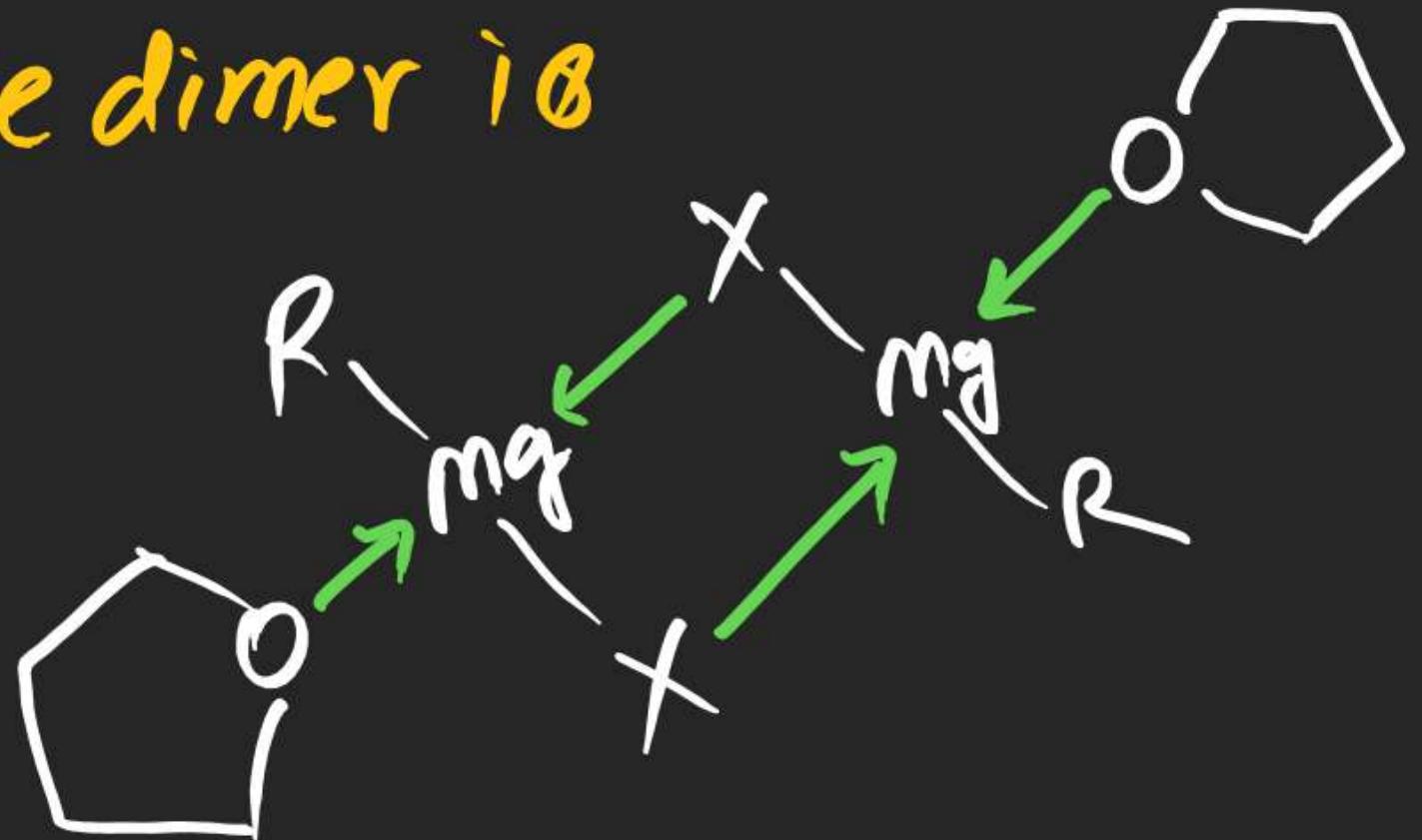
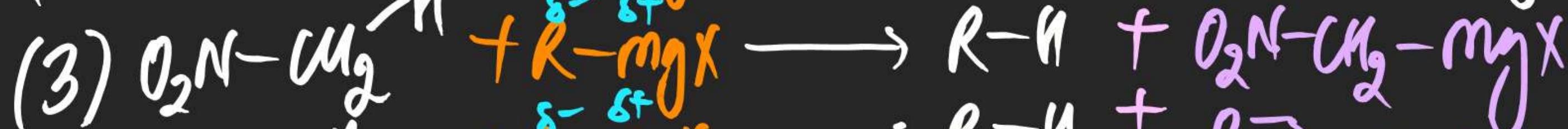


(vi) Probable dimer iθ



Reactions shown By Grignard Reagent:-

(1) Acid Base Reaction: Since G.R can behave like Base hence it always prefers to show Acid-Base Reaction.

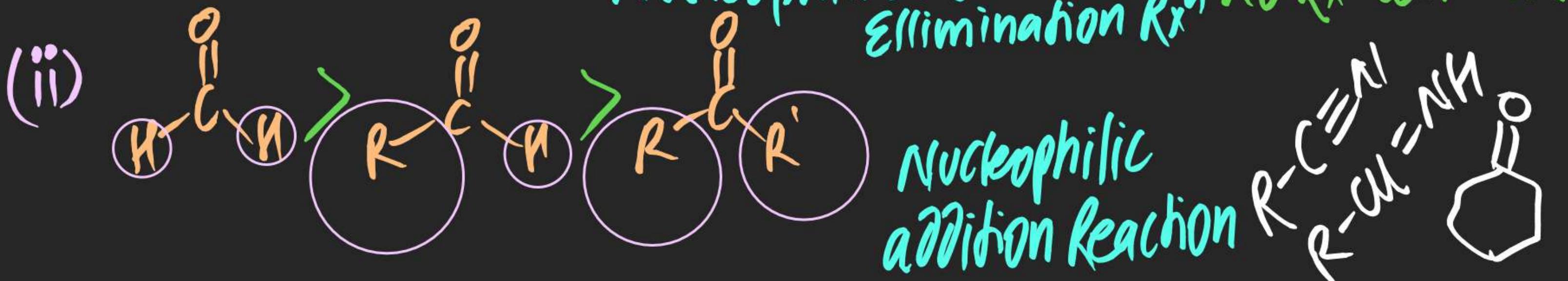
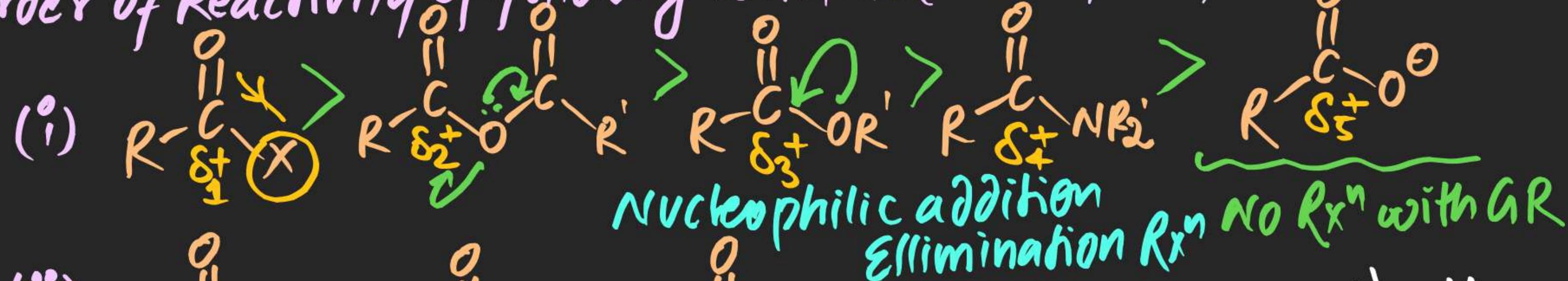


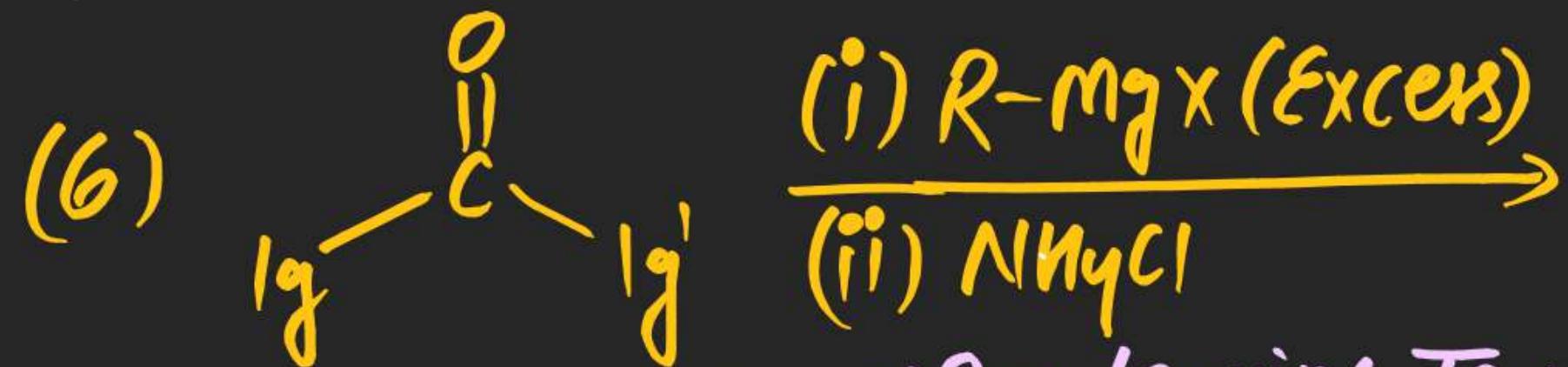
(2) Nucleophilic Addition / Nucleophilic Addition Elimination Reaction :

⇒ When Compounds Contain  ($E_B > E_A$) Nucleophilic addition or addition elimination wd takes place



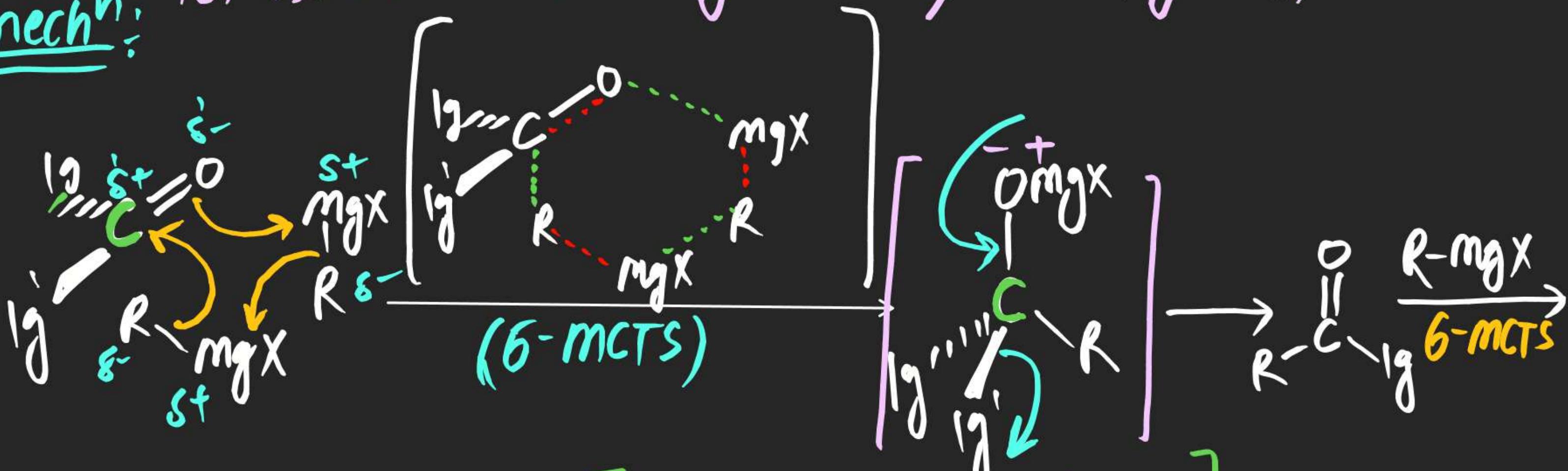
Order of Reactivity of following with GR (Nucleophile)



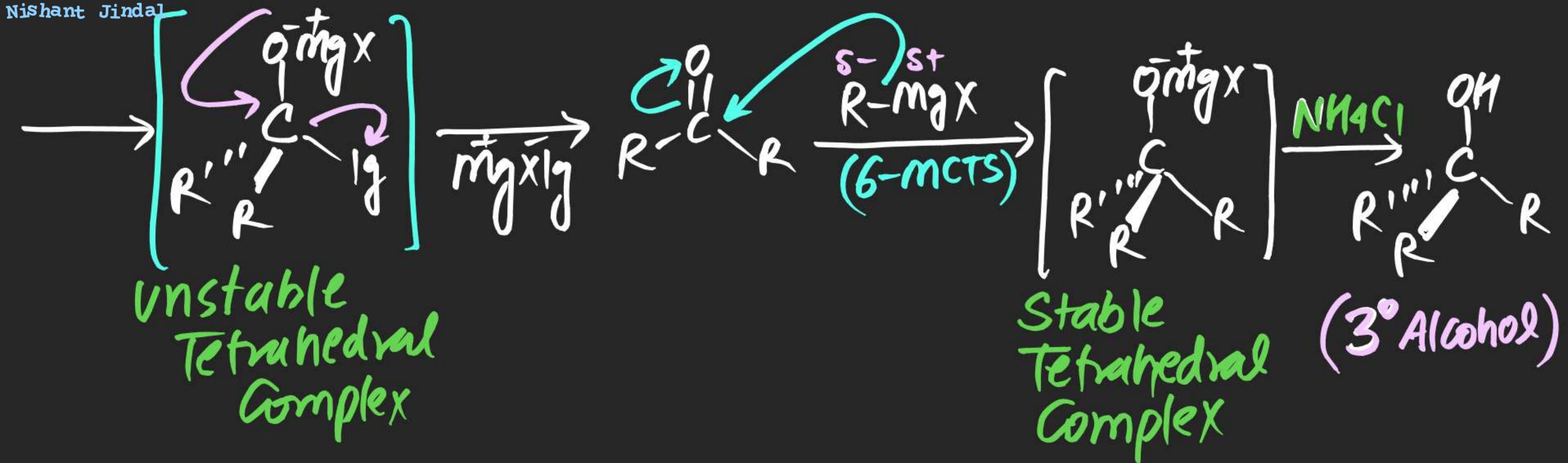


let us consider leaving Tendency Order ('g' > 'g')

mechⁿ:

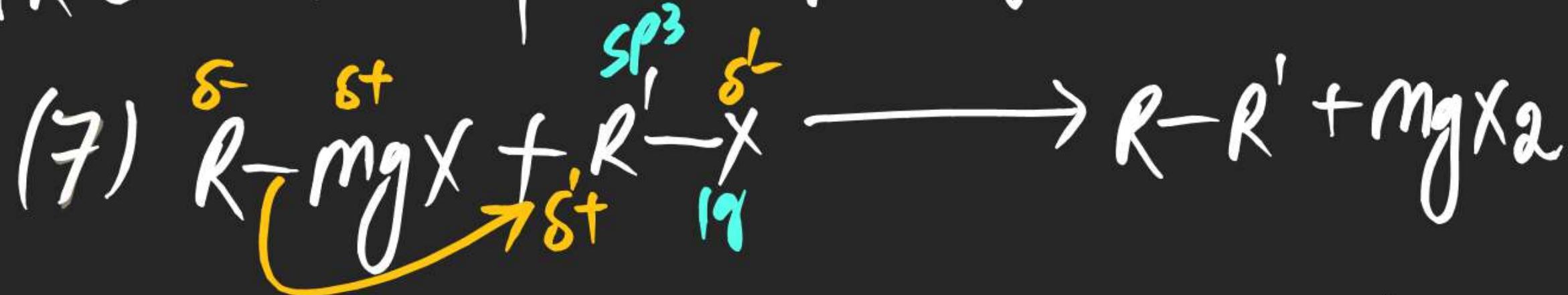


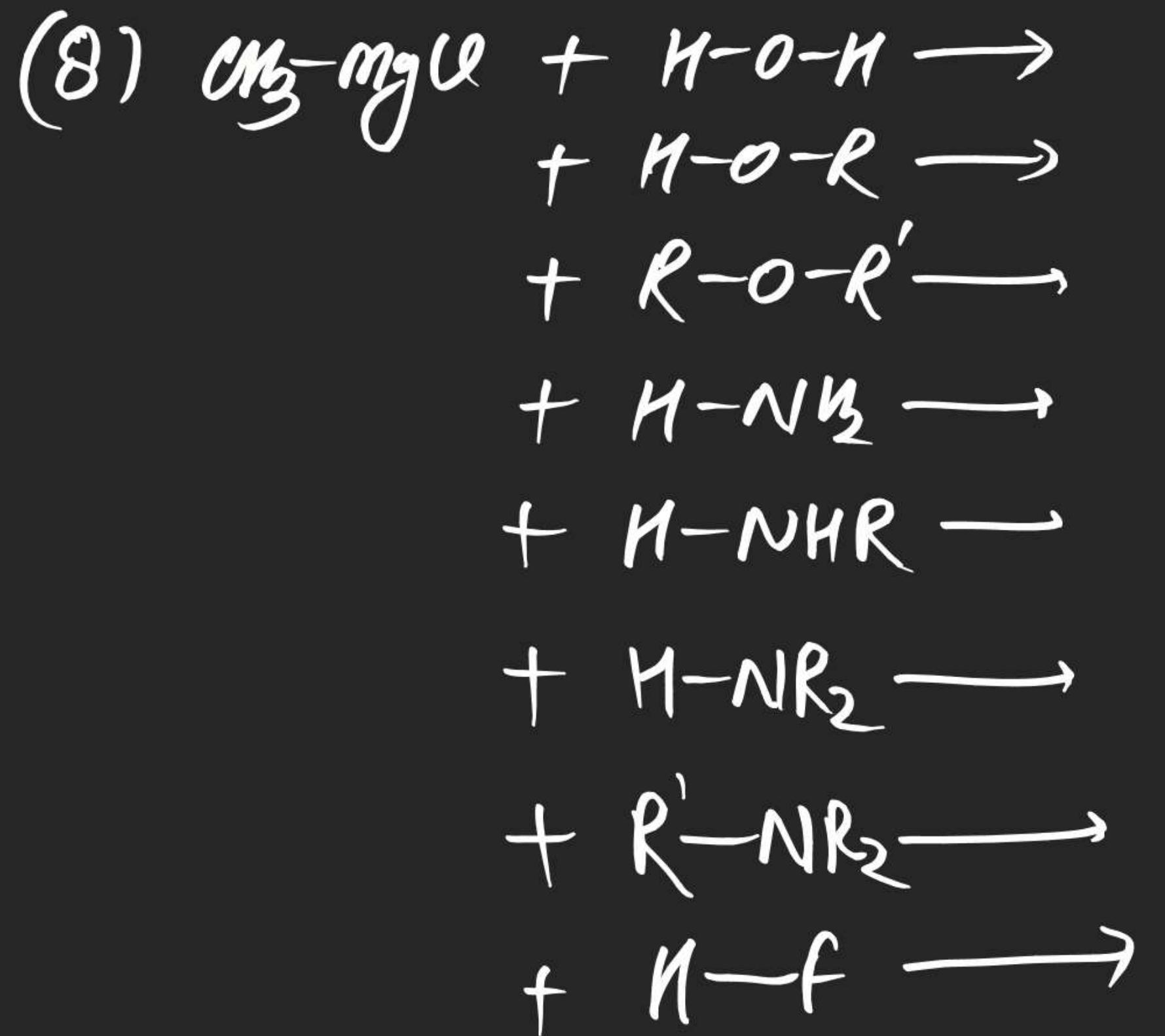
[Unstable Tetrahedral Complex]

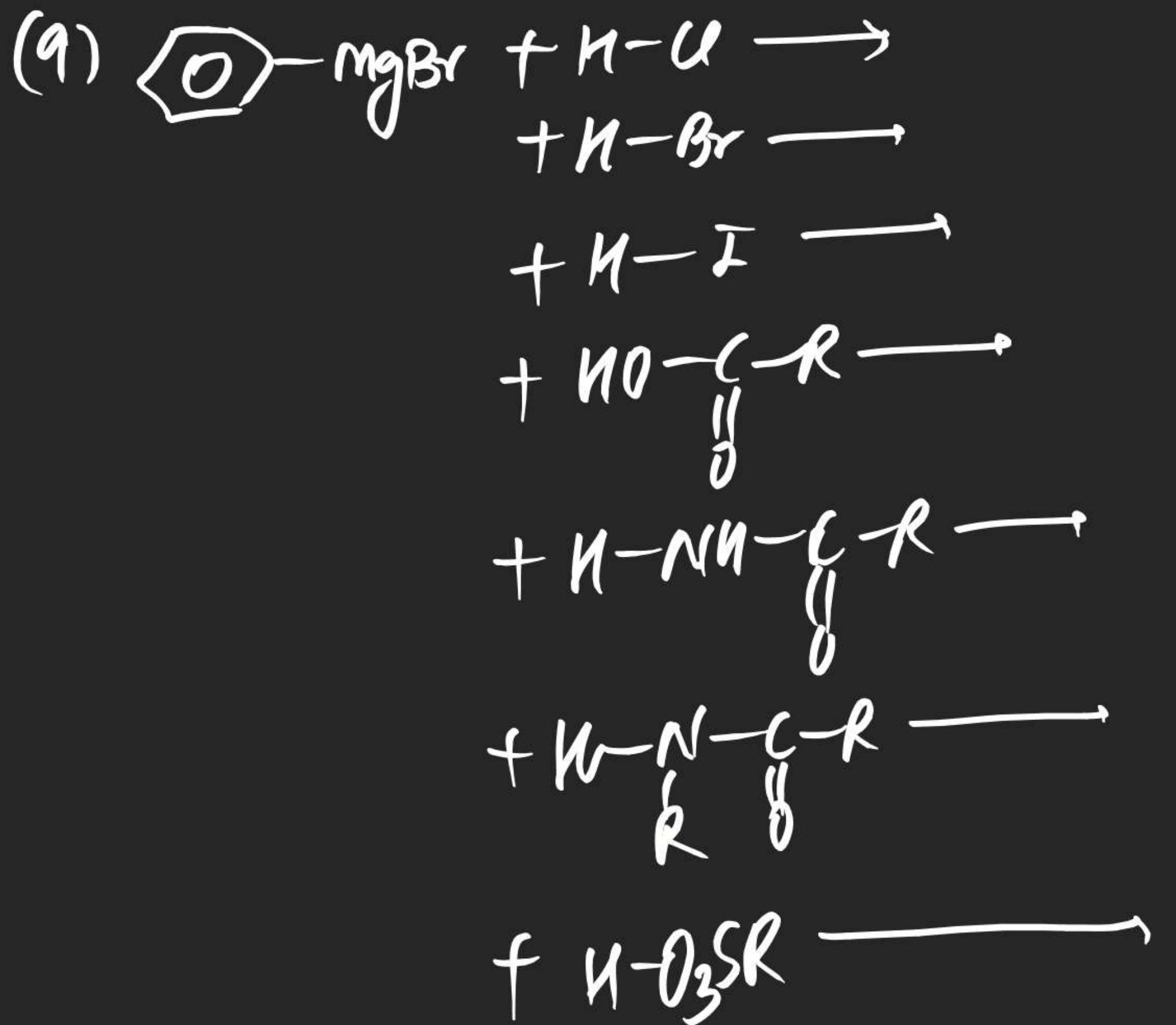


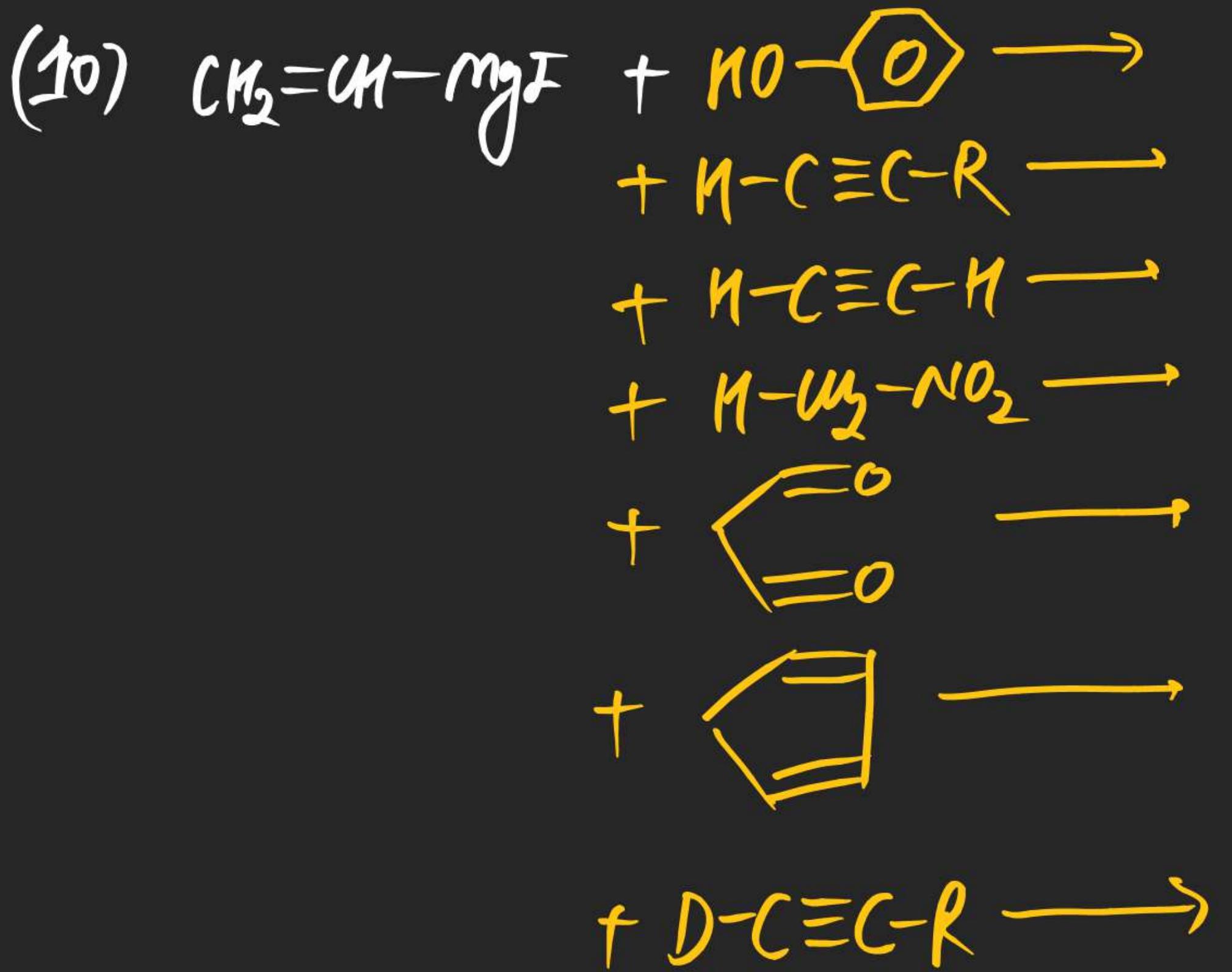
(3) Nucleophilic Substitution RX^n :

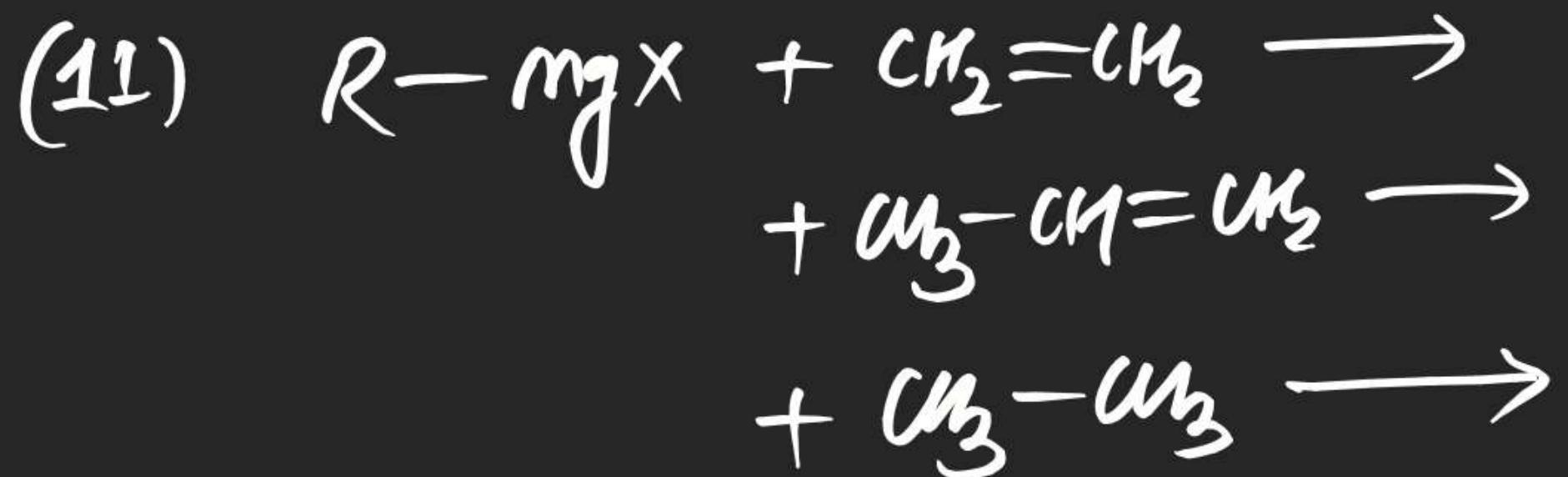
$\rightarrow h \cdot R$ can behave like Nucleophile & Base hence $SN^2 (1^\circ, 2^\circ) \& E^2 (3^\circ)$





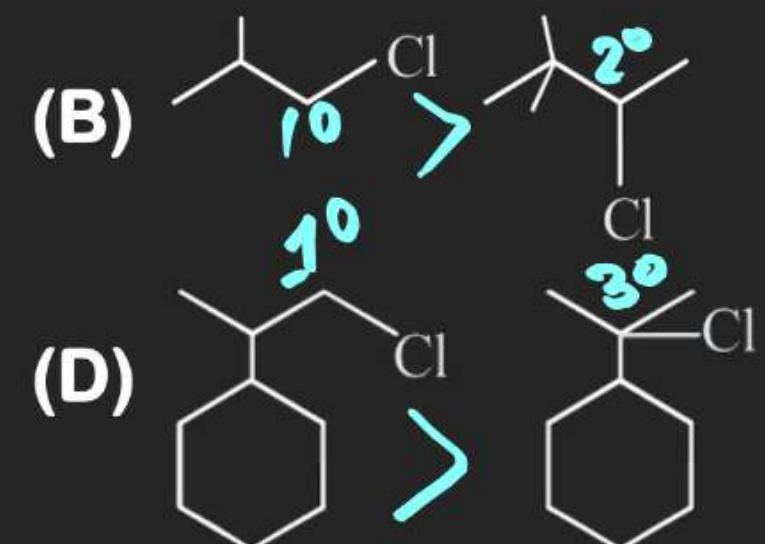
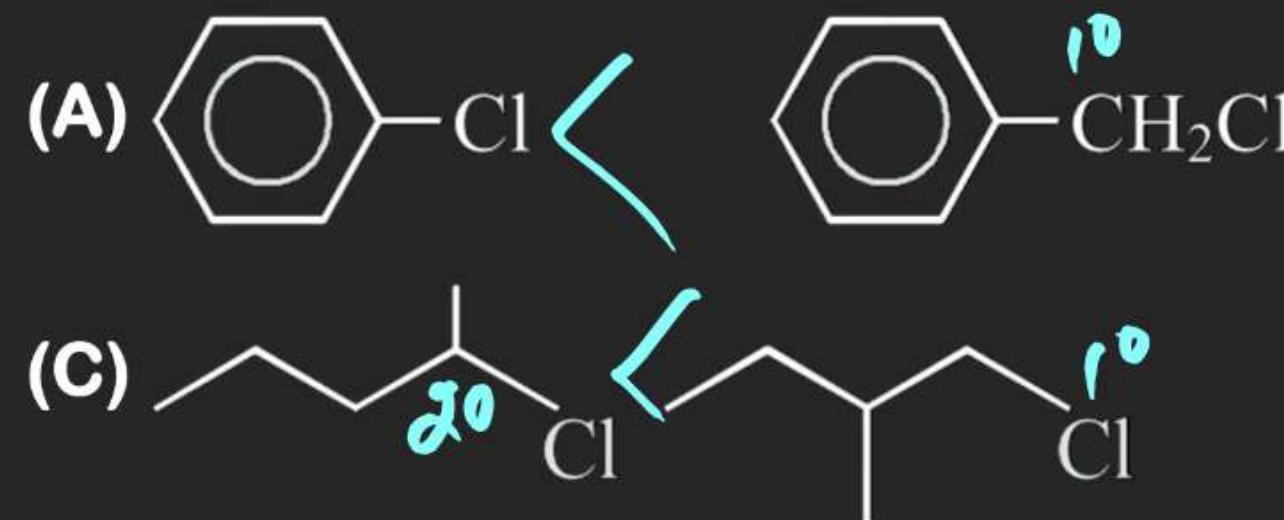




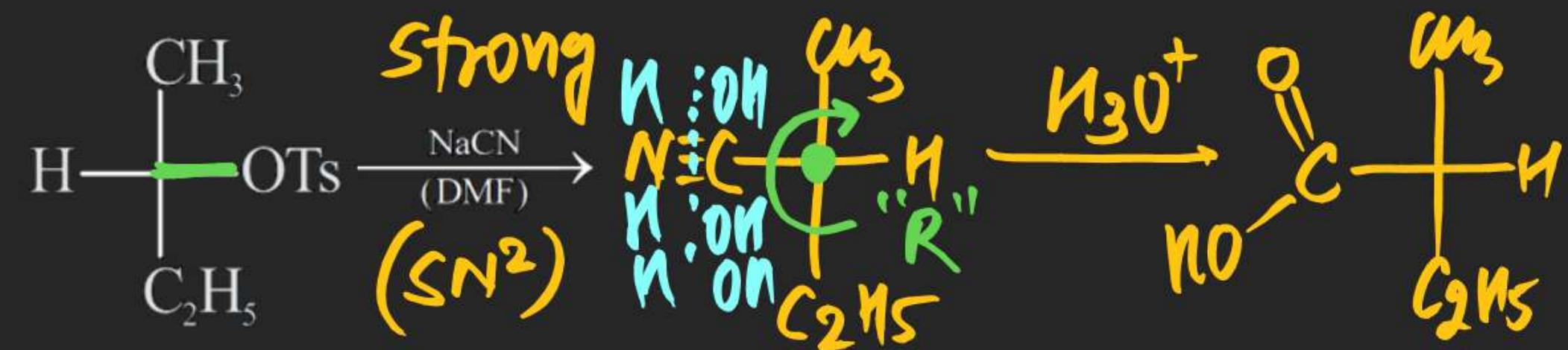


2. In the given pair in which pair the first compound is more reactive than second towards S_N2 reaction.

1 > 2 > 3



3. Which of following statements is(are) correct for the given reaction.



- (A) Product formation takes place due to the breaking of $\text{C}-\text{O}$ bond
- (B) Hydrolysis of major product gives optically active carboxylic acid
- (C) Reaction involves bimolecular nucleophilic substitution reaction
- (D) Absolute configuration of major product is " R "

4. Which of the following statements is / are true?

- (A) $\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{I}$ will react more readily than $(\text{CH}_3)_2\text{CHI}$ for S_N2 reactions.
- (B) $\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{Cl}$ will react more readily than $\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{Br}$ for S_N2 reaction.
- (C) $\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{Br}$ will react more readily than $(\text{CH}_3)_3\text{C} - \text{CH}_2 - \text{Br}$ for S_N2 reactions
- (D) $\text{CH}_3 - \text{O} - \text{C}_6\text{H}_4 - \text{CH}_2\text{Br}$ will react more readily than $\text{NO}_2 - \text{C}_6\text{H}_5 - \text{CH}_2\text{Br}$ for S_N2 reaction

false



5. Incorrect statement about alkyl halides is / are:

- (A) Tertiary alkyl halides undergo S_N2 substitutions
- (B) Alkyl iodides on exposure to sunlight gradually darken
- (C) Photo iodination is irreversible in presence of HIO_3
- (D) A nucleophilic substitution is most difficult in alkyl iodides

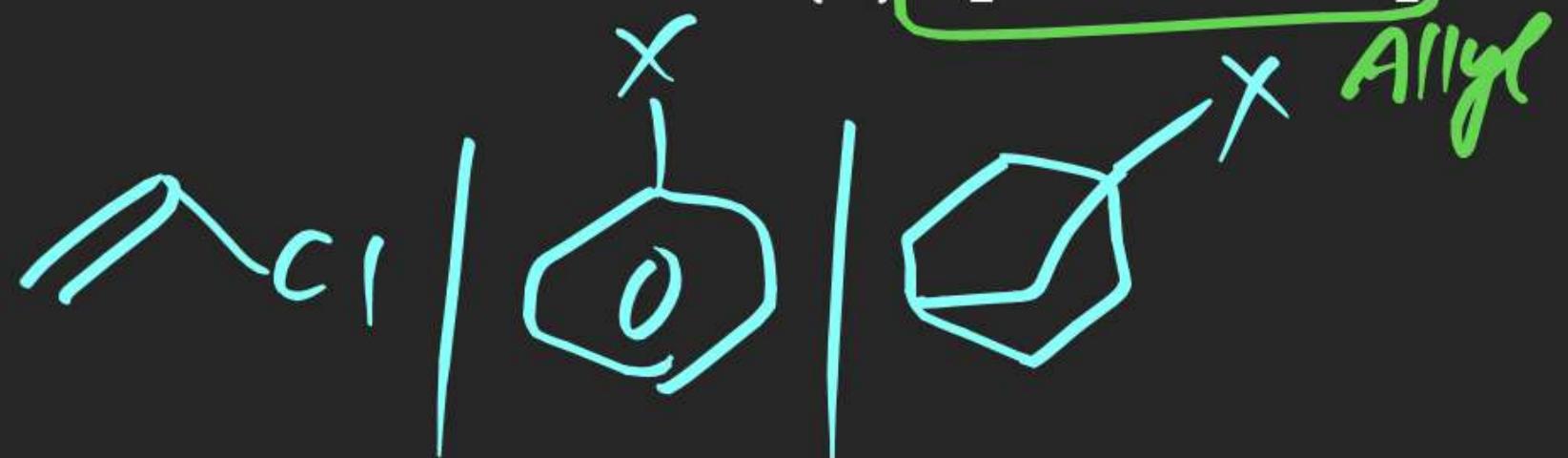


7. S_N1 & S_N2 is not favourable in

- (A) $H_2C = CH - Cl$
 (C) $Ph - Cl$

(B) $Ph - CH_2 - Cl$

(D) $H_2C = CH - CH_2 - Cl$



8. Among the following, which statement is correct?

(A) Alkyl-aryl product can be obtained in wurtz reaction.

(B) Dipole moment of cyclohexyl chloride is more than that of chlorobenzene.

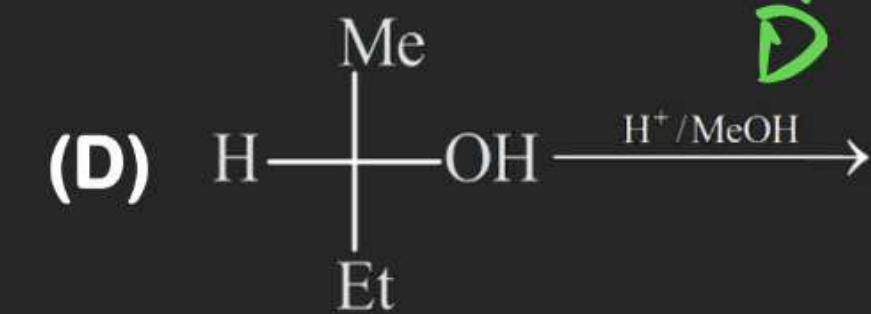
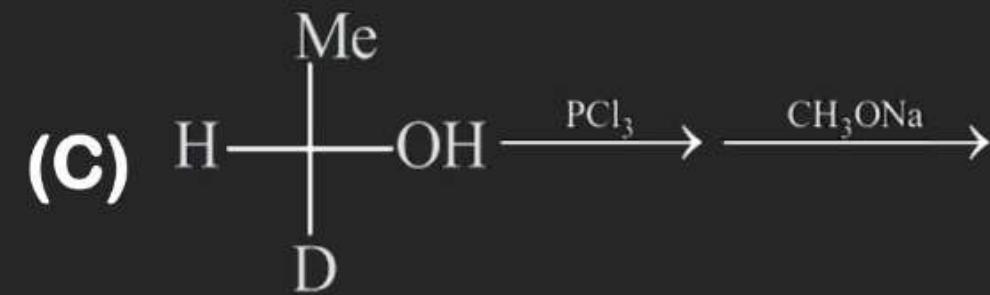
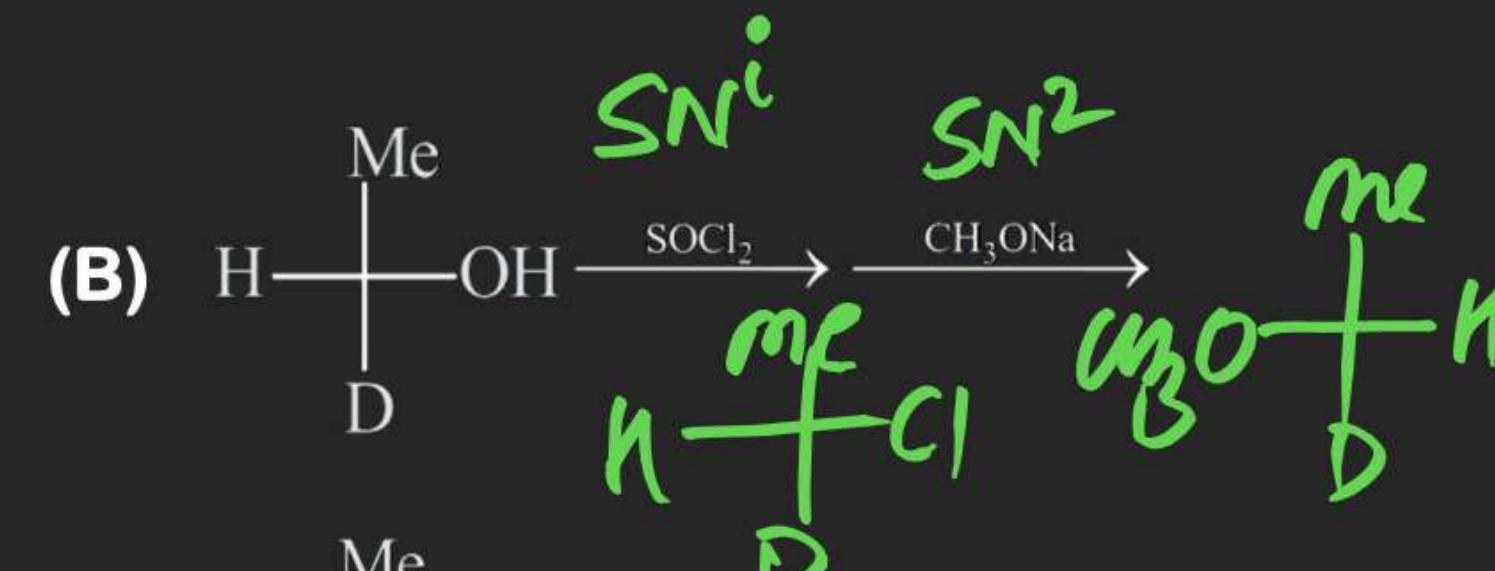
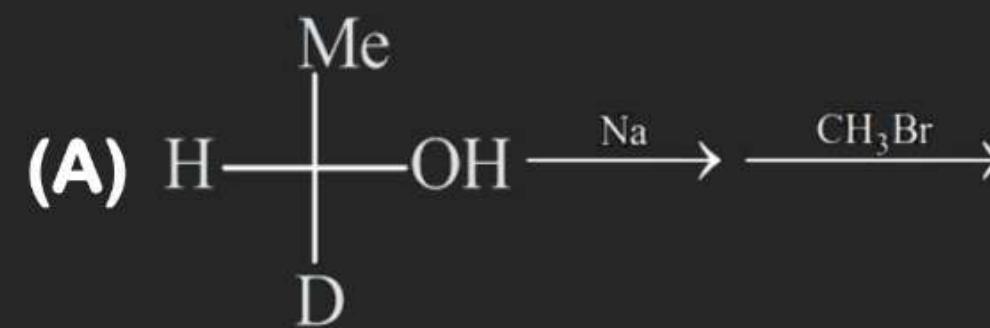
Correct

(C) Alcohols are insoluble in lucas reagent while their halides are soluble.

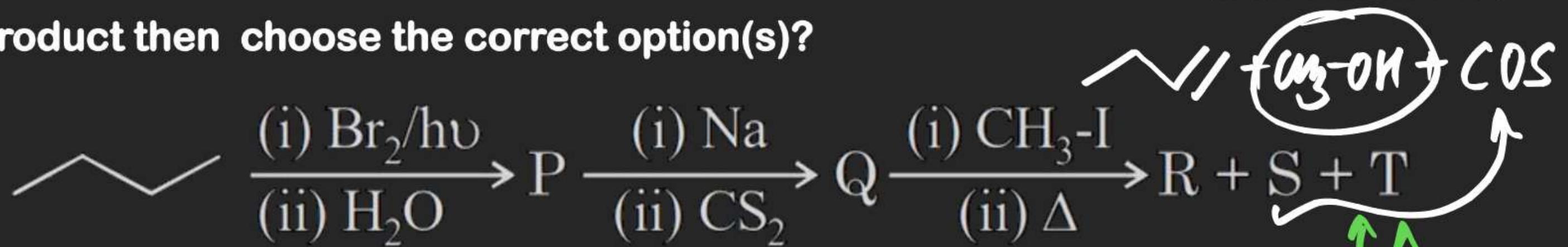
(D) Preparation of ether by acid dehydration of secondary alcohol is not suitable.



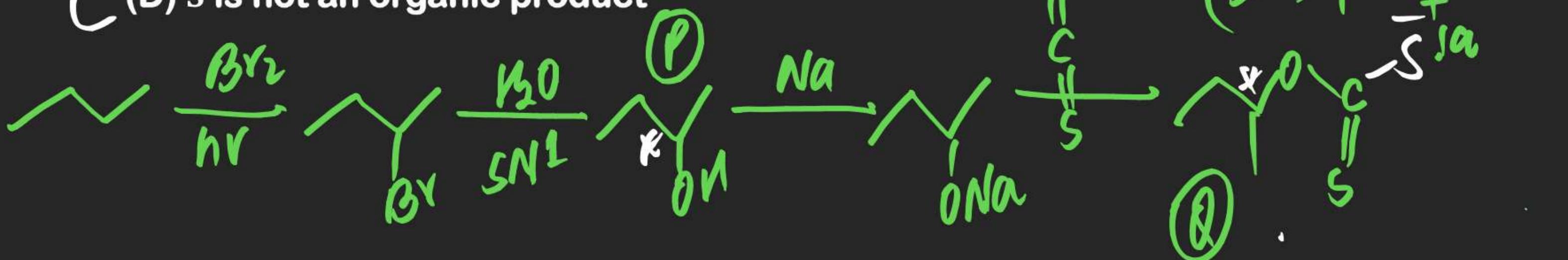
9. In which of the following reaction(s), configuration about chiral carbon is retained in the major product



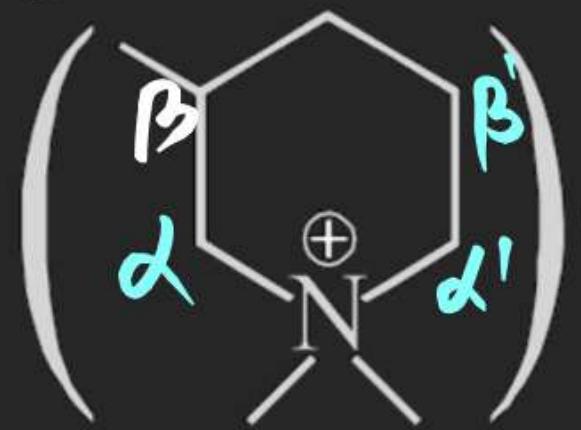
11. Assuming that all products are major & R is hydrocarbon while T is also organic product then choose the correct option(s)?



- (A) T is more acidic than P
- (B) R has more heat of combustion than propene
- (C) Both P & Q can show stereoisomerism
- (D) S is not an organic product



12. Which of following are correct for given reaction

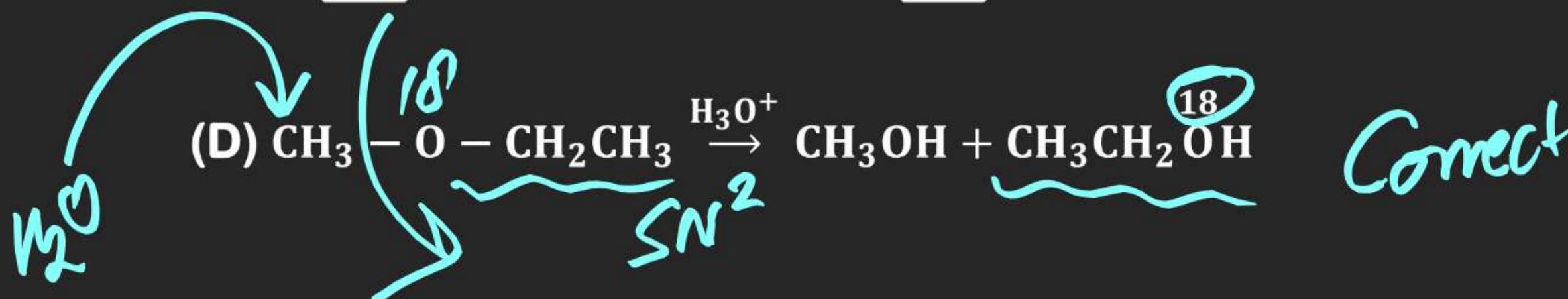
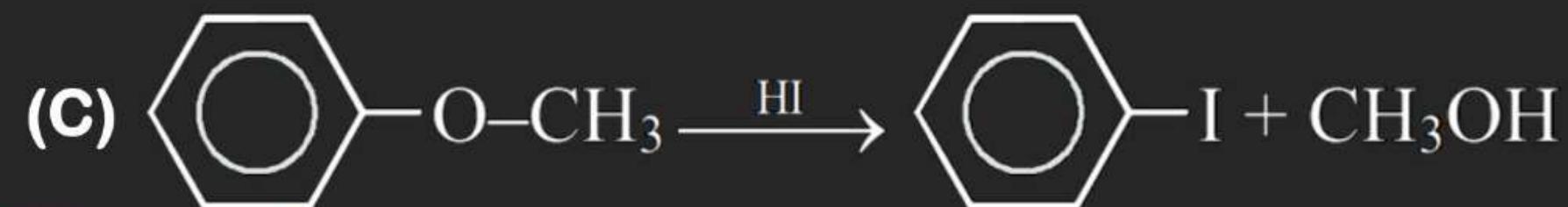
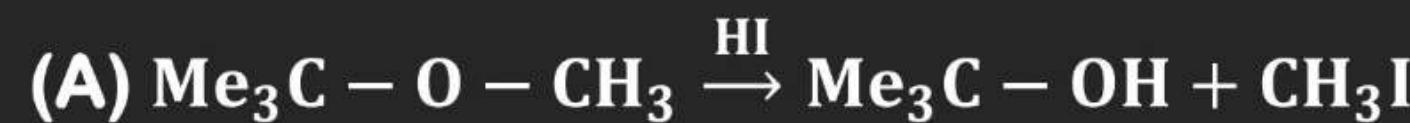


major product

- (A) Major product of reaction is ?
- (B) Major product is ?
- (C) Major product formation involve substitution
- (D) The reaction is E₂ reaction

R

13. Which of the following reactions is (are) incorrectly matched with their major product:



14. Correct statement among the following is/are:

- (A) The rate of hydrolysis of tertiary butyl bromide increases by addition of Ag_2O
- (B) Aqueous Ag_2O produces nucleophilic OH^-
- (C) The addition of a small amount of oxygen slows down the photochemical chlorination of methane.
- (D) $\text{CH}_3\text{CH}_2\text{Cl}$ is more reactive than PhCH_2Cl for bimolecular nucleophilic substitution reaction



Free
radical
Scavenger

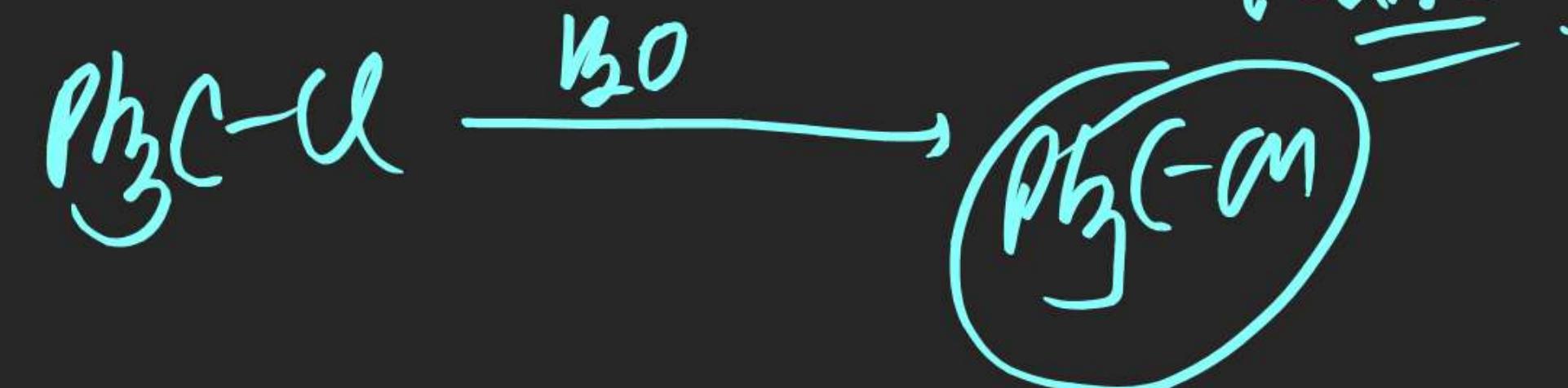


15. Incorrect statement among the following is/are:

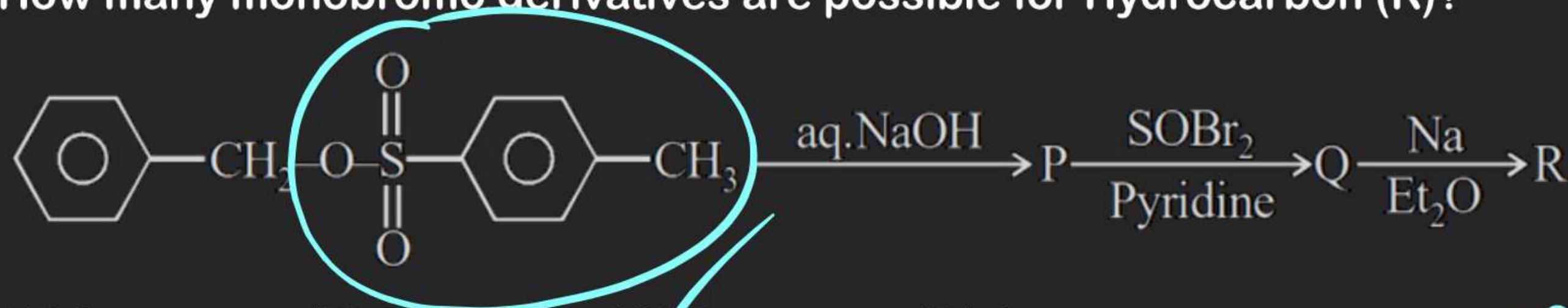
- (A) ROH with NaI in the presence of phosphoric acid gives RI, but not in the presence of H_2SO_4
- (B) 2-methyl propane on chlorination ($Cl_2, h\nu$) gives 1-chloro-2-methyl propane while bromination ($Br_2, h\nu$) gives 2-bromo-2-methyl propane
- (C) Usually higher temperature prefers substitution over elimination
- (D) Triphenyl chloromethane cannot be hydrolysed

M-IUP

False



17. How many monobromo derivatives are possible for Hydrocarbon (R)?

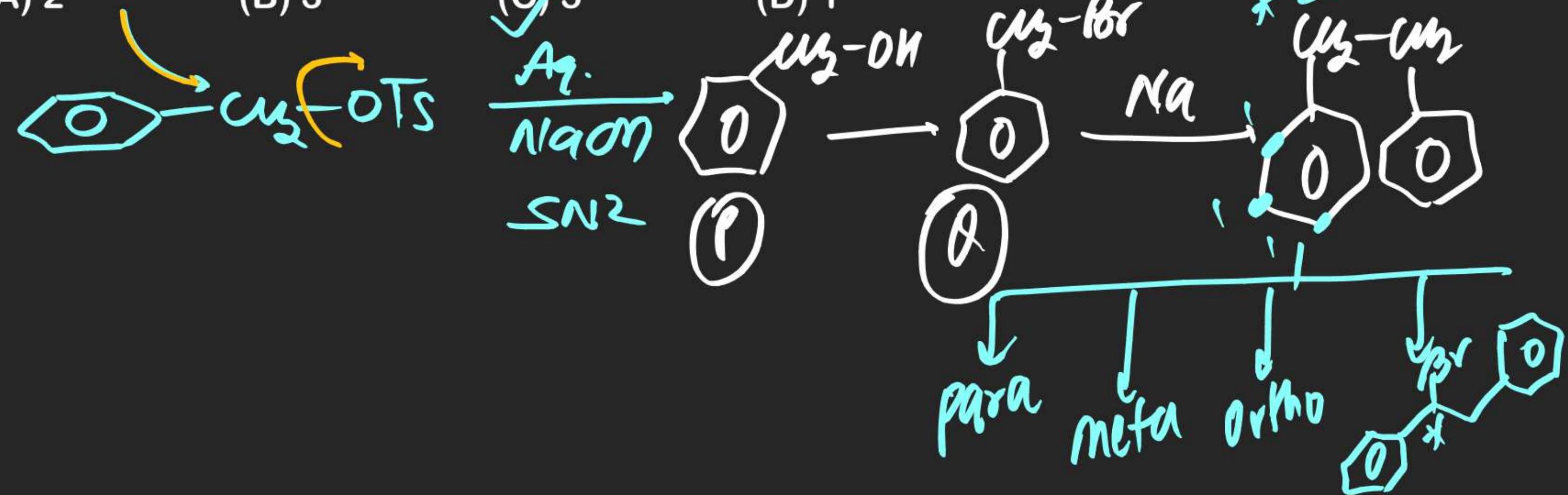


(A) 2

(B) 3

(C) 5

(D) 1

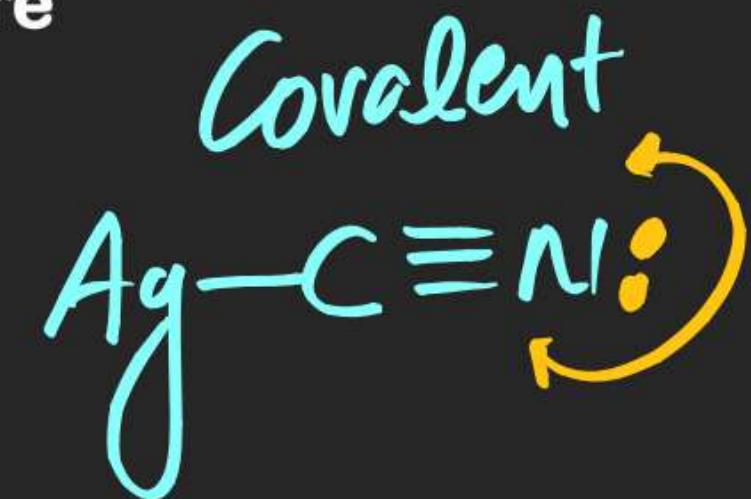


2. Groups like CN & [−O − N = O] : possess two nucleophilic centre and are called ambident nucleophiles. Actually cyanide group is hybride of two contributing structures and therefore can act as nucleophile in two different ways

$[C \equiv N \leftrightarrow C = N^{\ominus}]$. Similarly nitrite ion also represents an ambident nucleophile with two different points of linkage $[O \text{---} O]$.

Incorrect statement

- (A) KCN is predominantly ionic in nature
- (B) AgCN is mainly covalent in nature
- (C) In AgCN, carbon is the donor atom
- (D) In AgCN nitrogen is the donor atom



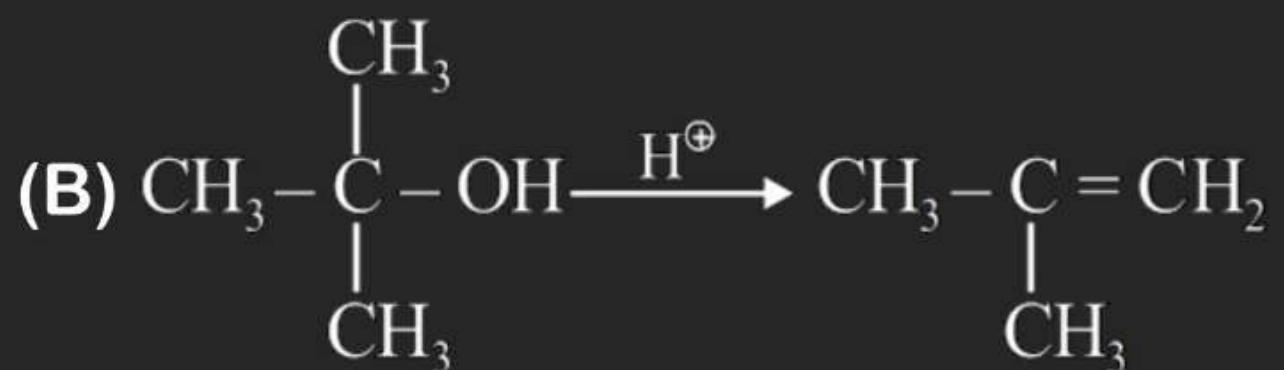
3. Match the List I with List II

List-I

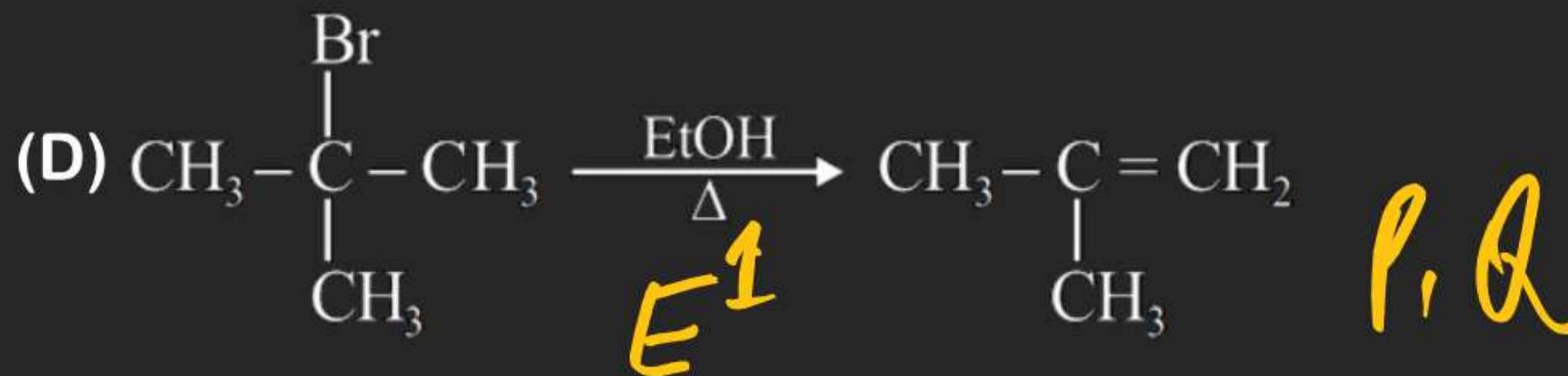


List-II

(P) Elimination Reaction ✓



(Q) Carbocation ✓



(S) Free radical

4. Match the List I with List II

List-I

(Reactions)



List-II

(Products)



6. Match the List I with List II

List-I

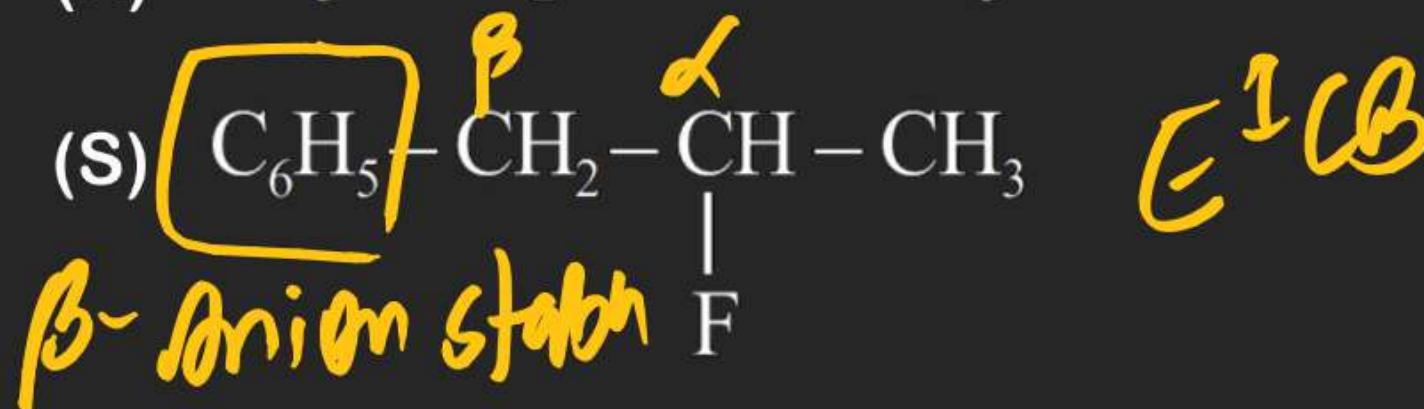
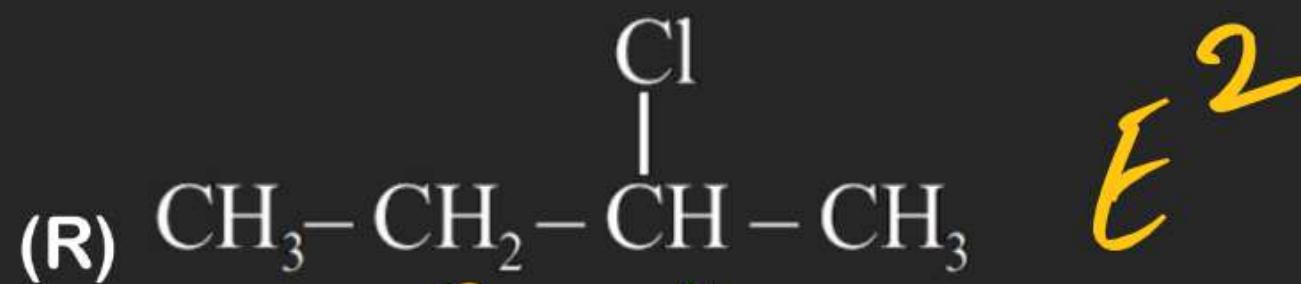
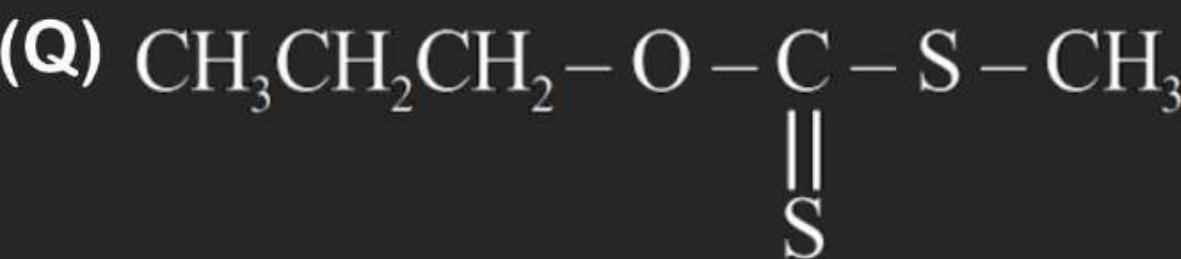
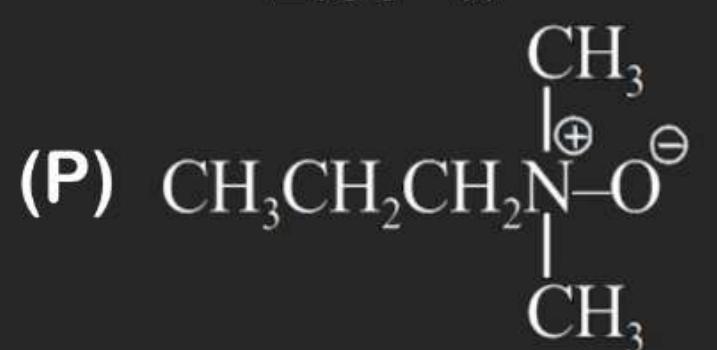
(A) E_{1CB}

(B) Saytzeff alkene as major product

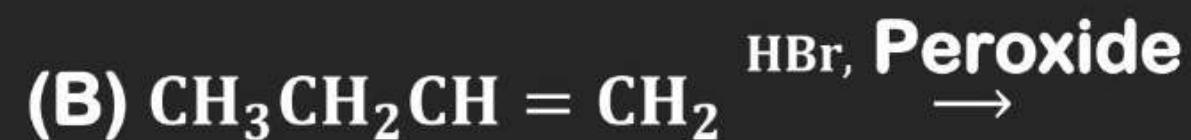
(C) E₂

(D) E_j

List - II



**7. Column-I
(Reactions)**



**Column-II
(Characteristics)**

(P) Bimolecular

(Q) Carbocation intermediate

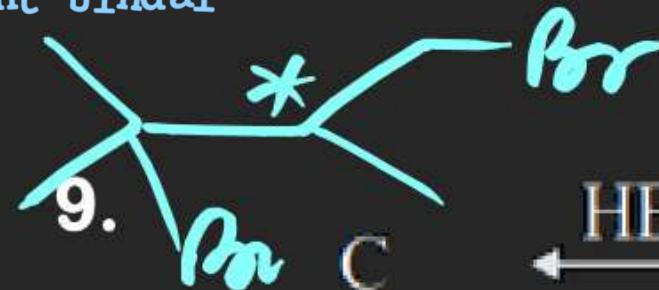
(R) Regioselective ?

(S) Racemic modification

(T) Stereospecific reaction ?

8. Column-I**(Statements)****(A) Reactions are concerted****(B) CH_3X cannot react****(C) $3^\circ \text{R-X} > 2^\circ \text{R-X} > 1^\circ \text{R-X}$** **(D) R-I reacts faster than R-Cl** **Column-II****(Consistent path of reaction)****(P) $\text{S}_{\text{N}}1$** **(Q) $\text{S}_{\text{N}}2$** **(R) E_1** **(S) E_2**

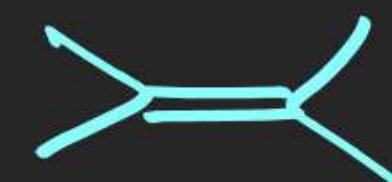
Concerted | Simultaneous E_P & E_F | TS mechanism
only.



(Resolvable)

Optically Active $(\text{C}_6\text{H}_{11}\text{Br})$ Decolourise Br₂, water
and cannot be resolvedO-Tnach \downarrow Alc. KOHE
a single possible product

(Non-resolvable)

Optically Inactive $\xrightarrow{\text{Zn, Heat}}$ D (C_6H_{12})Symmetrical
Alkene**Identify A, C&E in the sequence of reaction.**