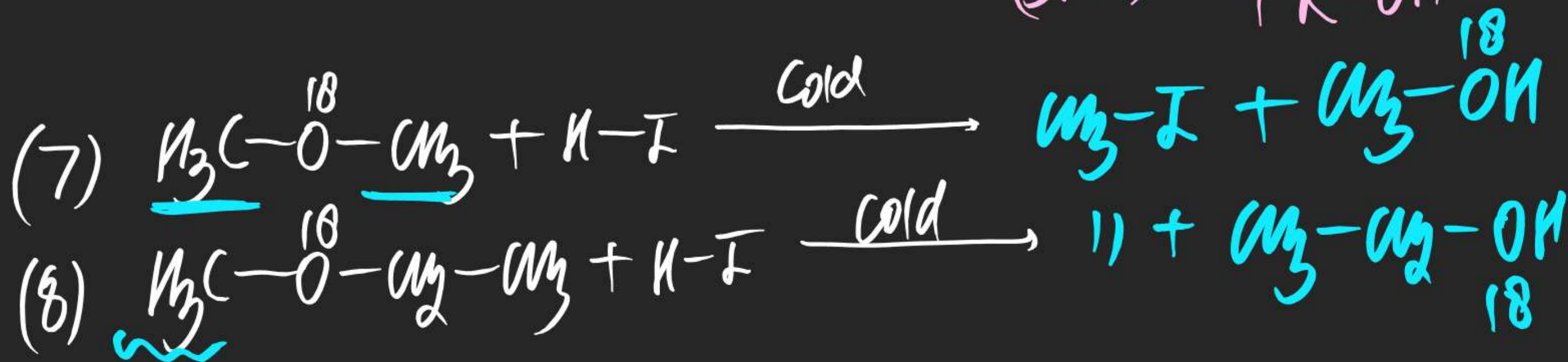
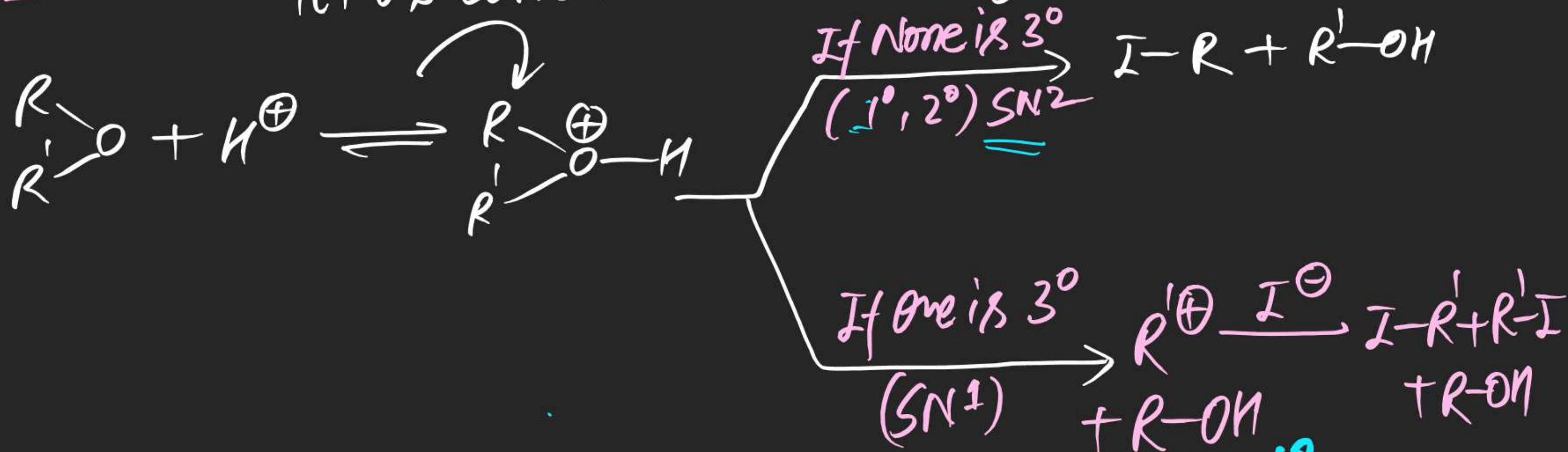
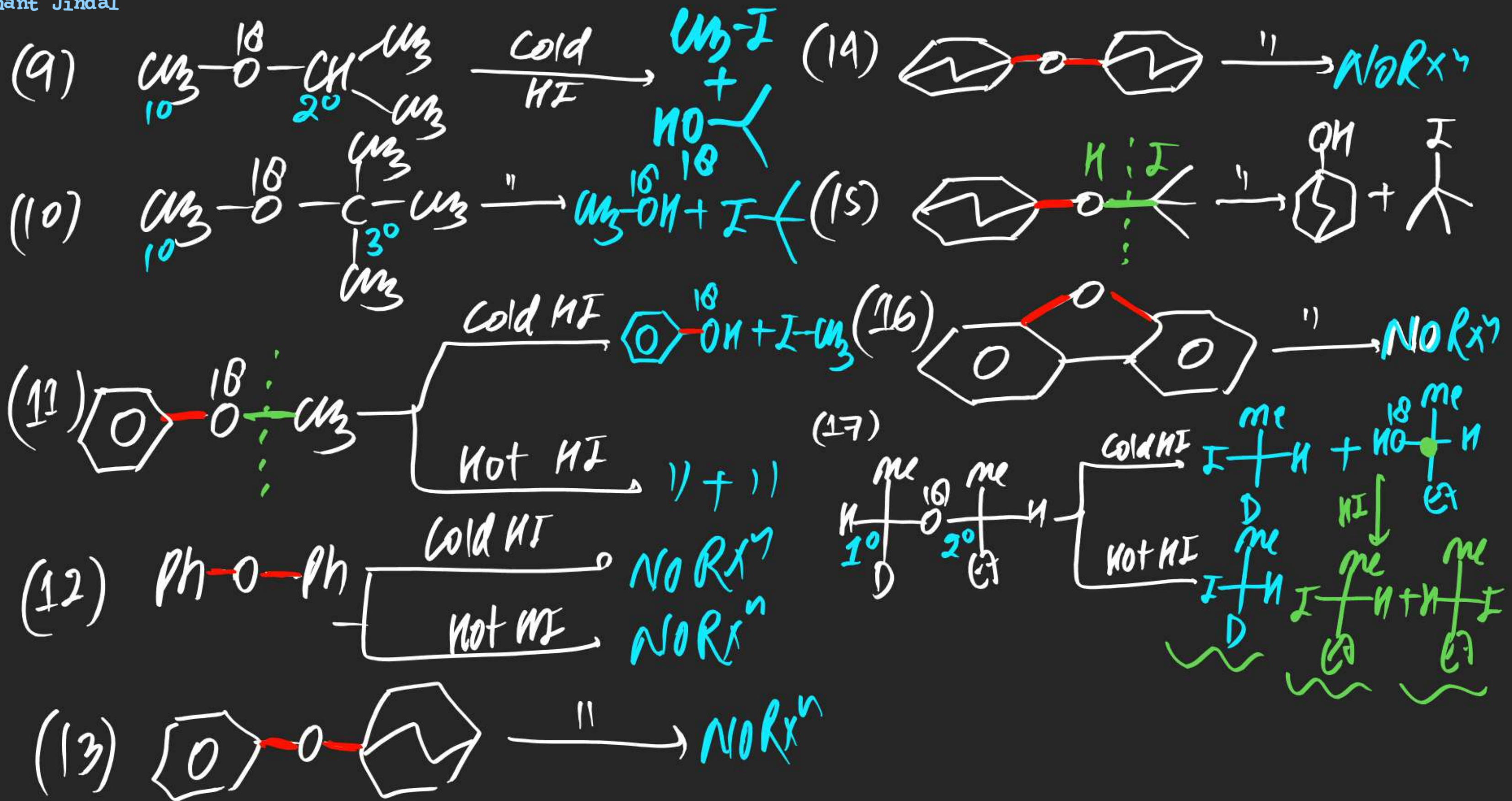
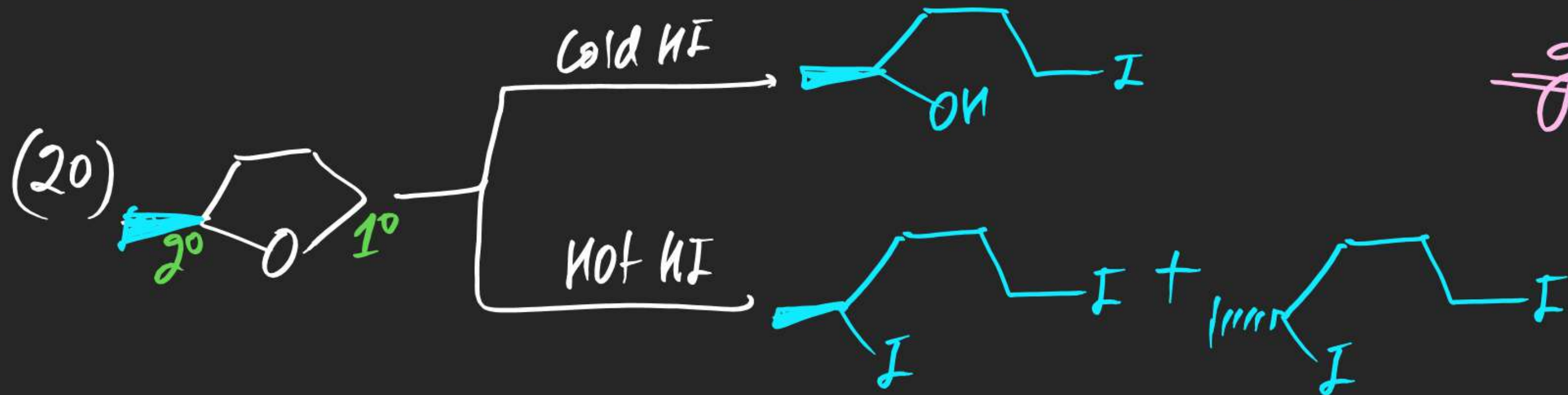
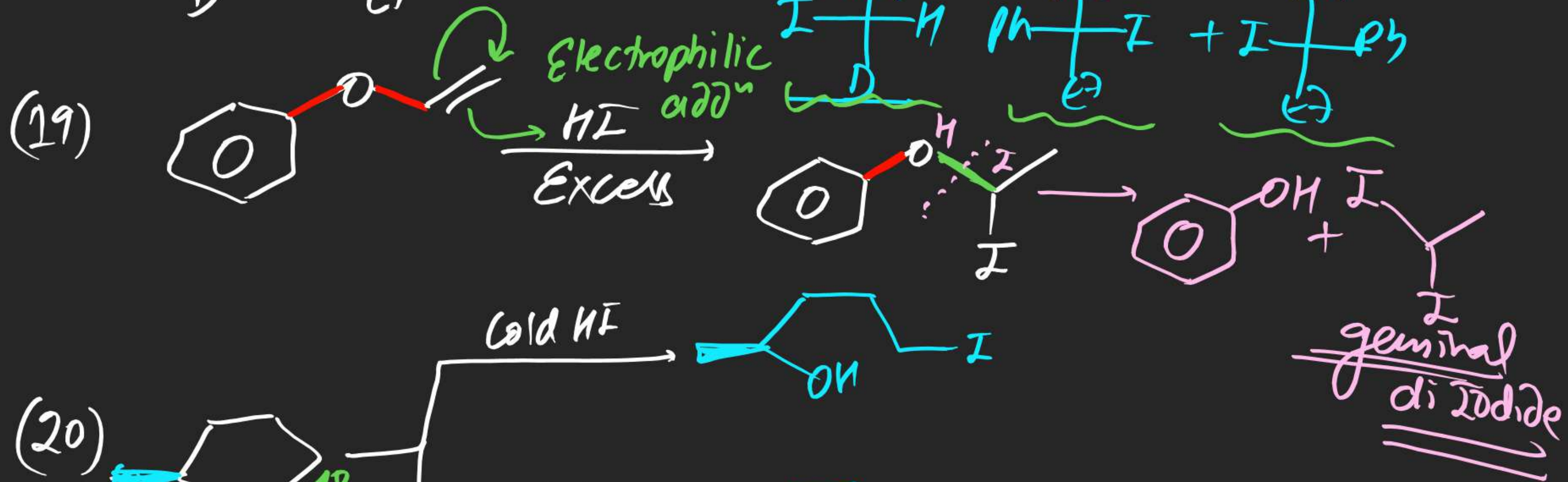
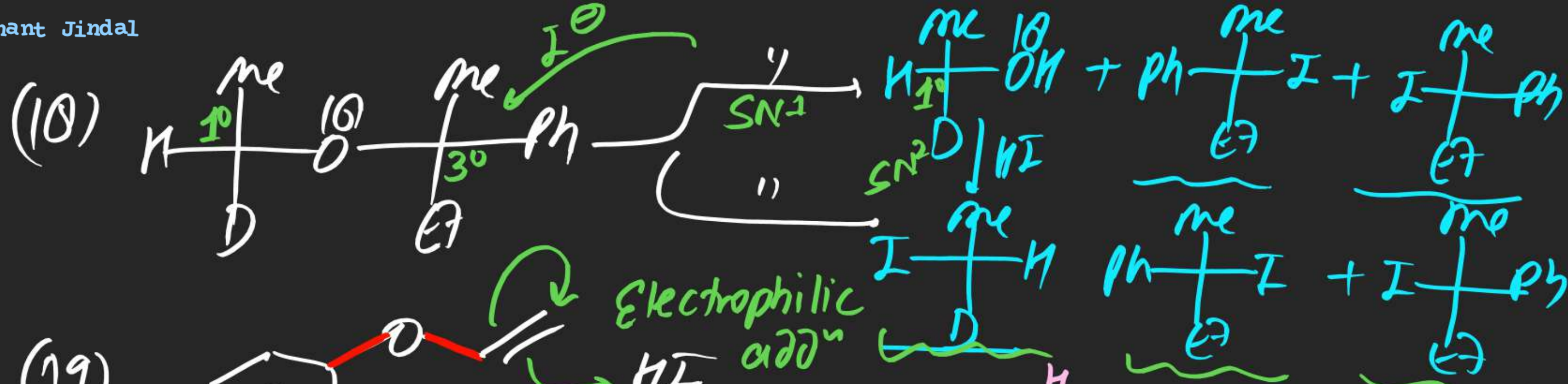


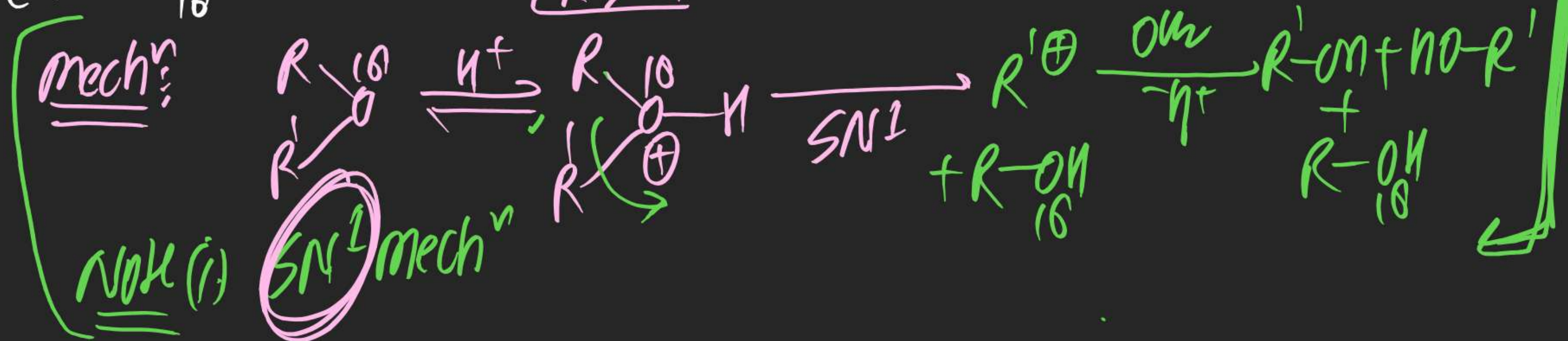
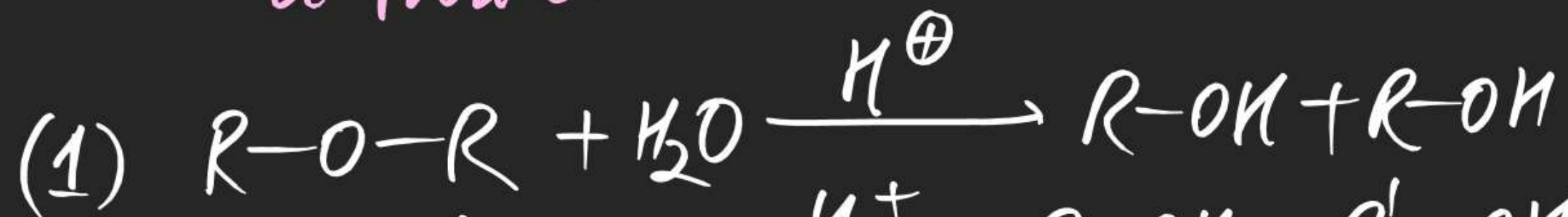
Mechanismlet us consider $R' > R$ in size

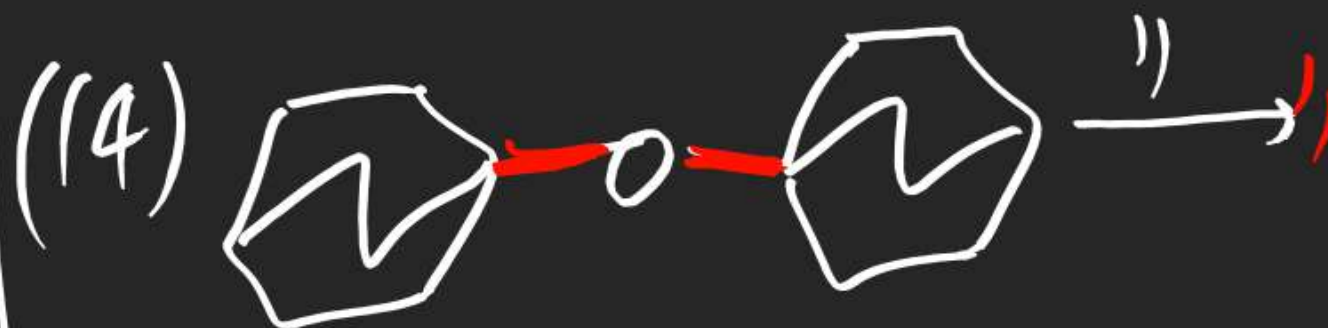
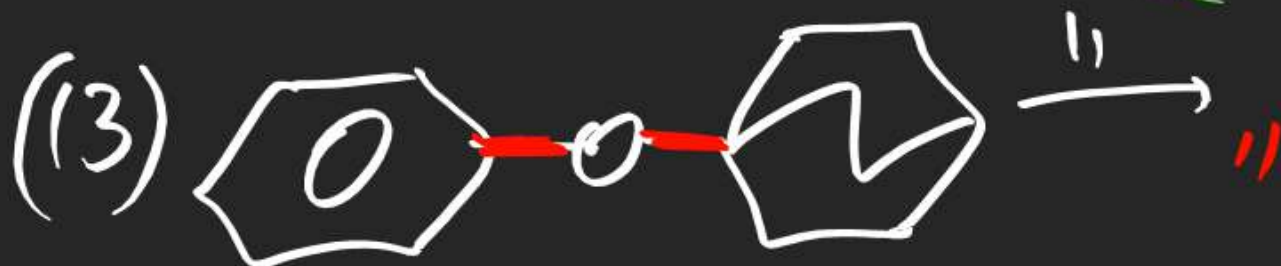
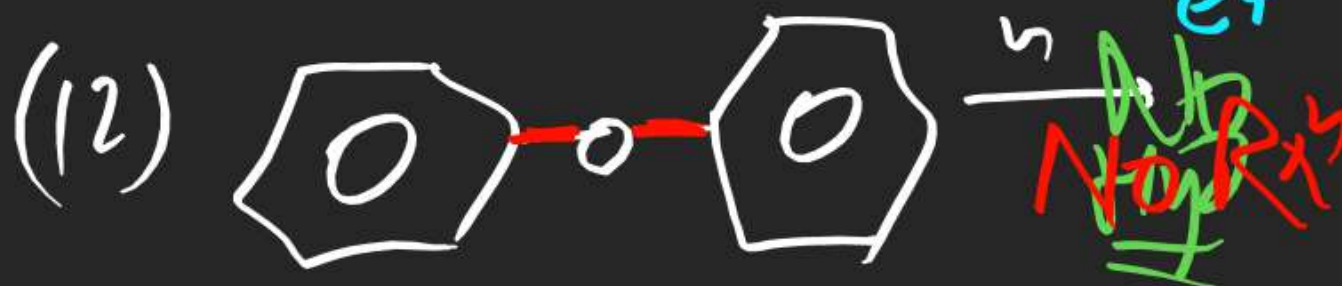
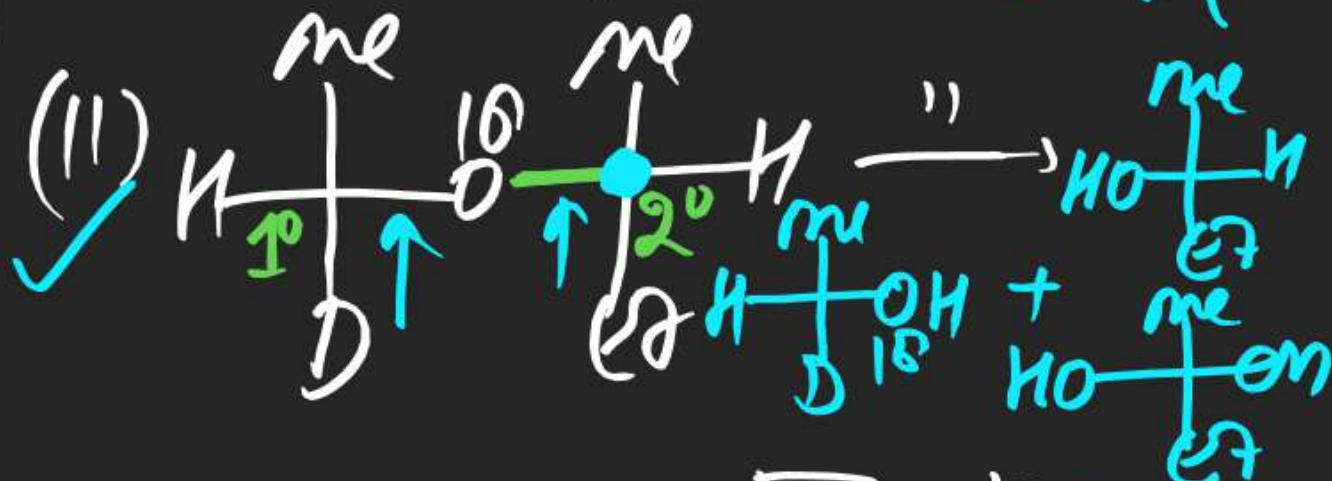
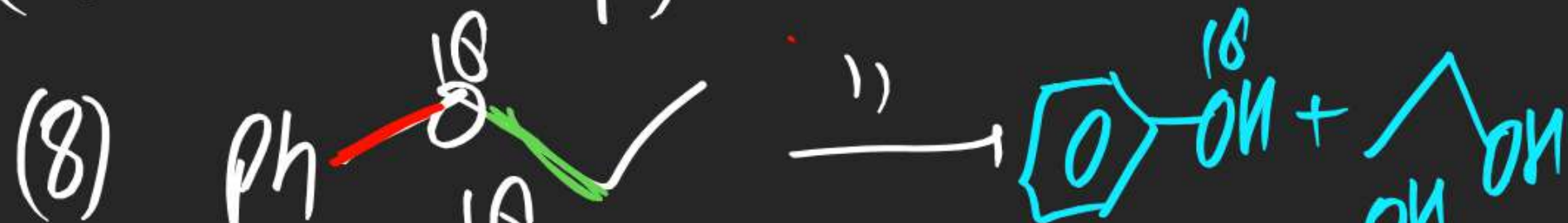
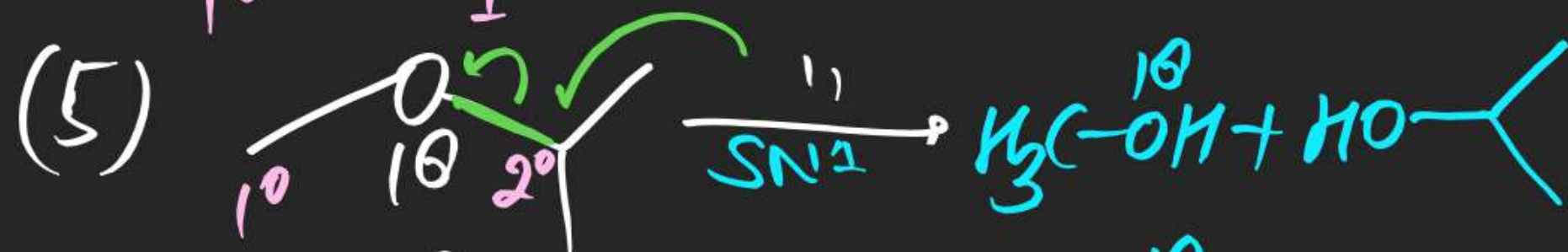
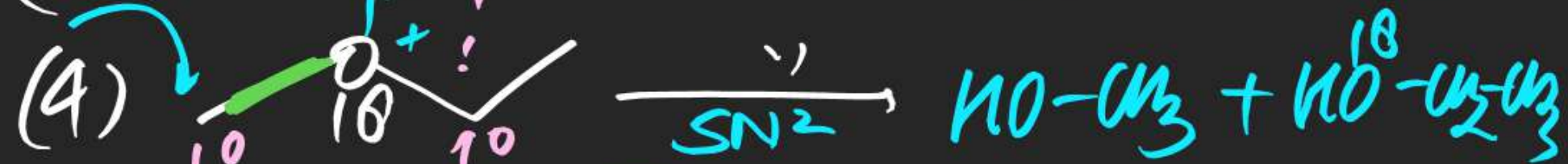


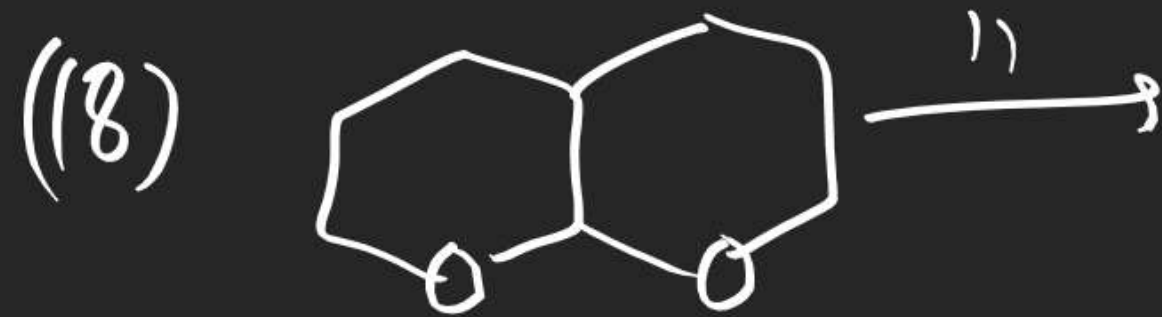
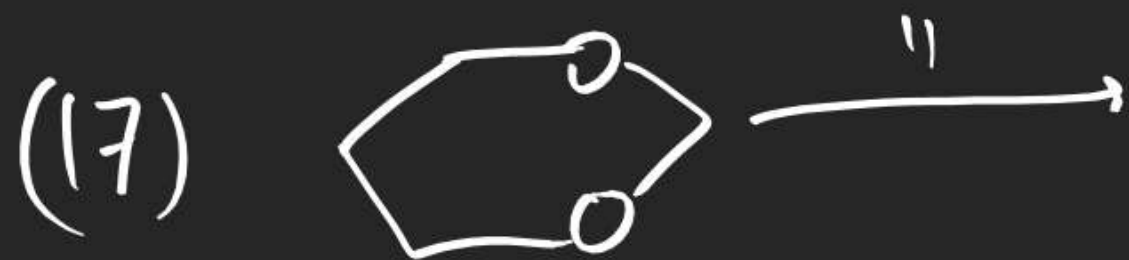
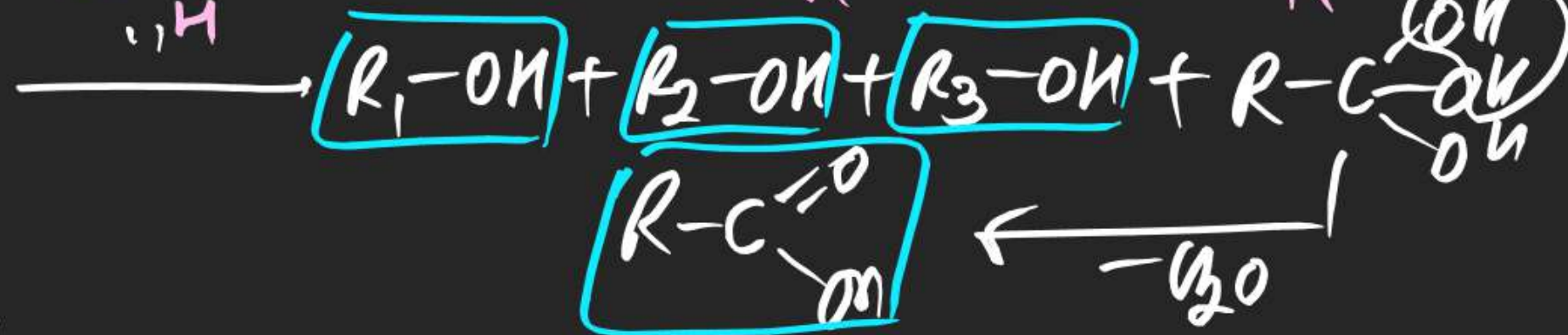
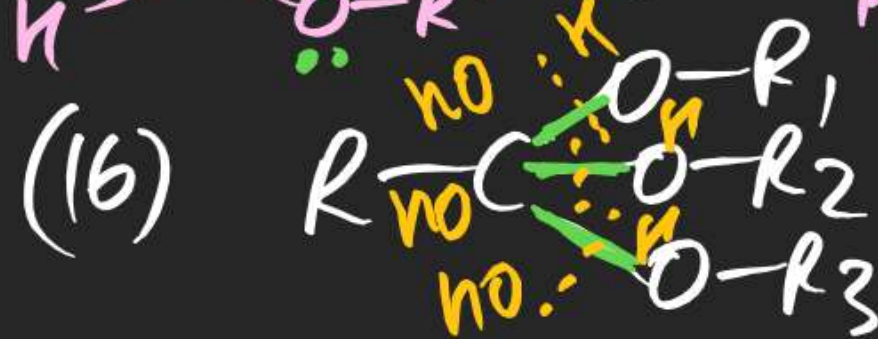
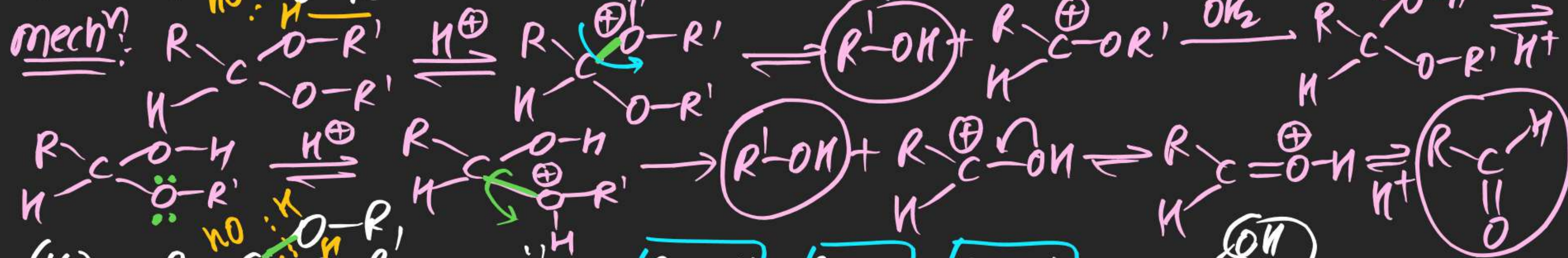
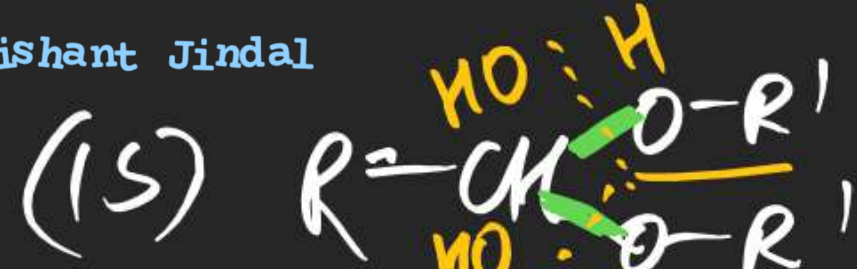


(#) Hydrolysis of Ether!

⇒ Hydrolysis of Ether gives mixture of alcohol as a product







(19) ✓



(20)



(21)

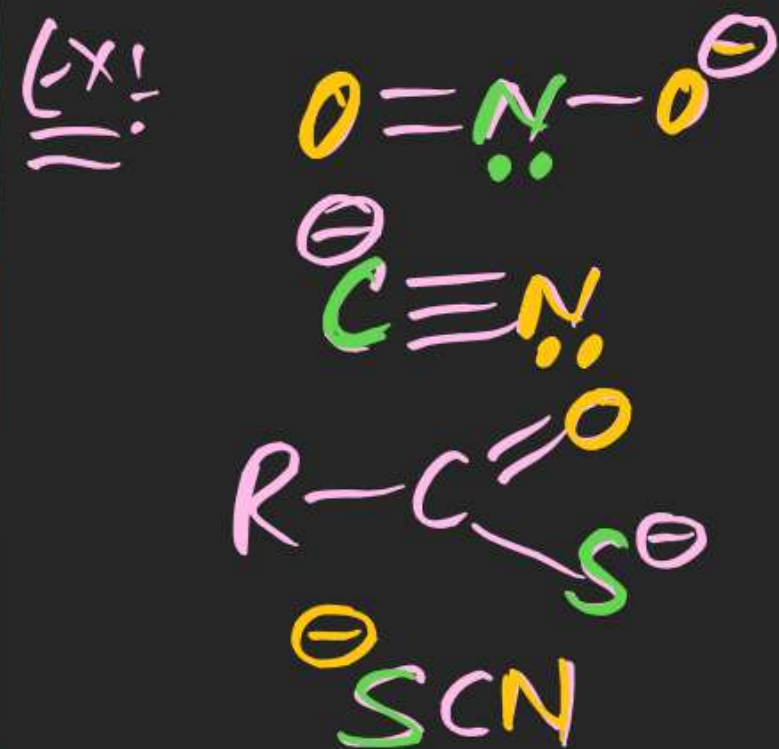
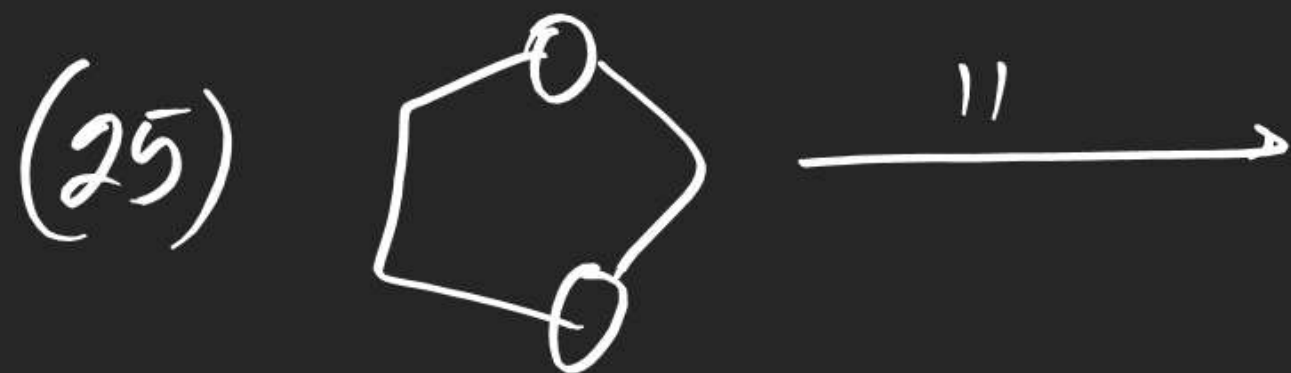


(22)



(23)



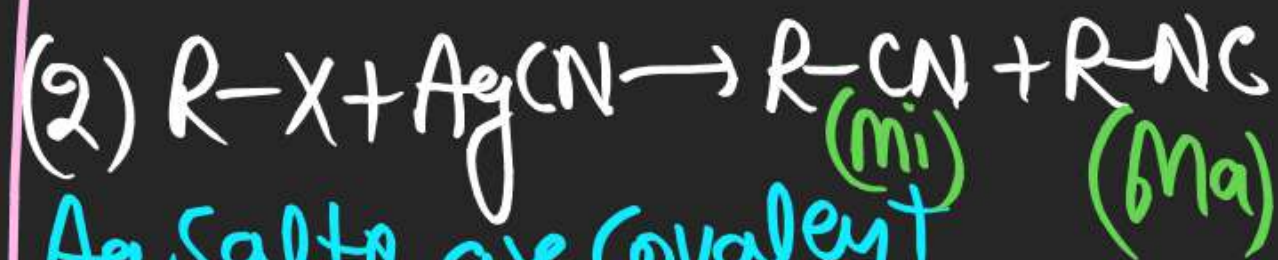


(#) Ambidentate Nucleophile :-

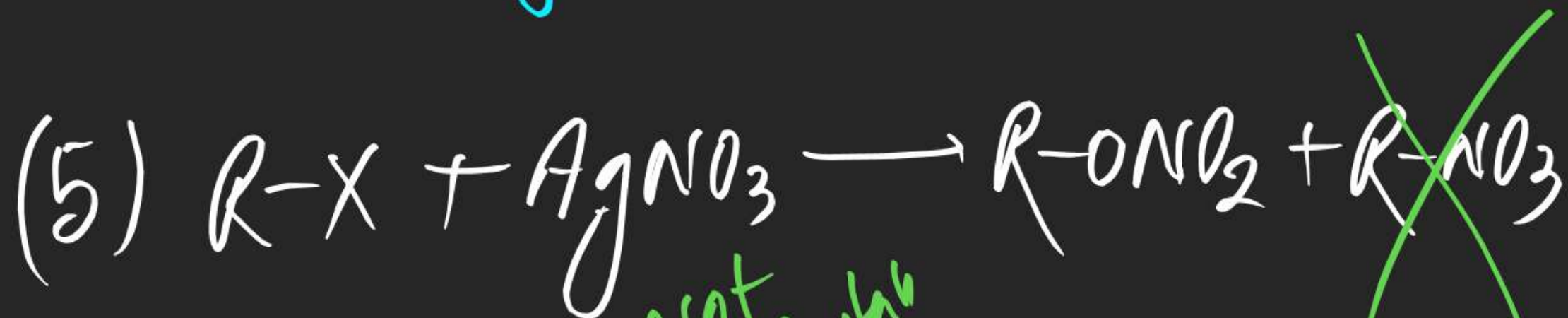
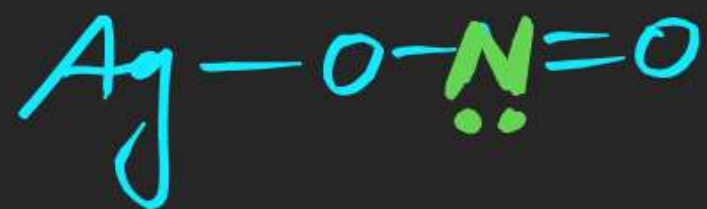
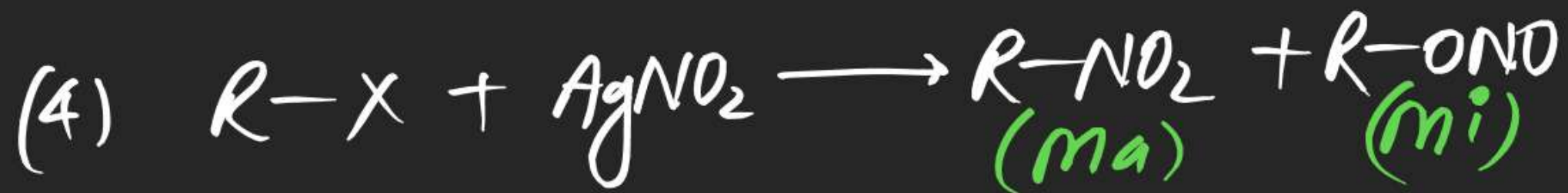
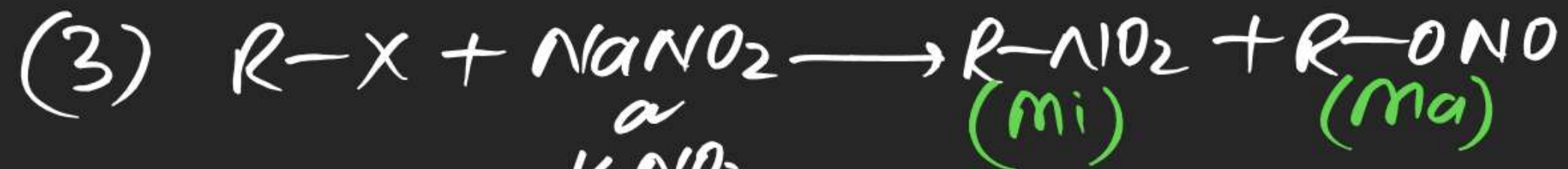
⇒ Nucleophiles having more than one electron donating sites are known as Ambidentate Nucleophiles



Na Salts are ionic
 $\text{Na}^+ \text{C}\equiv\text{N}^-$



Ag Salts are Covalent
 $\text{Ag}-\text{C}\equiv\text{N}$



Not
Ambidentate

SN-NAP:

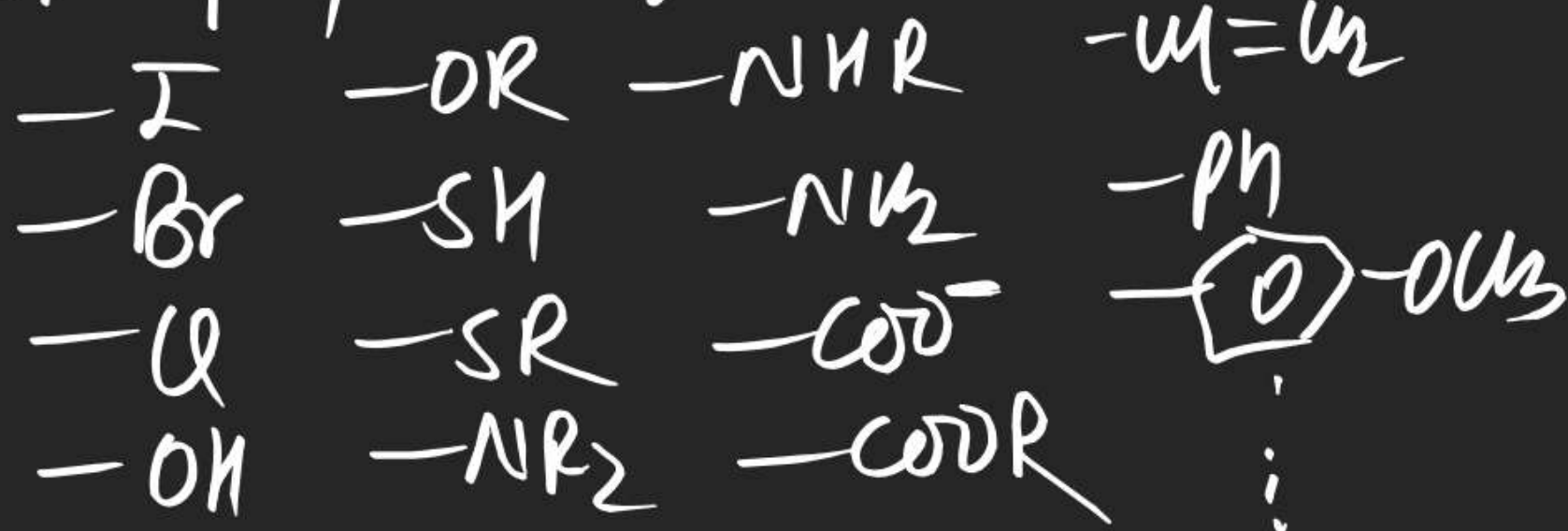
⇒ Neighbouring Group participation in $S_N R_x^n$

⇒ Anchimeric assistance

⇒ For NAP Comp. must have a lg & internal NUV bond to each other

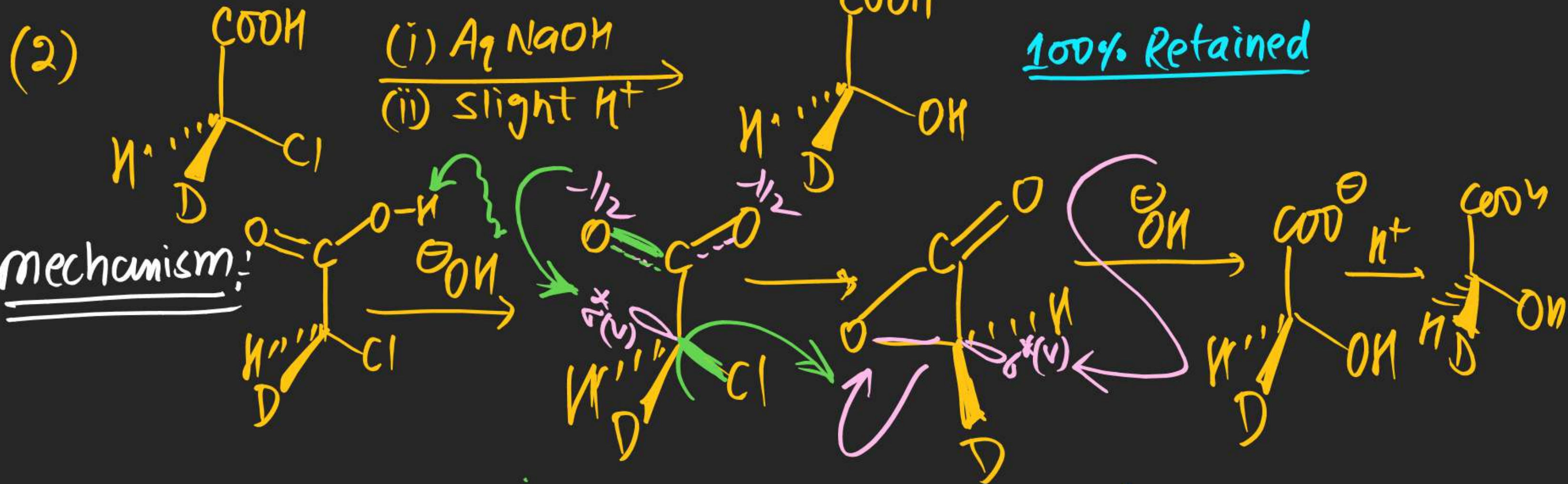
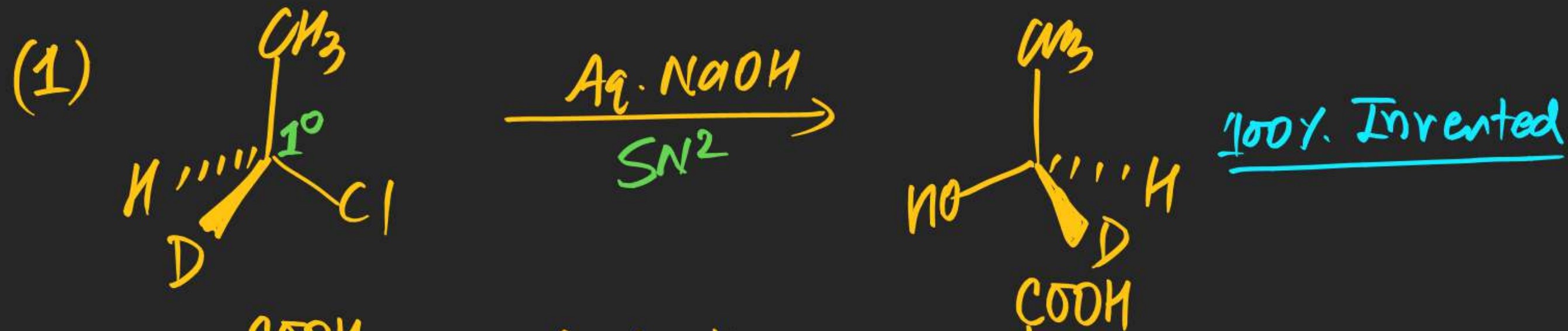
⇒ Retained product is usually obtained

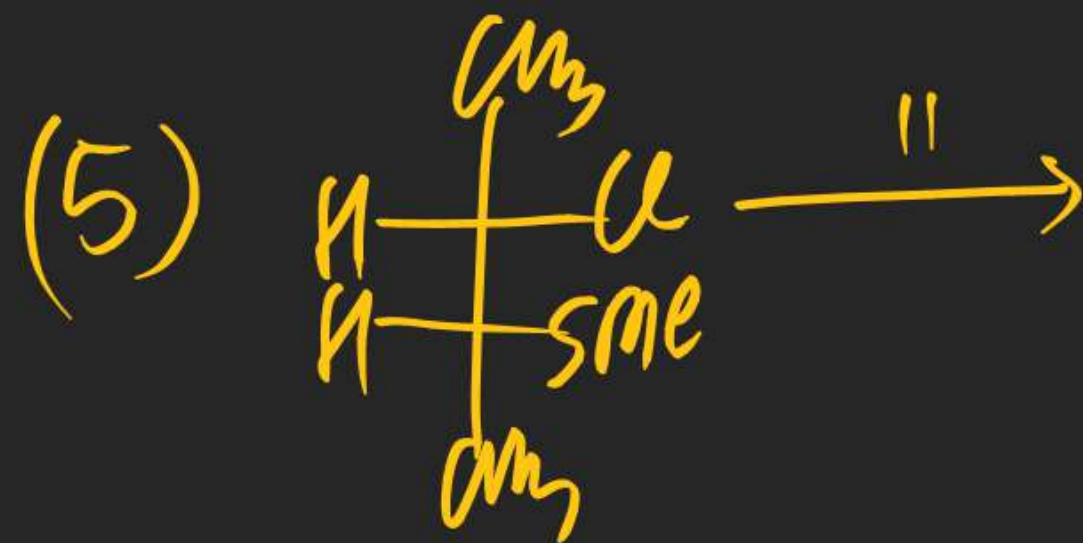
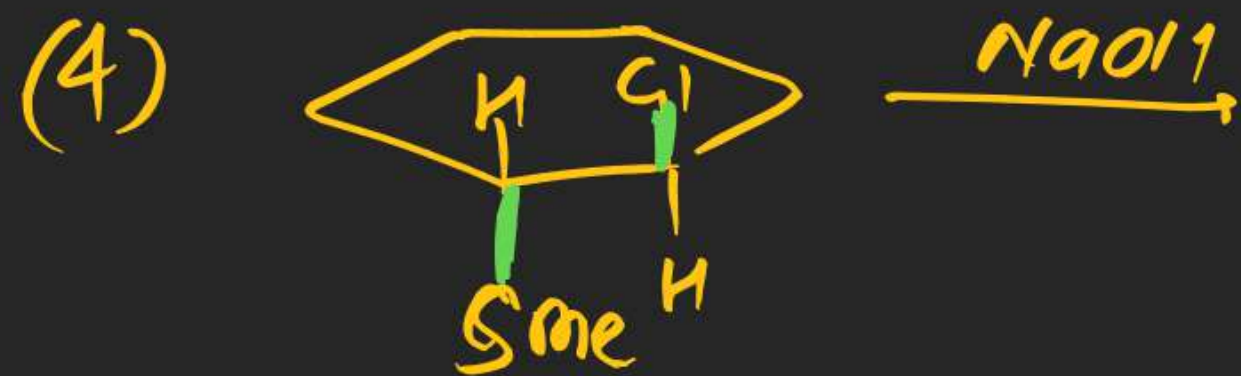
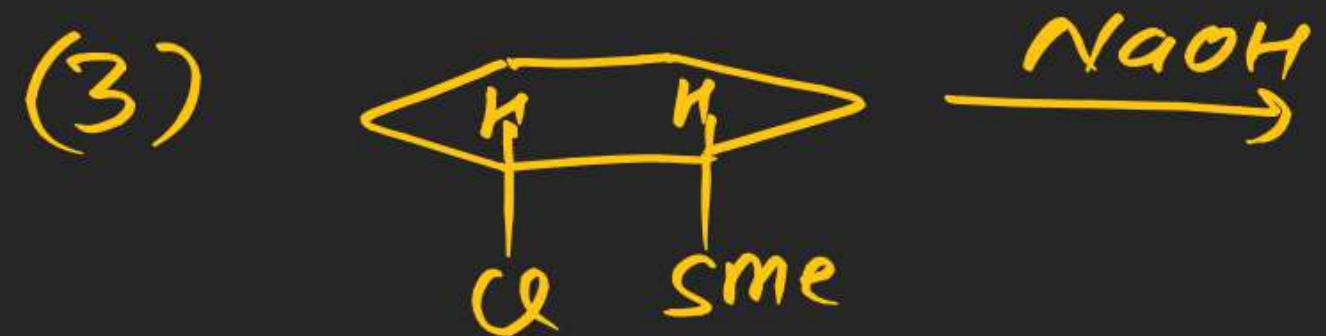
⇒ Groups/Atoms which can show NAP

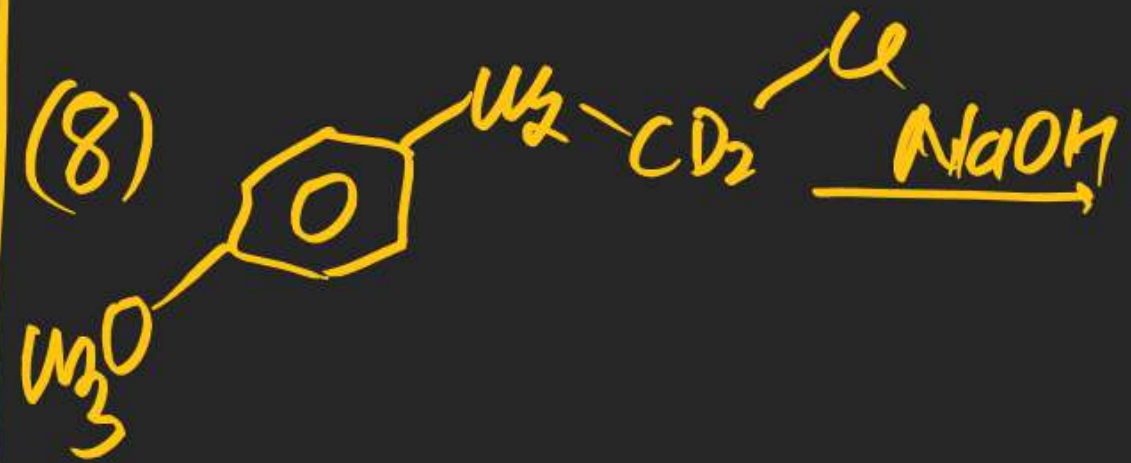
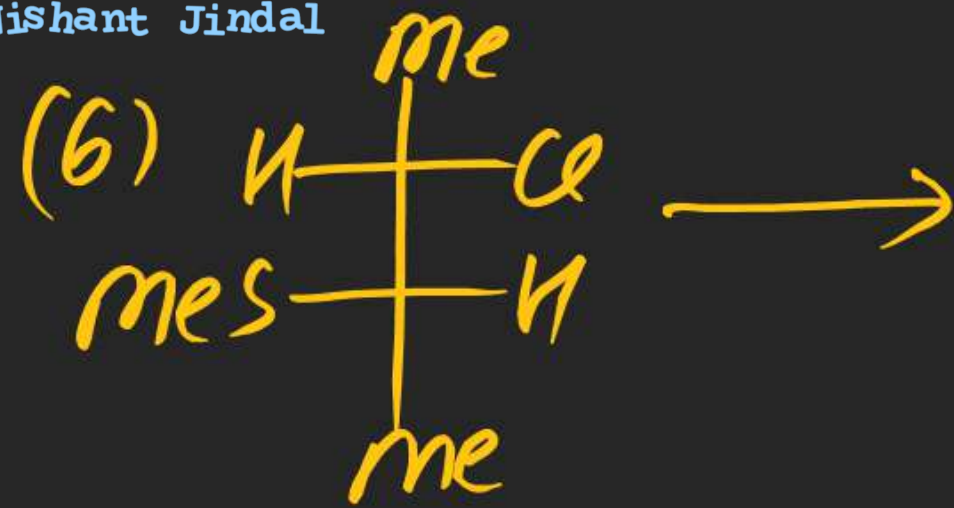


⇒ -F never show NAP

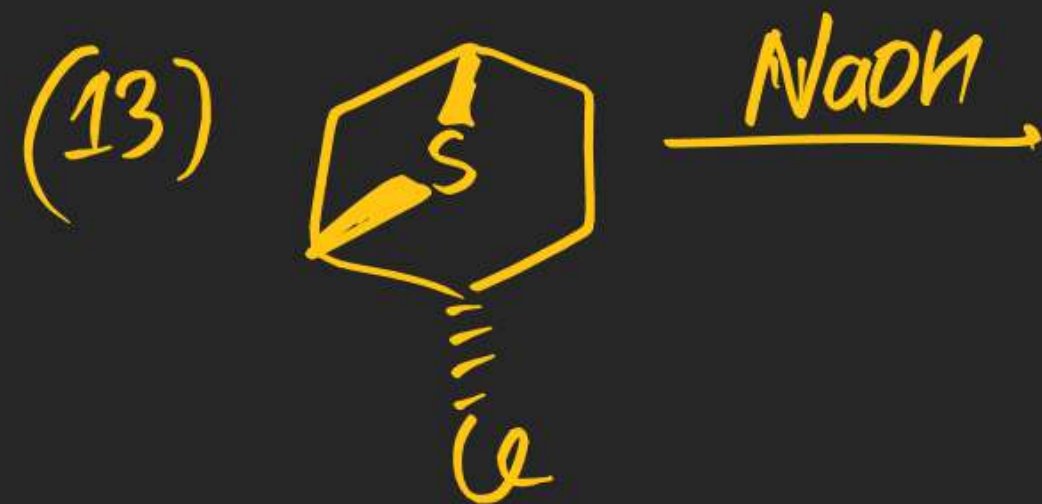
⇒ NAP increases rate of R_x^n .

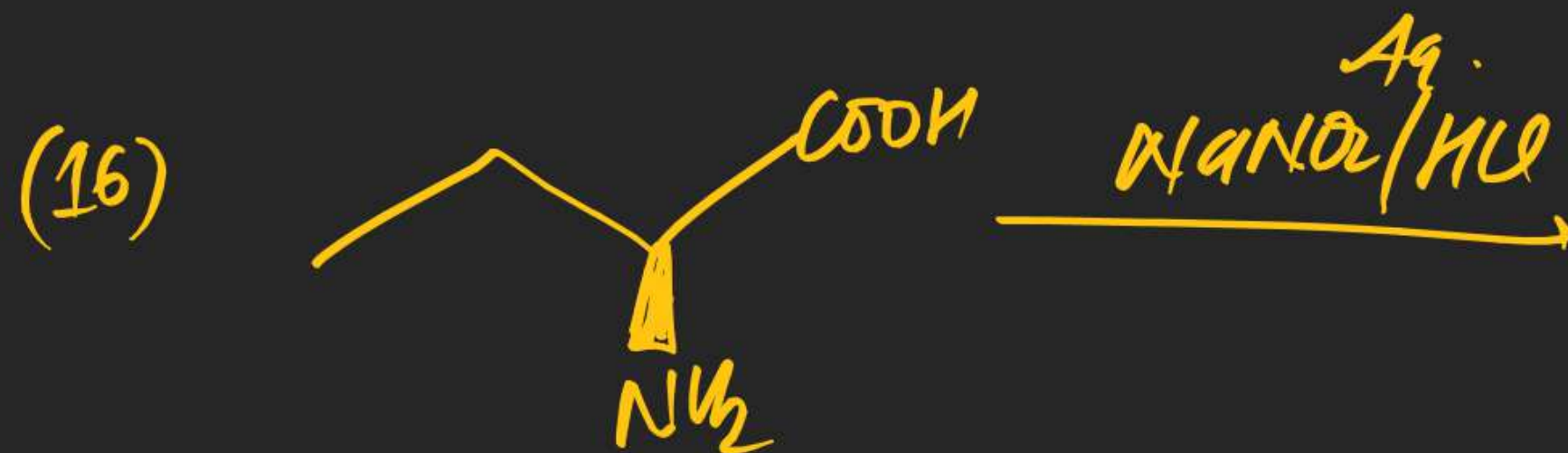






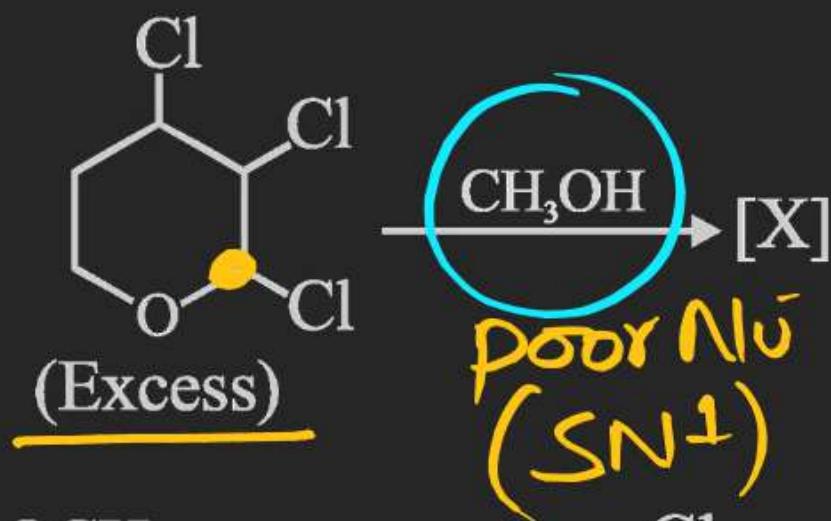




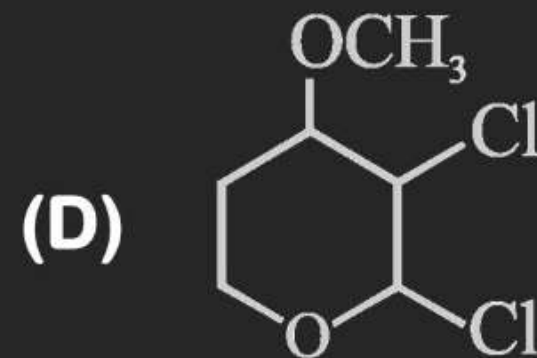
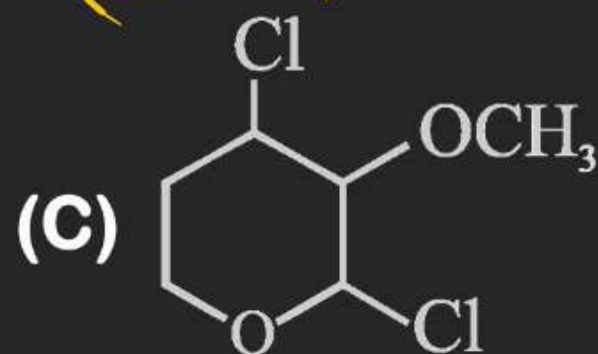
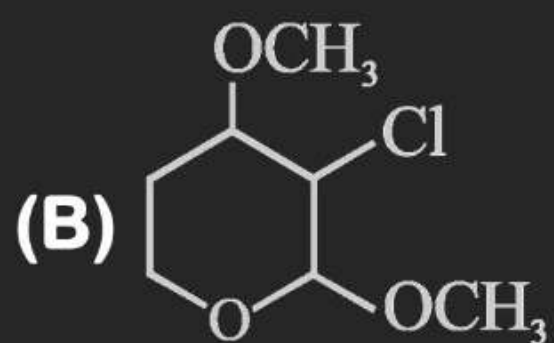
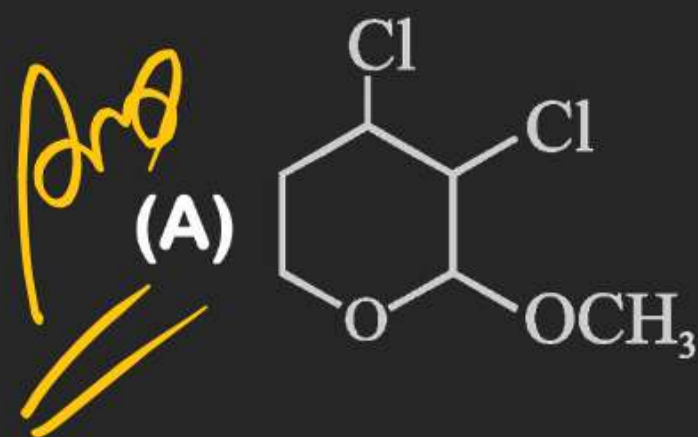


EXERCISE - I (MAINS ORIENTED) PPT-1

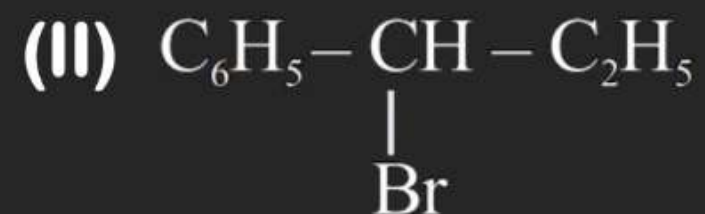
1. Major product of following reaction is:



$\text{SN}^1 \rightarrow$ (R-OH, H₂O, ...)
 $\text{SN}^2 \rightarrow$ Strong Nu⁻
(NaI, NaCN, NaN₃, aq. NaOH)



3. Arrange the following compounds in decreasing order of their reactivity for hydrolysis reaction



(A) I > II > III > IV

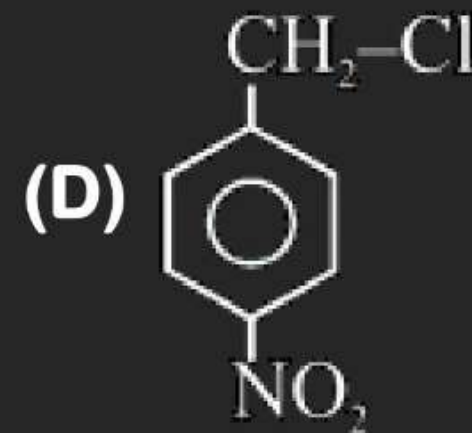
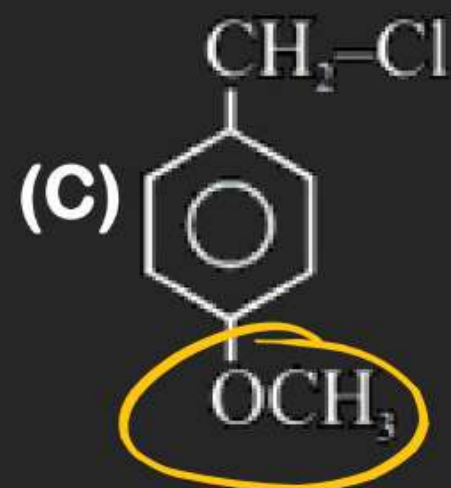
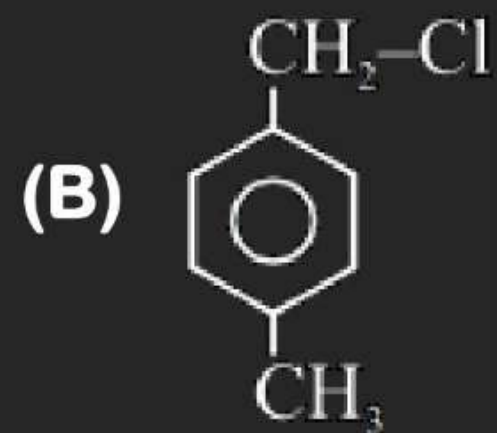
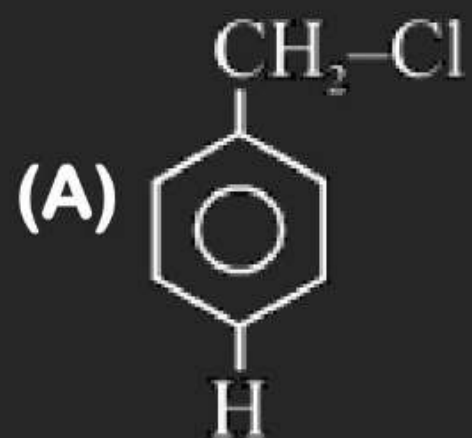
(C) III > IV > II > I

~~(B) IV > II > I > III~~

(D) IV > III > II > I

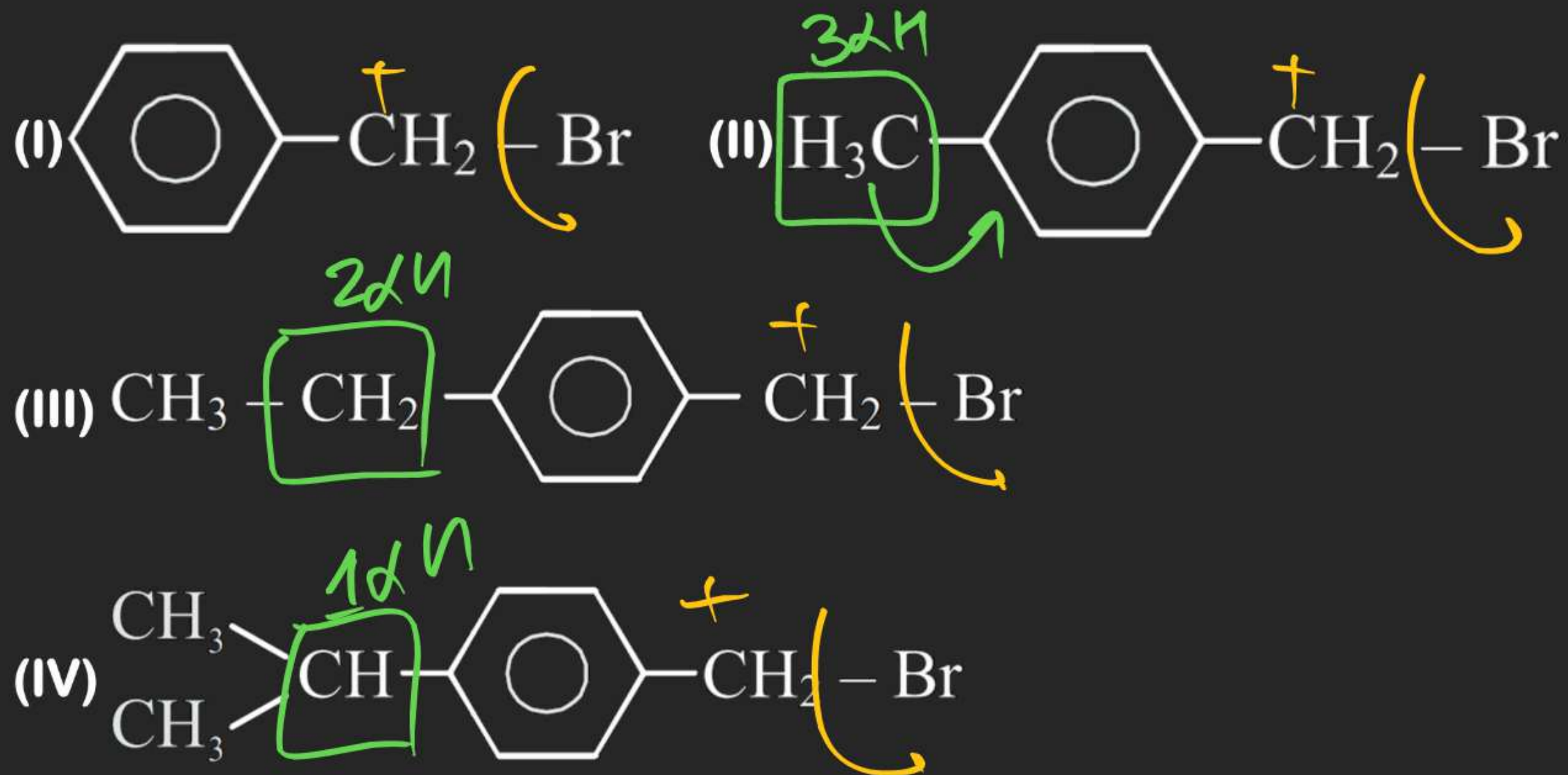


4. Arrange the following compounds in order of decreasing rate of hydrolysis for S_N1 reaction:



$C > B > A > D$

5. Which of the following is most reactive toward S_N1 reaction?



Ans

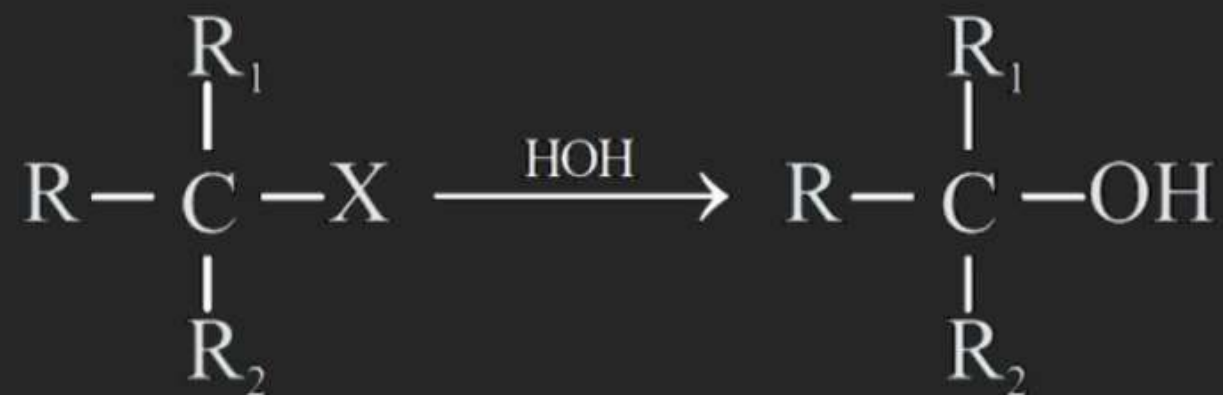
(A) II > III > IV > I

(B) IV > III > II > I

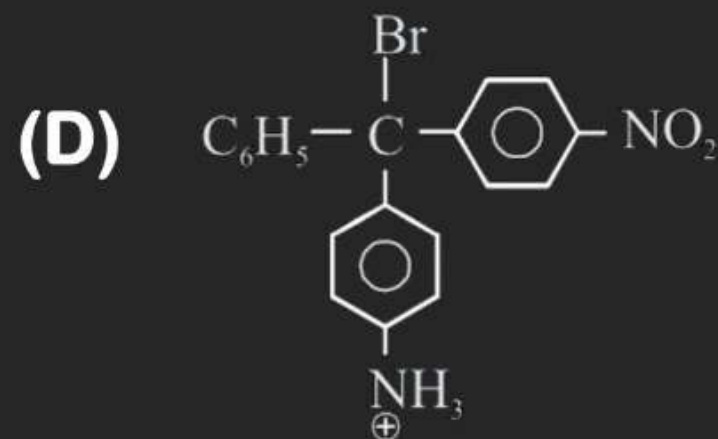
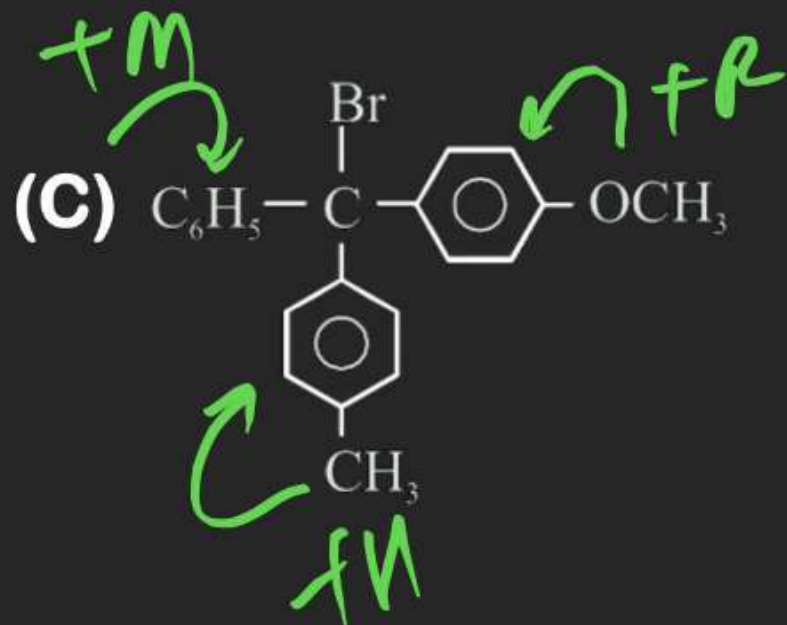
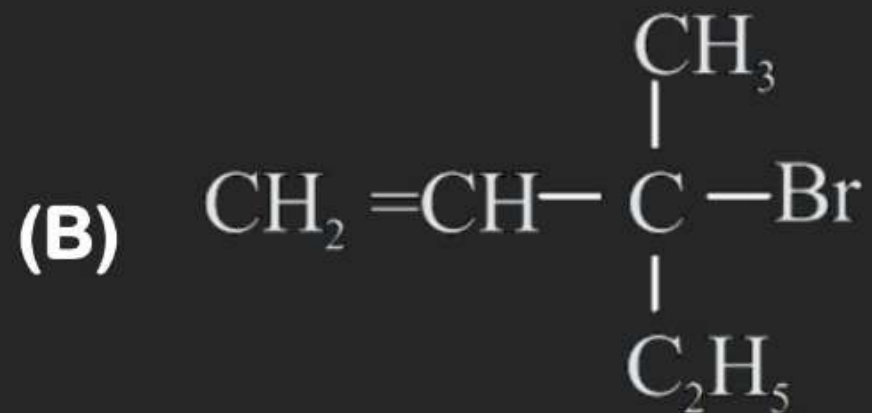
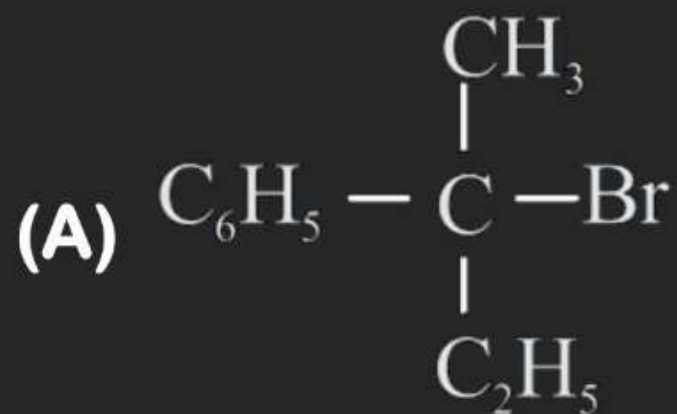
(C) III > IV > II > I

(D) I > II > III > I

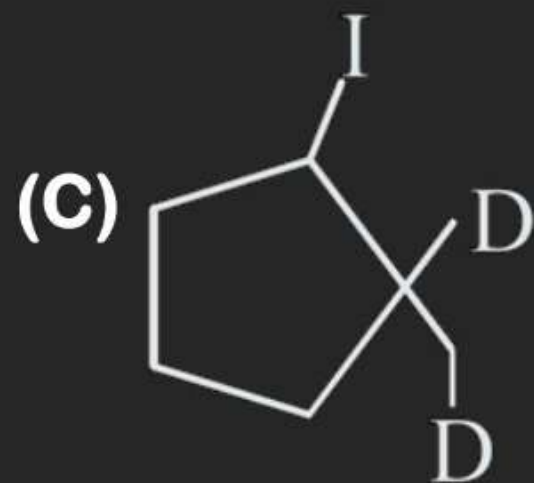
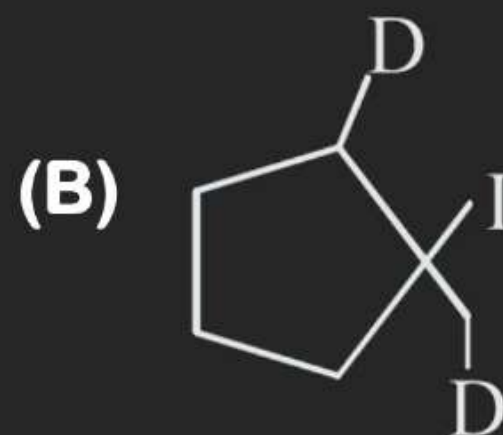
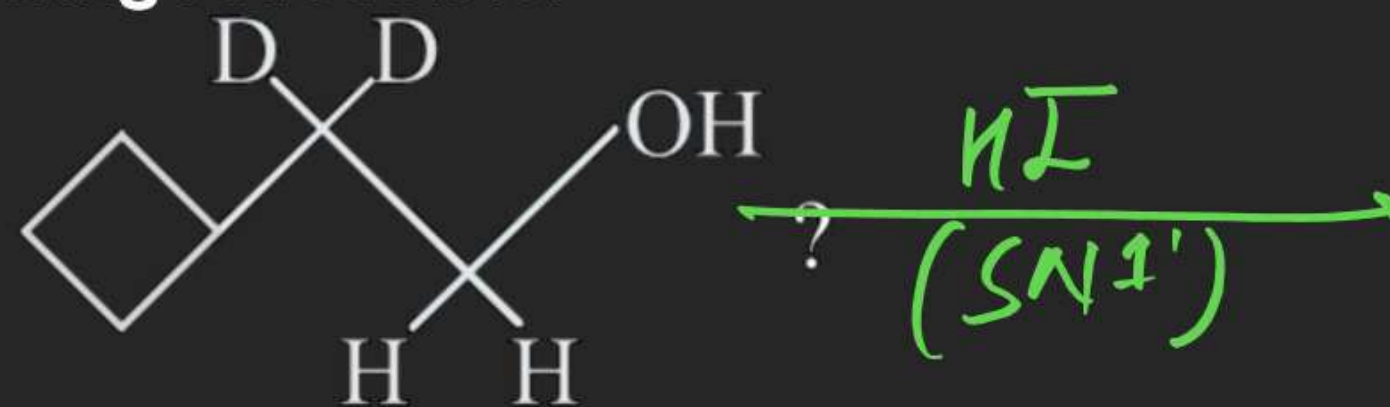
8. For the given reaction, which substrate will give maximum racemisation?



Cation stable ↑
Racemisation ↑

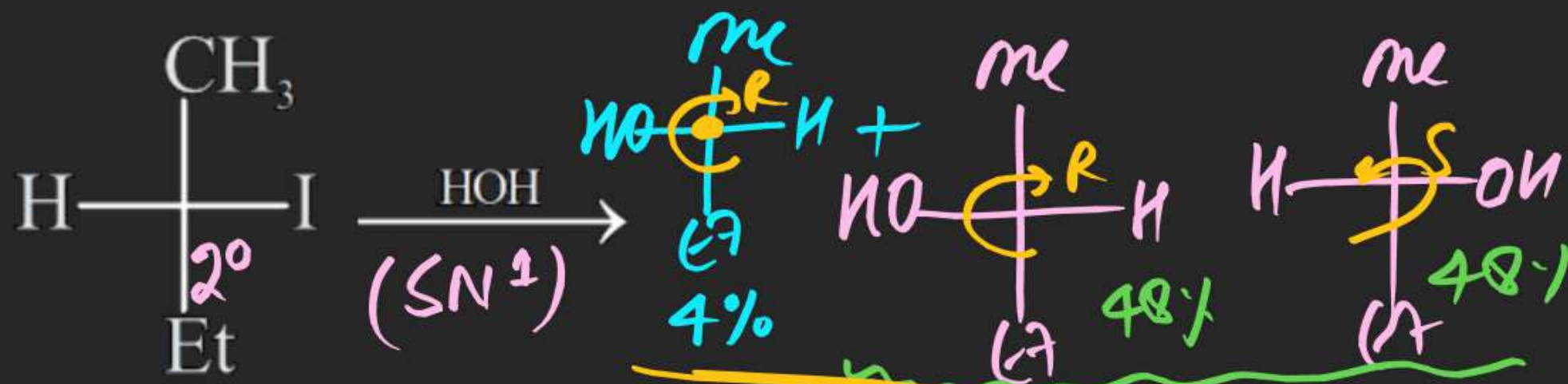



9. Major product of following reaction is:



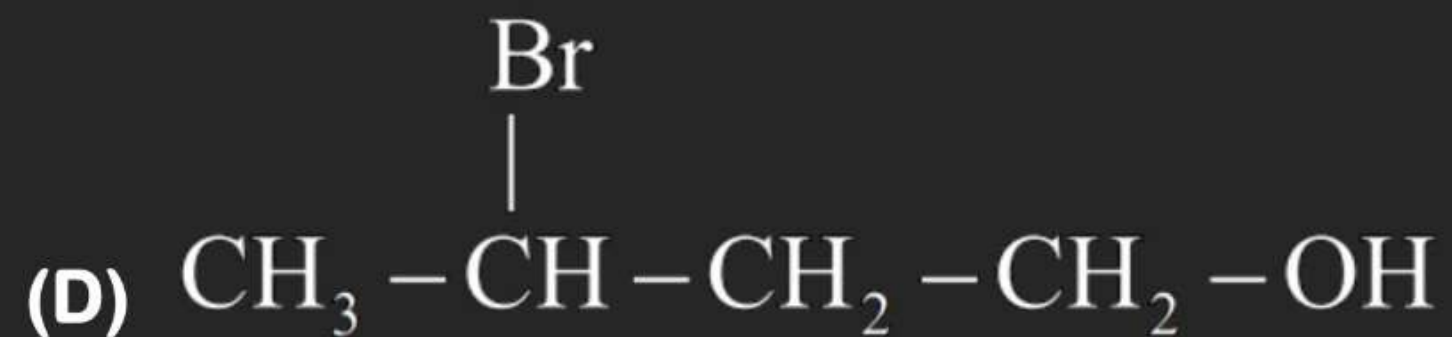
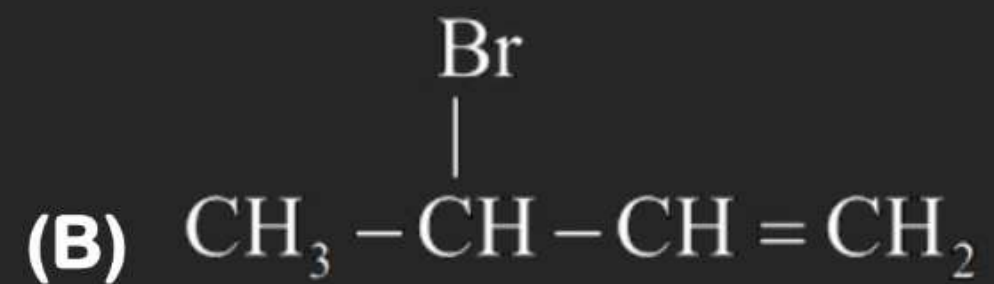
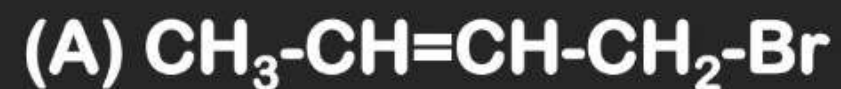
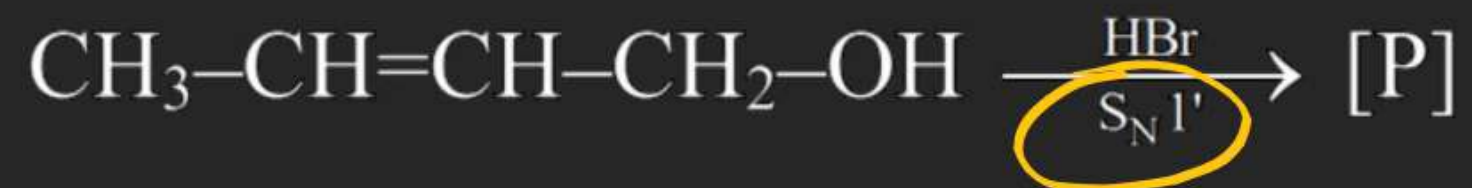
(D) None of these

10. If 96% racemisation takes place in given reaction then find out the correct statement:

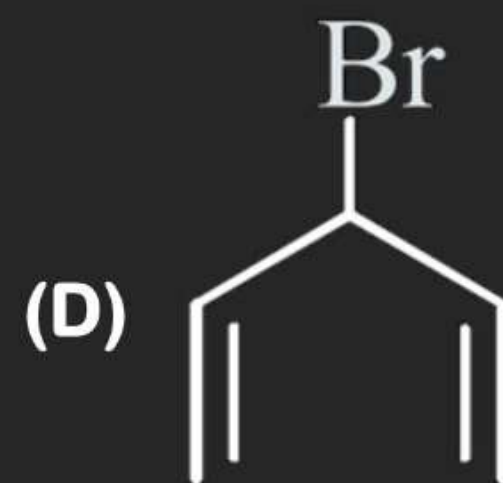
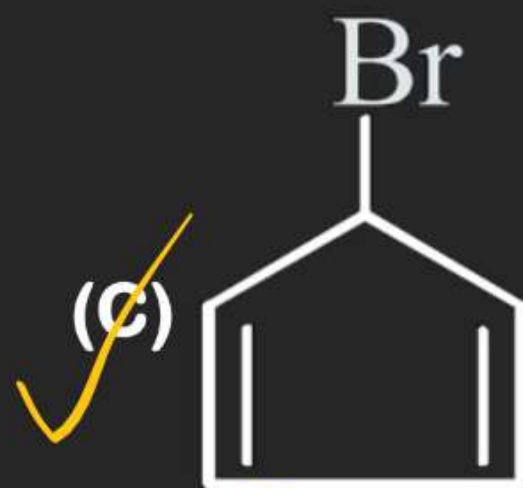
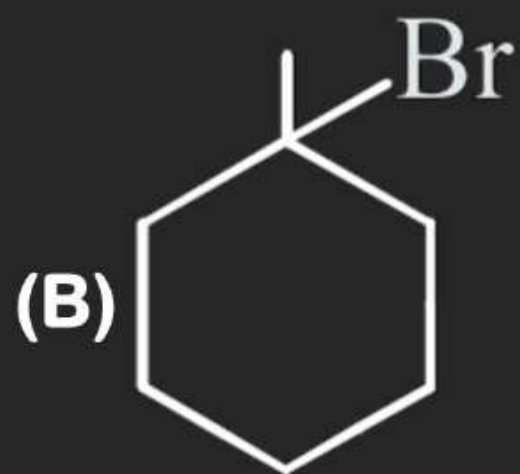
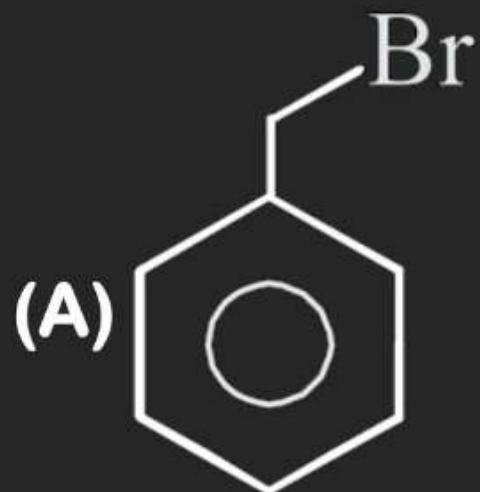


- (A) Among the products 48% " " S and 48%R configuration containing molecules are present
- (B) Among the products 50% " " S and 50%R configuration containing molecules are present
-  (C) Among the products 48% " " S and 52%R configuration containing molecules are present
- (D) Among the products 52% " " S and 48%R configuration containing molecules are present

11. In the given reaction the product [P] can be :



12. Which of the following can not give S_N1 reaction easily?



Anti

Aromatic
highly

16. Which of the following is most reactive toward S_N2 .



(A) Rate = $k[CH_3 Br]$

(B) Rate = $k[OH^-]$

(C) Rate = $k[CH_3 Br][OH^-]$

~~(D)~~ Rate = $k[CH_3 Br]^0 [OH^-]^0$

$$r = k [CH_3 Br]^1 [OH^-]^1$$

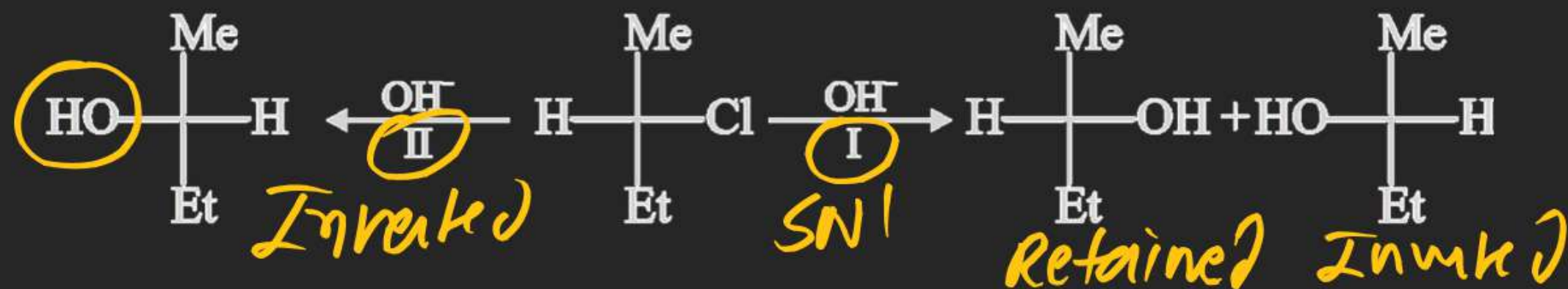
17. Select suitable reason for non-occurrence of the following reaction.



Bad lg

- (A) Attacking nucleophile is stronger one
- (B) Leaving group is a stronger base than nucleophile
- (C) Alcohols are not good substrate for S_{N} reaction
- (D) Hydroxide ions are weak bases

20. For the given reaction, CORRECT option regarding mechanism involved is :



(A) I can't be $\text{S}_{\text{N}}1$

(B) II can't be $\text{S}_{\text{N}}2$ *Con*

(C) I can be $\text{S}_{\text{N}}1$ & II can be $\text{S}_{\text{N}}2$

~~(D) I can be $\text{S}_{\text{N}}2$ & I can be $\text{S}_{\text{N}}1$~~

M

25. The compound $\overset{\text{EWG}}{\boxed{\text{CH}_3 - \text{O}}} - \text{CH}_2 - \text{Br}$ gives faster rate of nucleophilic substitution reaction than :

~~(A)~~ CH_3Br

~~(B)~~ $\text{CH}_3\text{CH}_2\text{Br}$

~~(C)~~ PhCH_2Br

~~(D)~~ $\text{CH}_3\text{OCH}_2\text{Cl}$

27. When ethyl bromide is treated with moist Ag_2O , the main product is:
- (A) Ethyl ether (B) Ethanol (C) Ethoxy ethane (D) All of these



40. On heating glycerol with excess amount to HI, the product formed is

(A) Allyl iodide

☒ (B) Isopropyl iodide

(C) Propylene

(D) 1,2,3-tri-iodopropane

