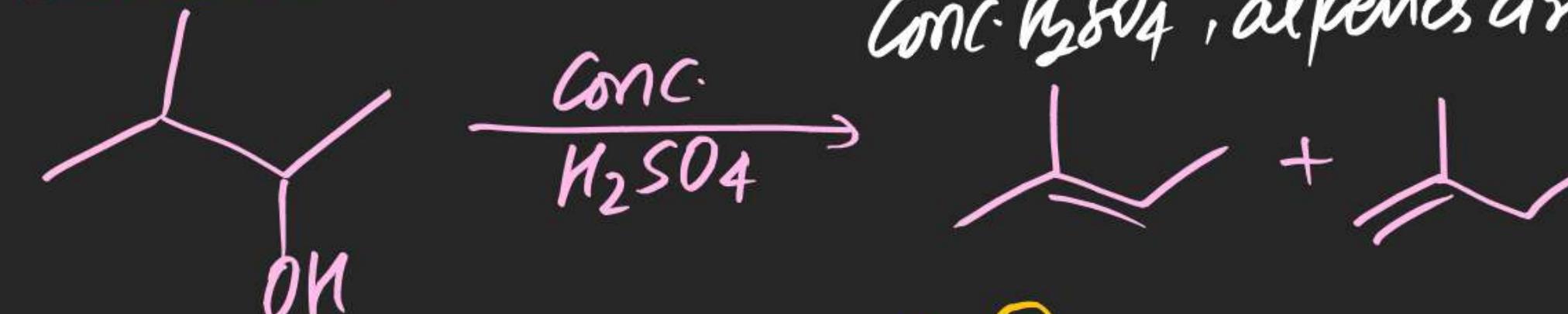


2 Products



Nishant Jindal
Dehydration of Alcohol:
Whenever Alcohols are treated with Conc. H_2SO_4 , alkenes are obtained as a product.

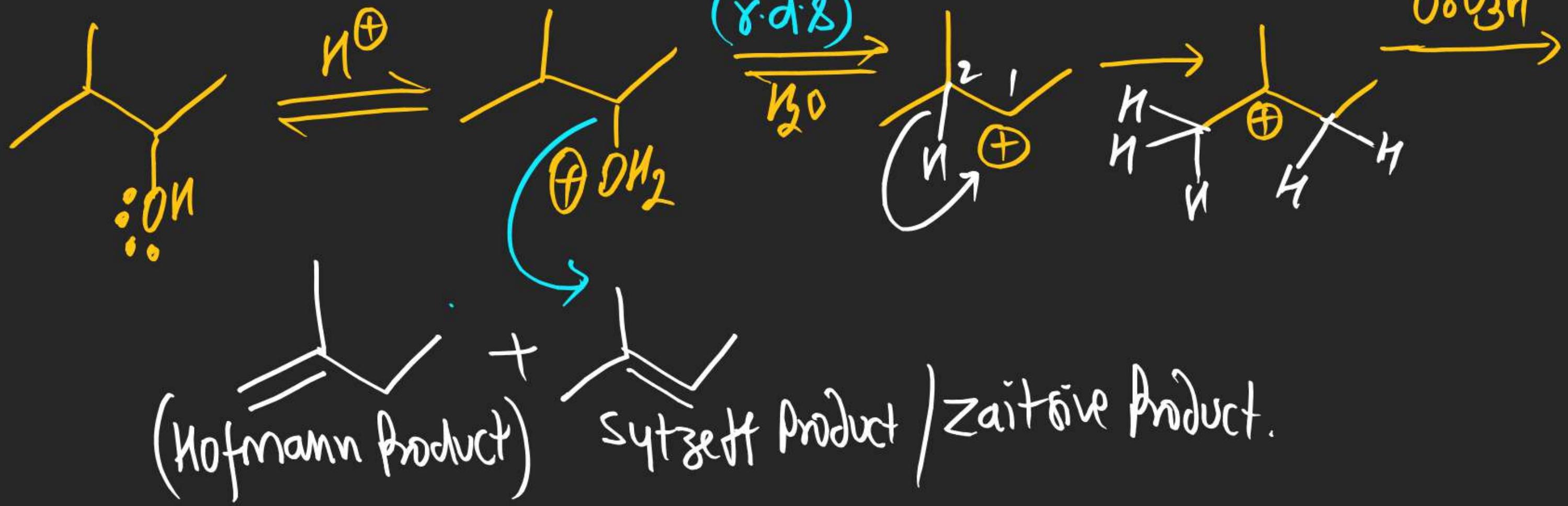
(1)



Mechanism:



(Elimination)



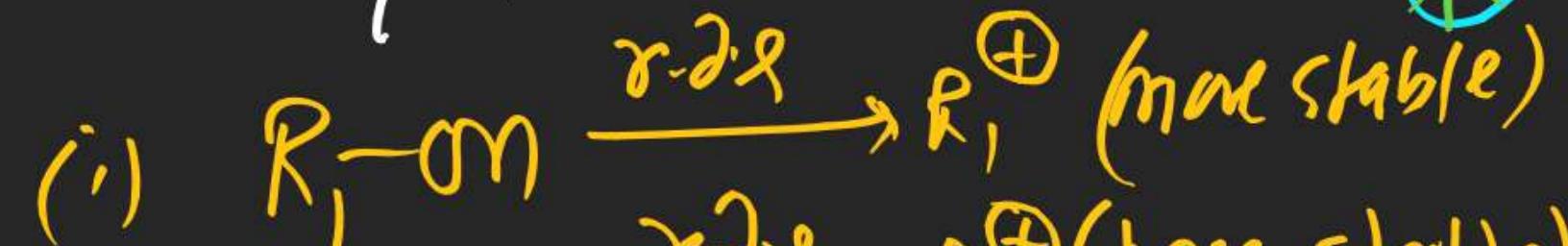
Note (i) Carbocation intermediate

(ii) Rearrangement possible

(iii) Formation of First Carbocation
is r.d.s

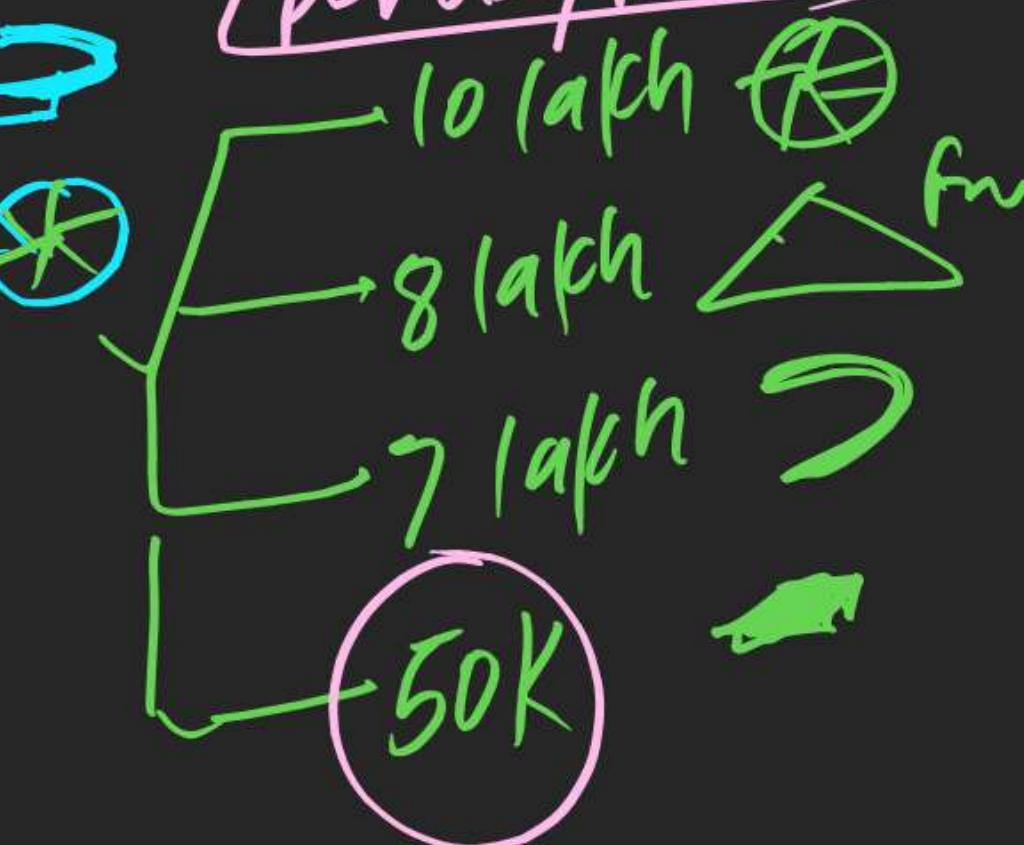
M.D.S

(iv) Rate of dehydration of Alcohol
& stability of Carbocations first formed



$$\gamma_i > \gamma_{ii} > \gamma_{iii}$$

(*) r.d.s
(*) Rate determining step
(*) Slowest step of any rxn
per day Product



(V) rate Expr

$$\gamma = k [R-\overset{\oplus}{OH}_2]$$

(vi) Elimination Rxn

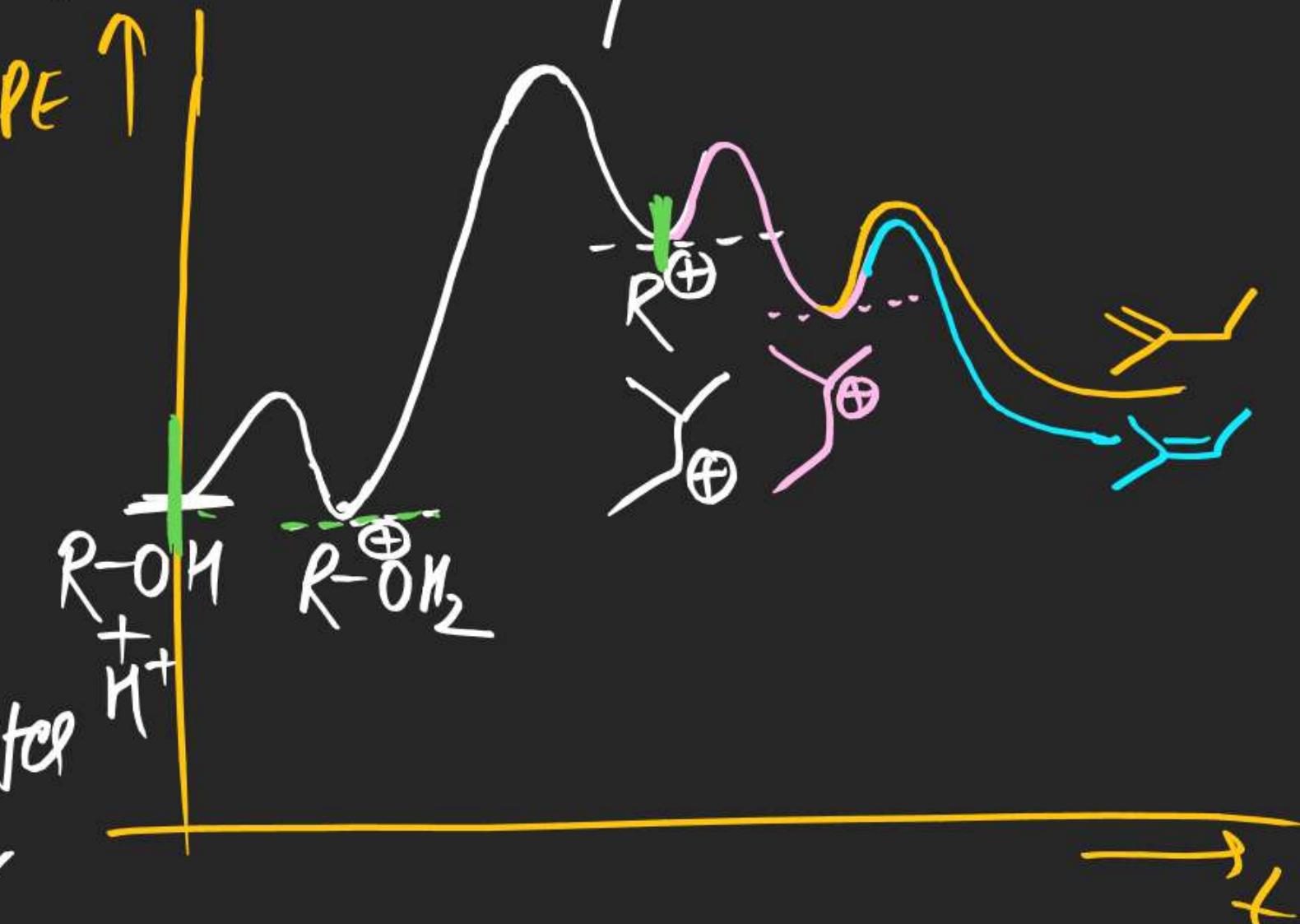
(vii) Reversible Rxn

(viii) Uni molecular

(ix) E¹ mechanism

(x) Usually syntz est alkene dominates over hofmann alkene as a major product (due to high stability of syntz est product)

(xi) Potential Energy Curve



(xii) Endothermic Rxn

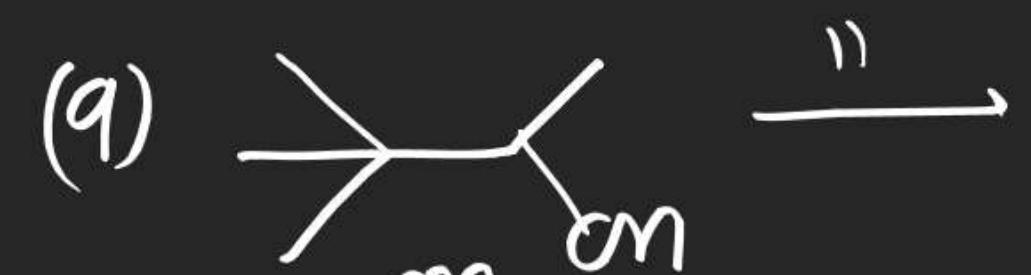
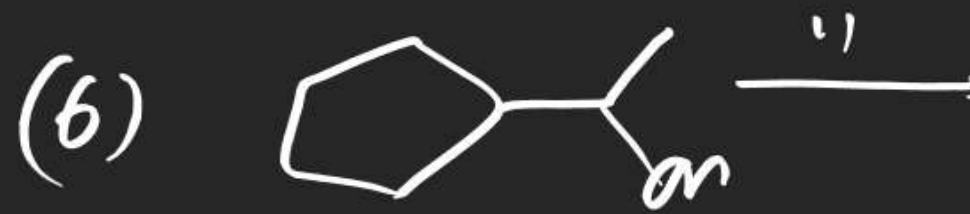
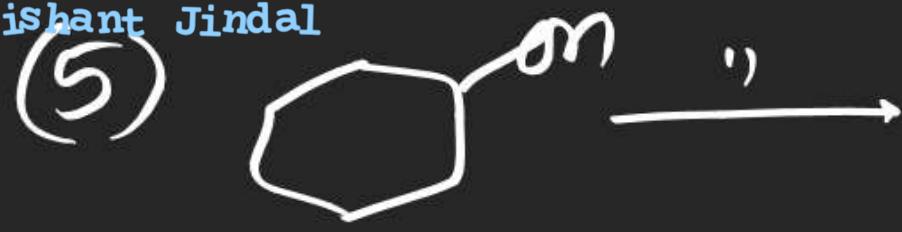
(xiii) higher Temp. is reqd

(xiv) For alcohol dehydration

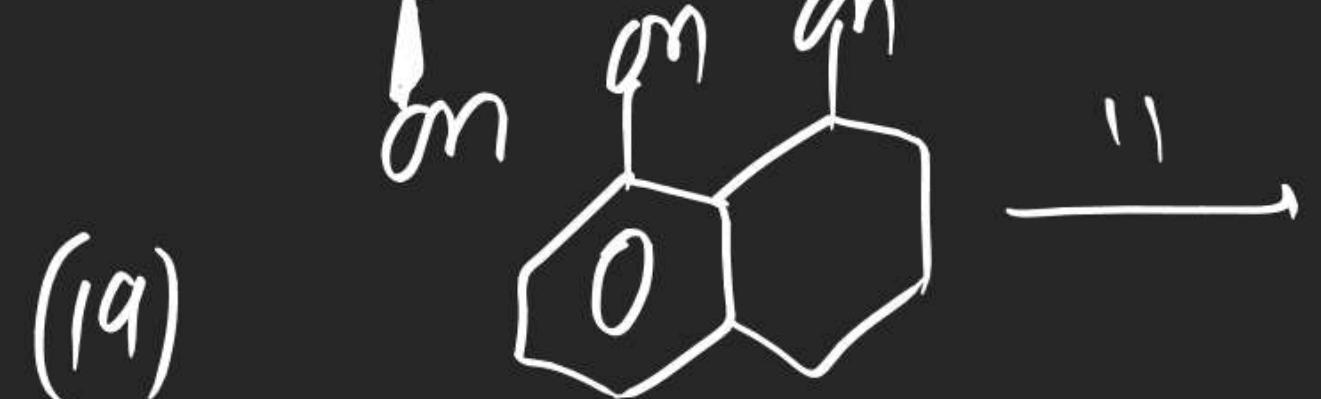
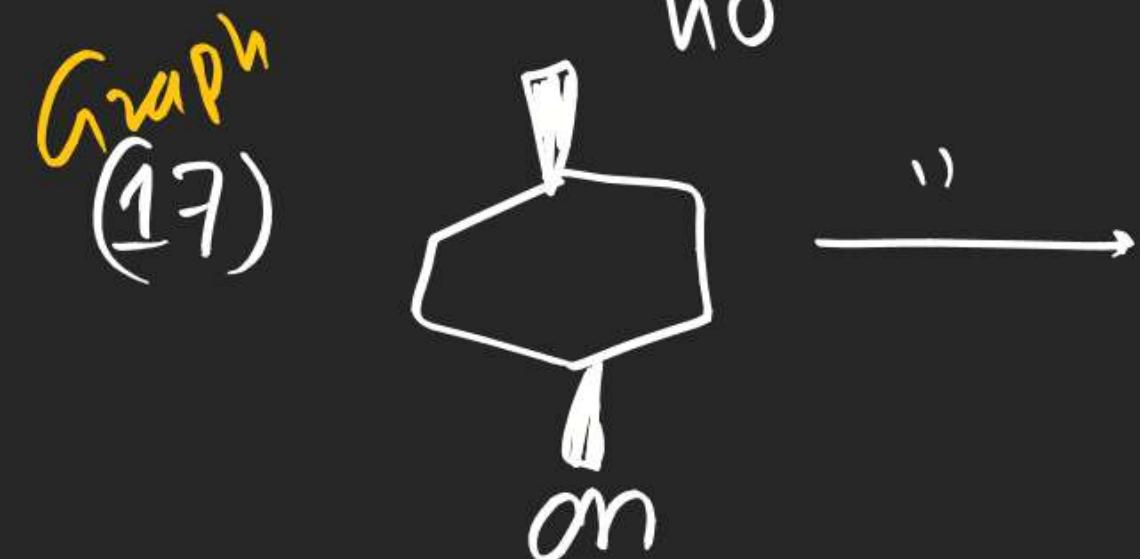
Reagents: $\underline{\underline{H^+/\Delta}}$ or Conc. H_2SO_4 or Conc. H_3PO_4 , Δ

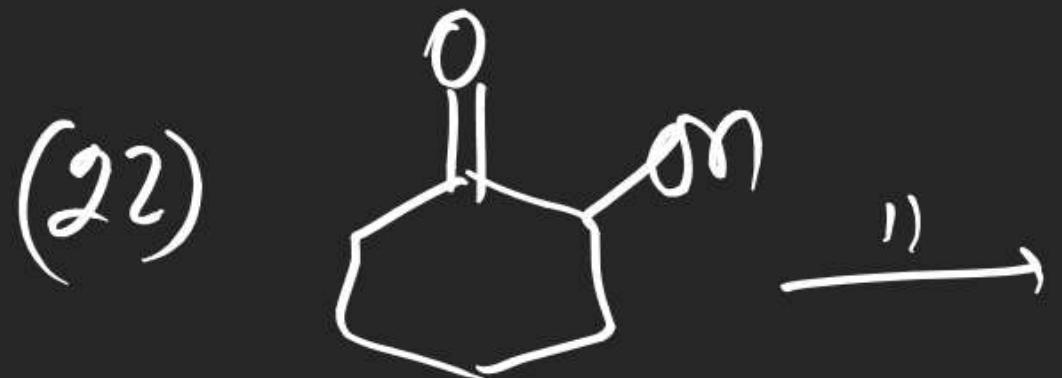
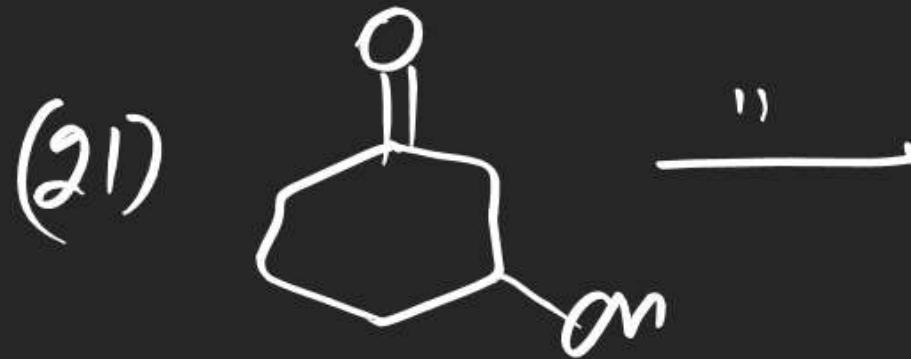
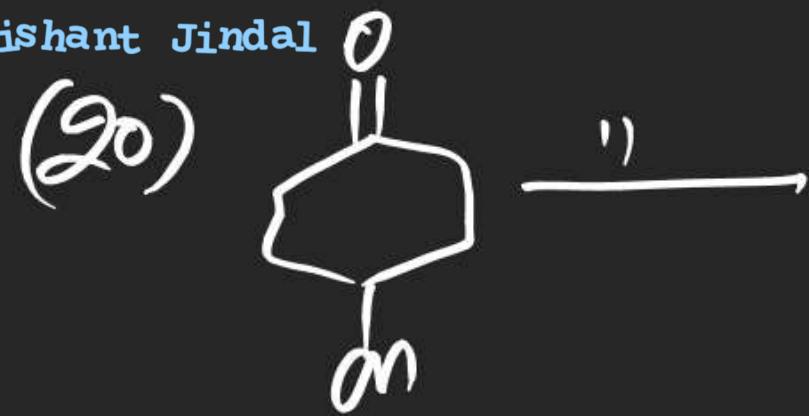
(xv) At very low Temp alkene is not obtained as a product.
Renned alcohol / Ester is obtained as a product.

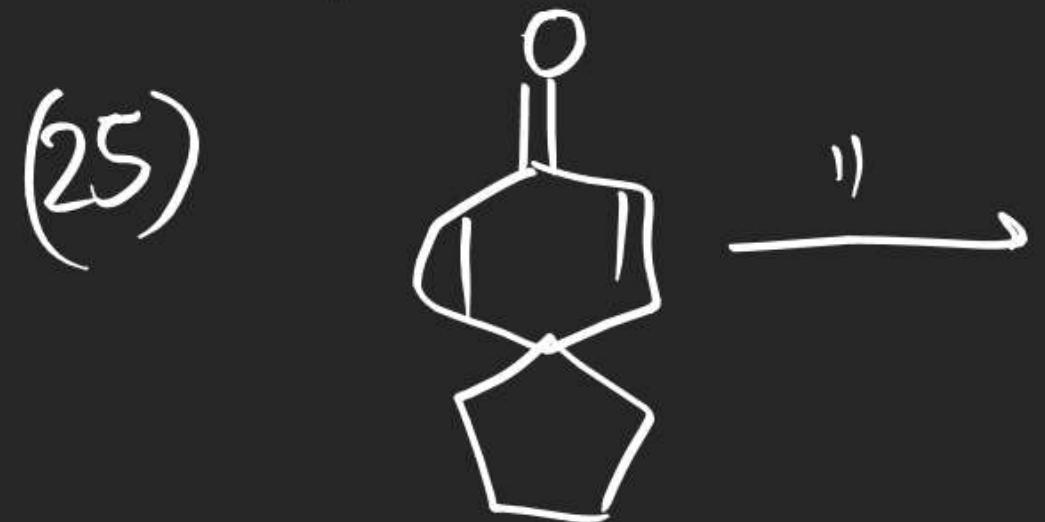
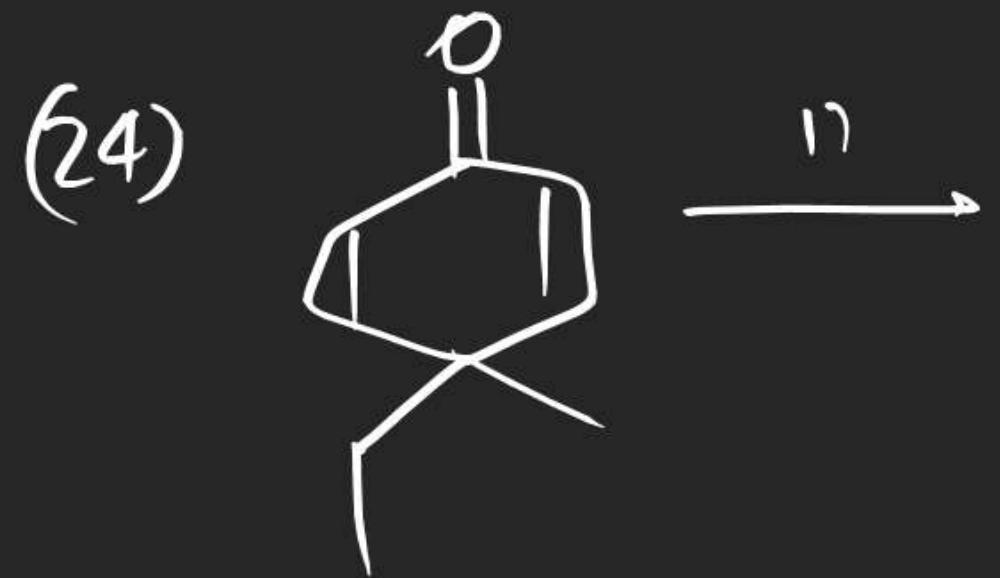
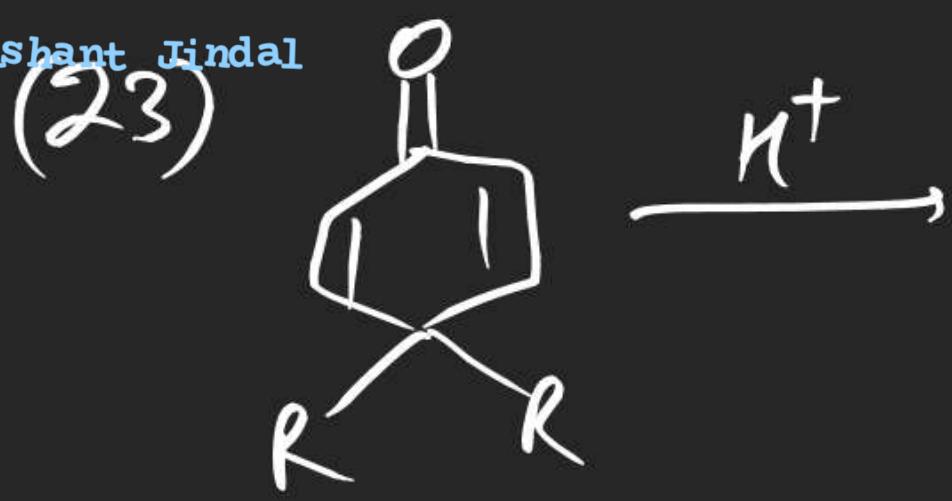


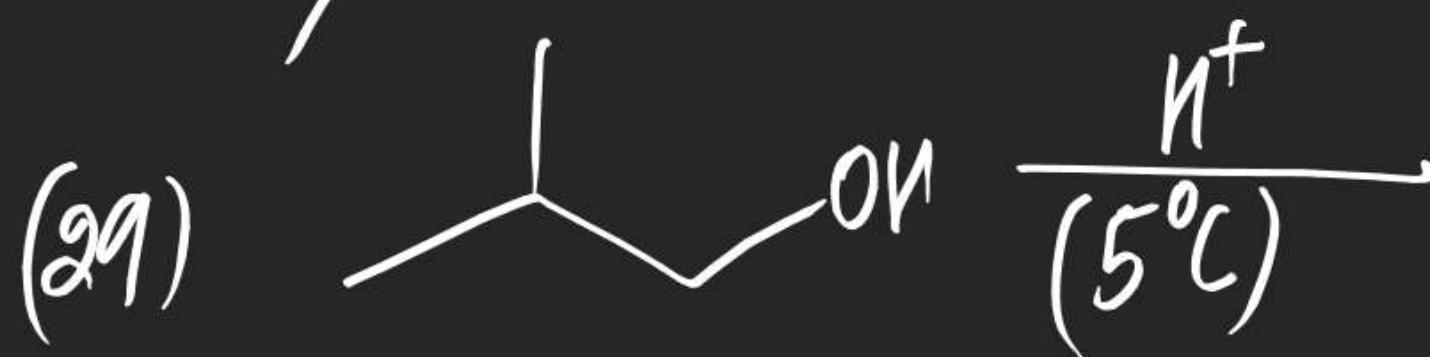
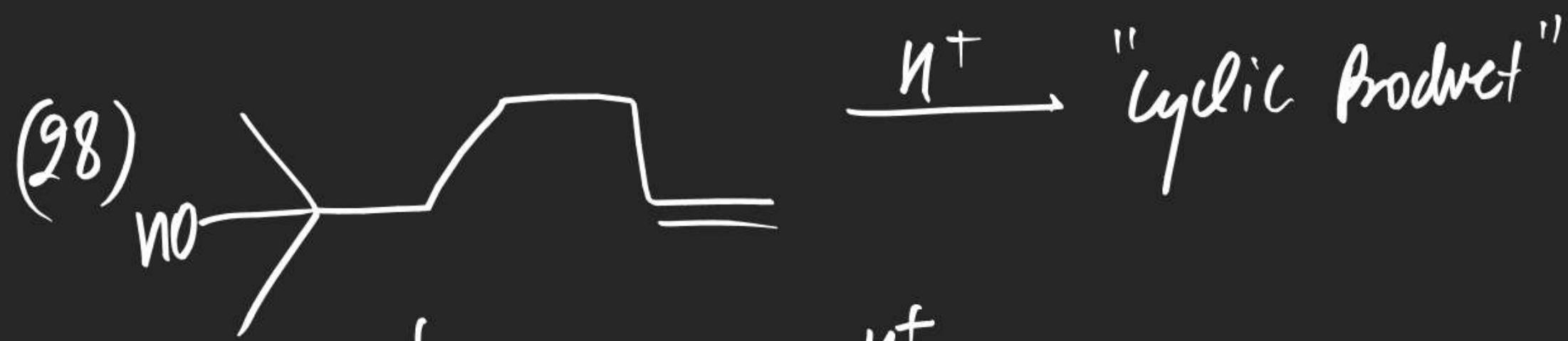
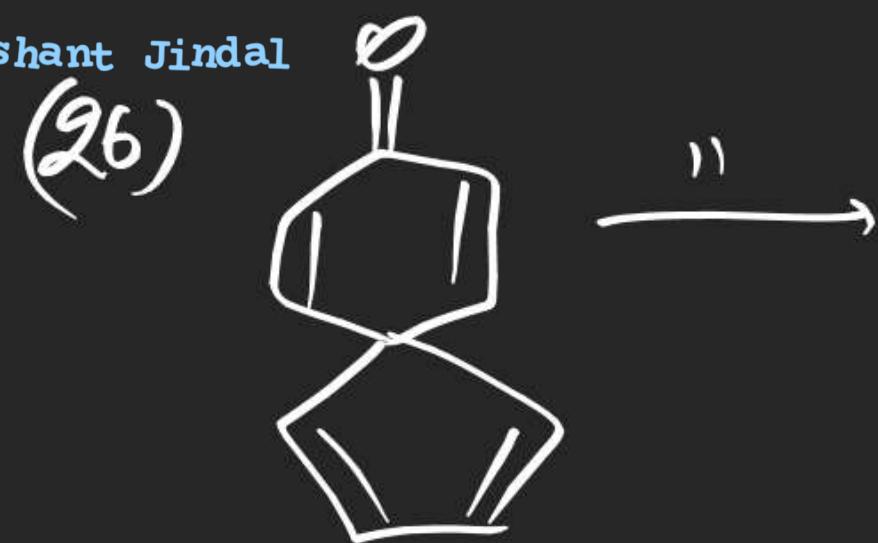














~~2~~