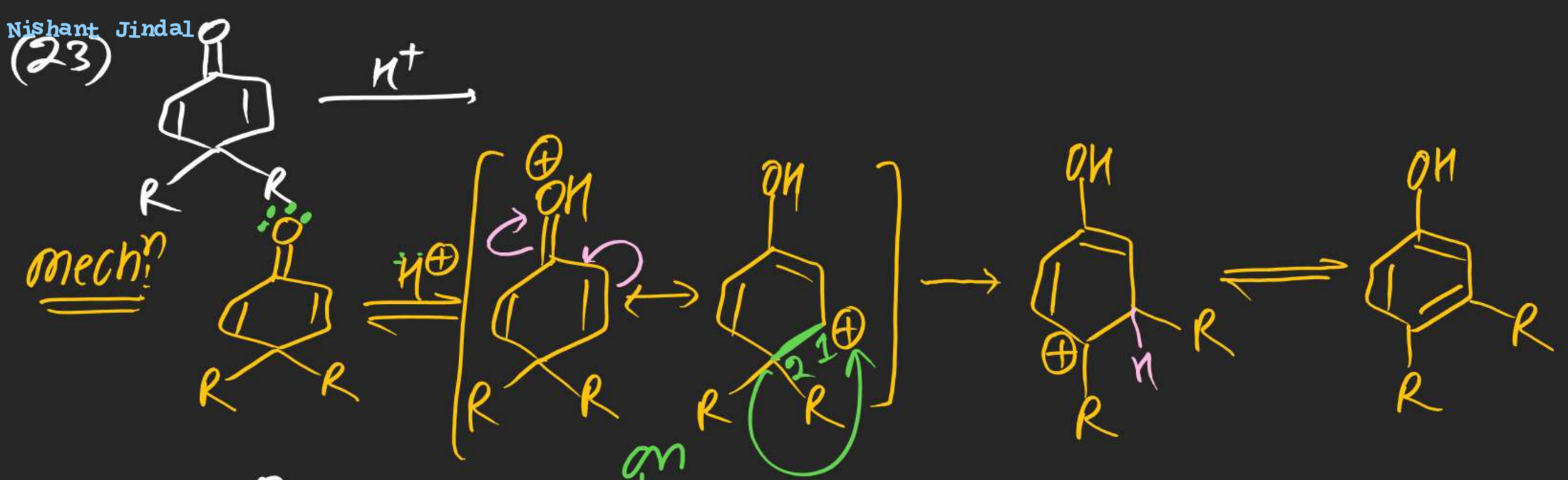
(23)



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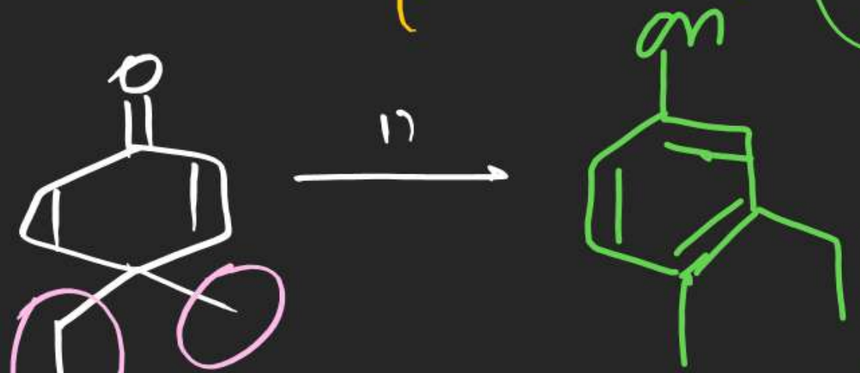

(25)

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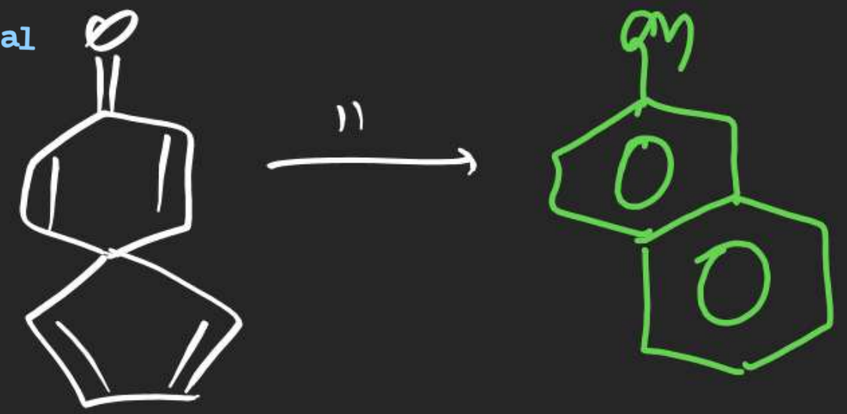
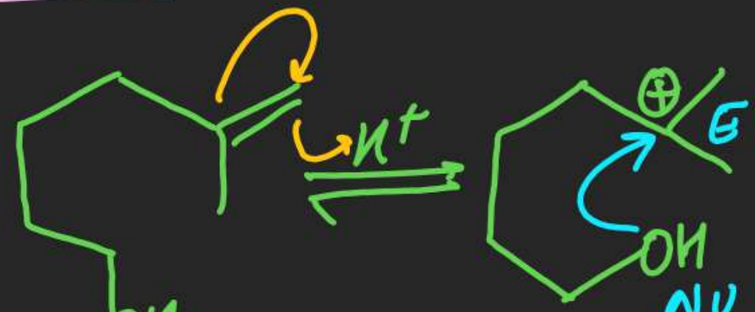
(26)



(29)

Soln (27)

mech?



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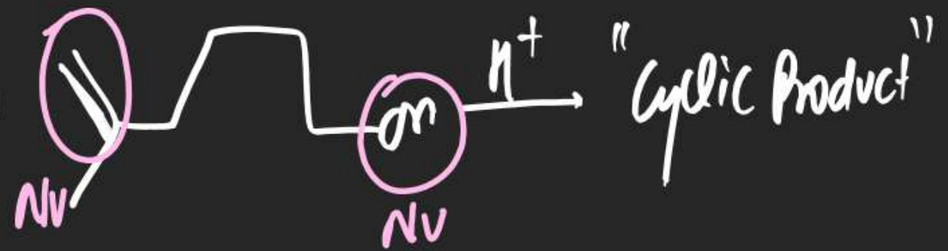

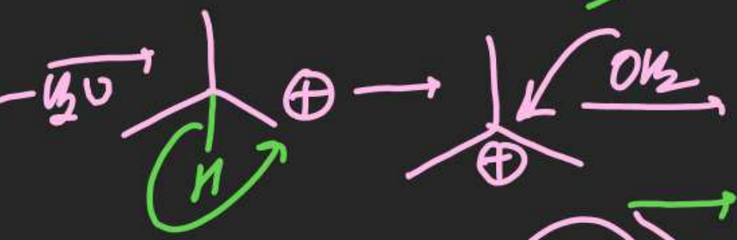

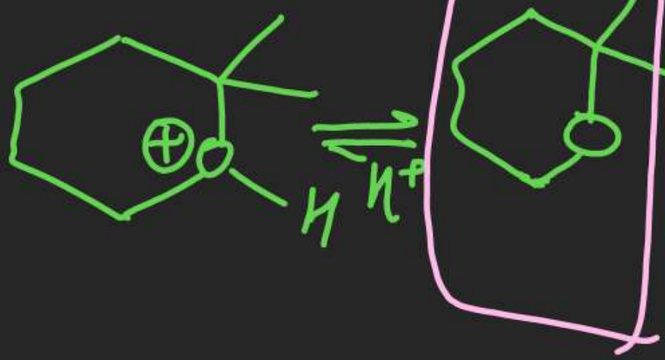

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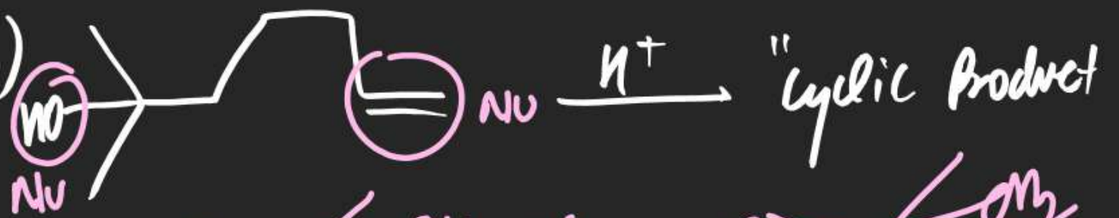

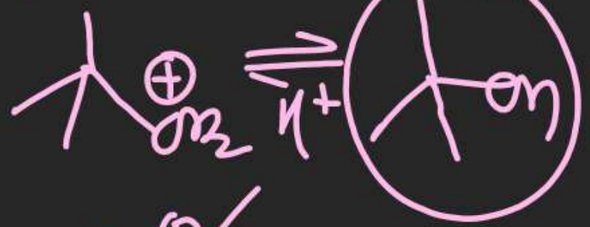

Soln:

...

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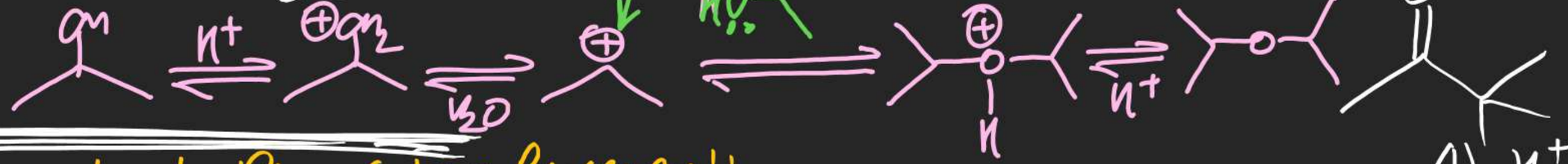
(30)

H^+

$5^\circ C$

mechⁿ



Pinacole to Pinacolone Reaction!:

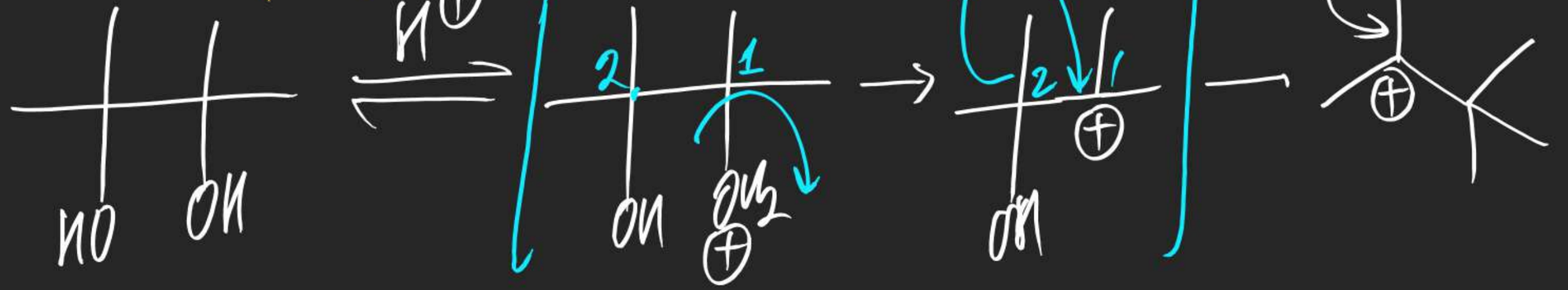
(31)

OH OH

Vic-diol / Pinacole / Glycol

Pinacolone

mechⁿ:



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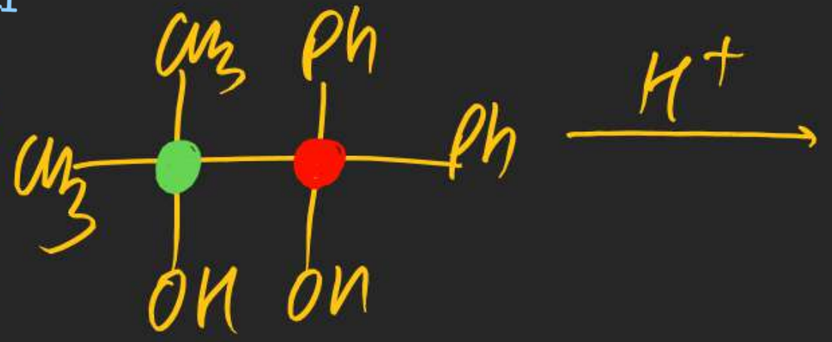
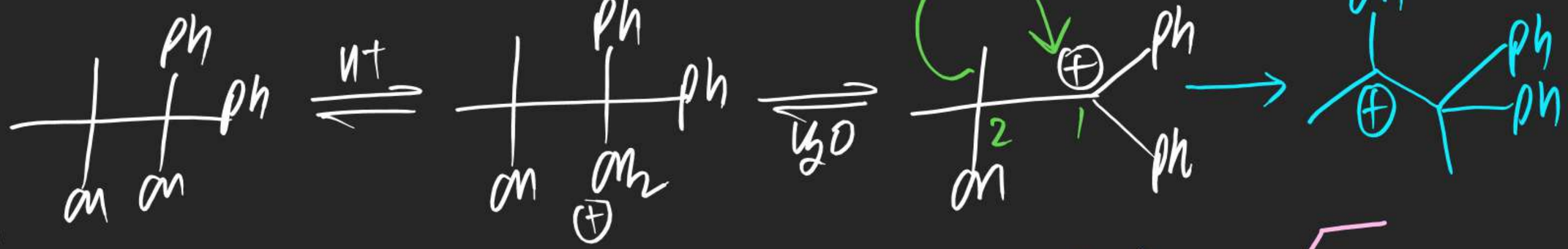
(32)



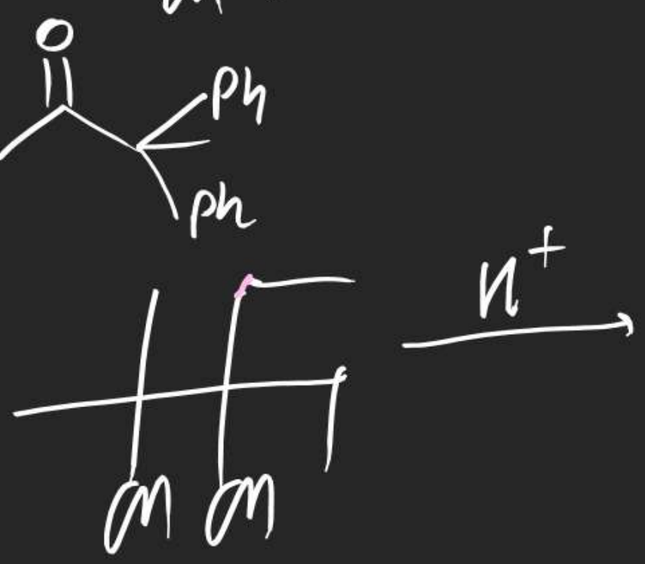
H^+

Mechⁿ:

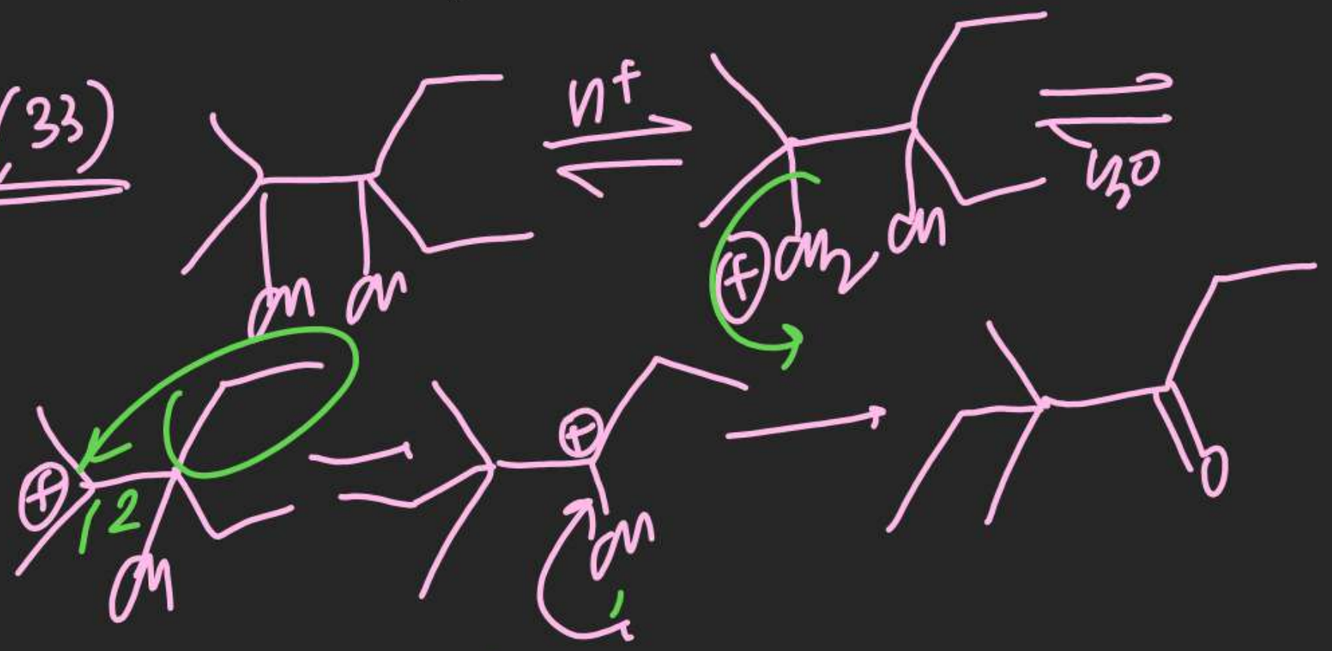


Mechⁿ (33)

(33)



H^+



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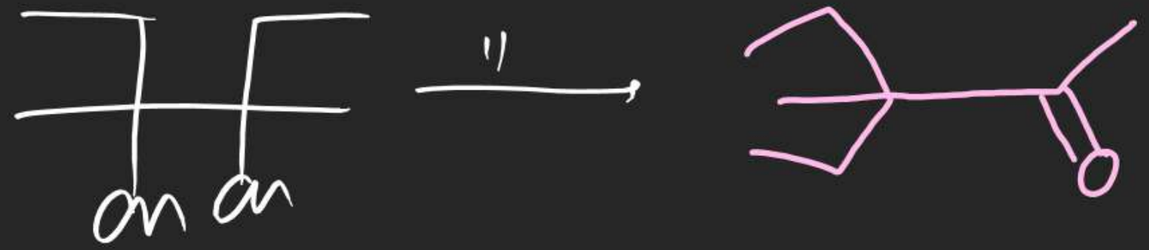
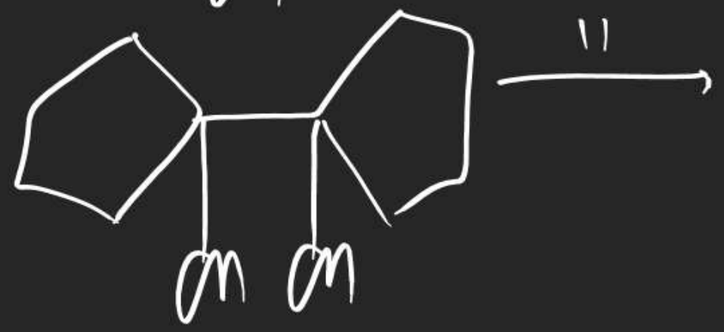
(34)

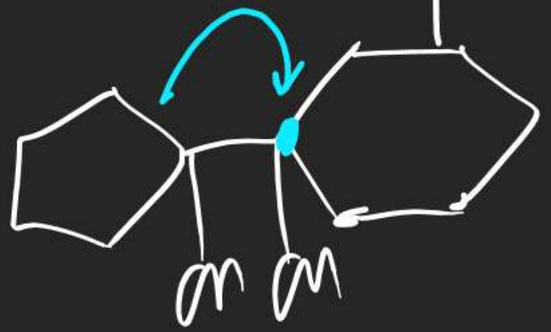


(35)

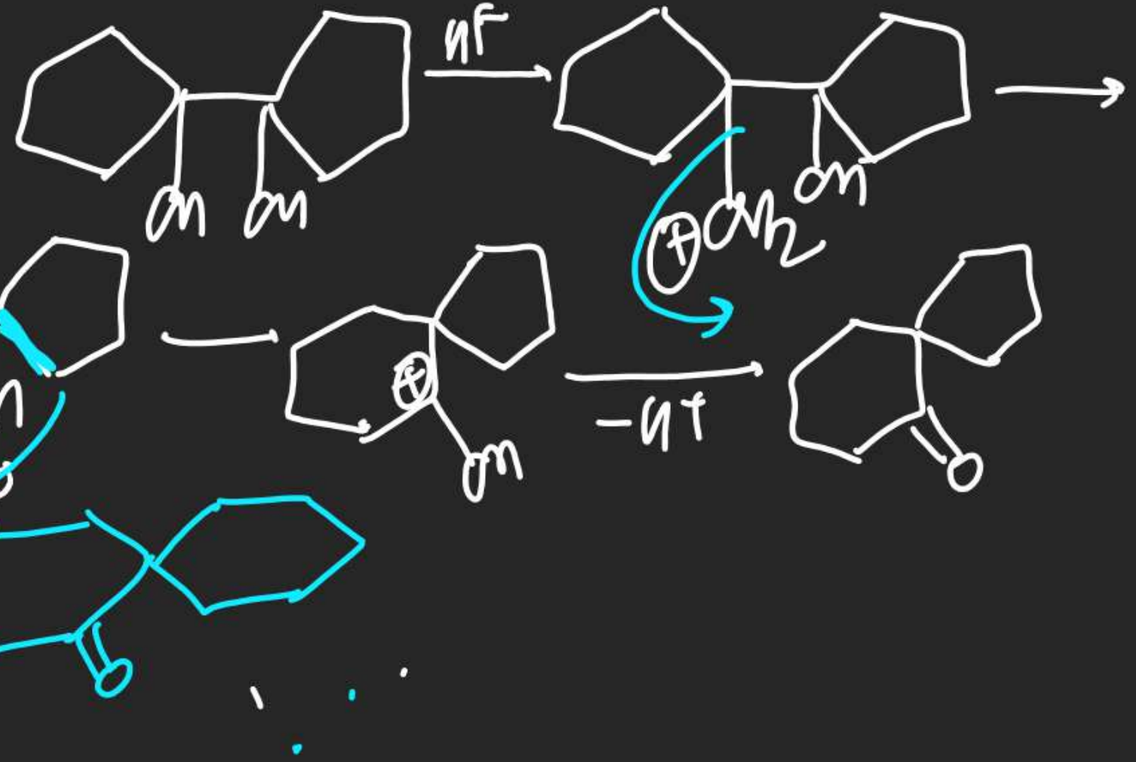
(36)



(37)



Mechn (36)



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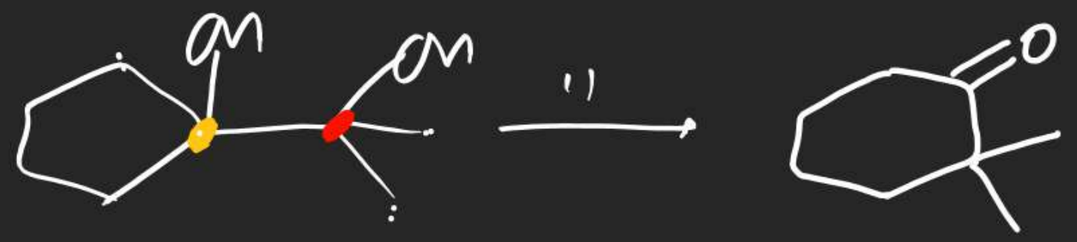
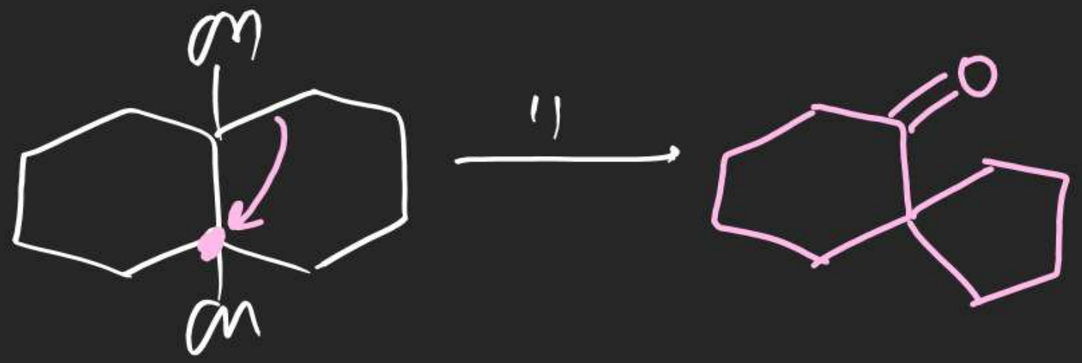
(38)



(39)



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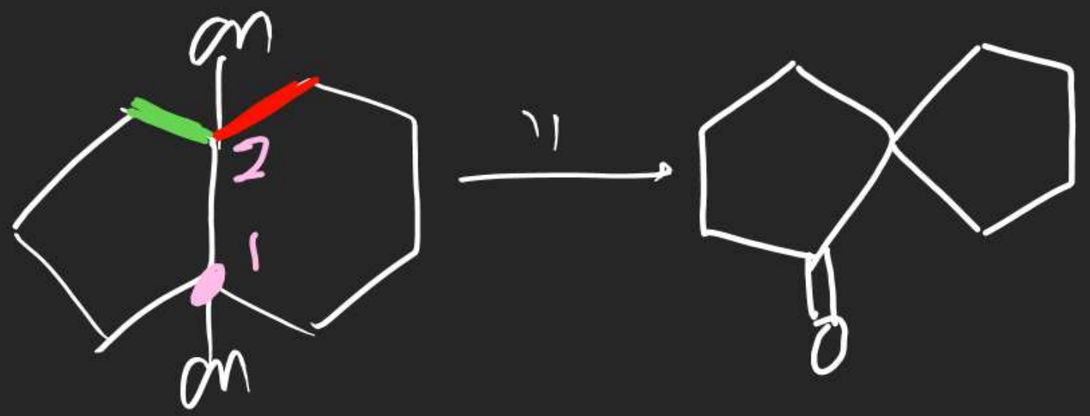

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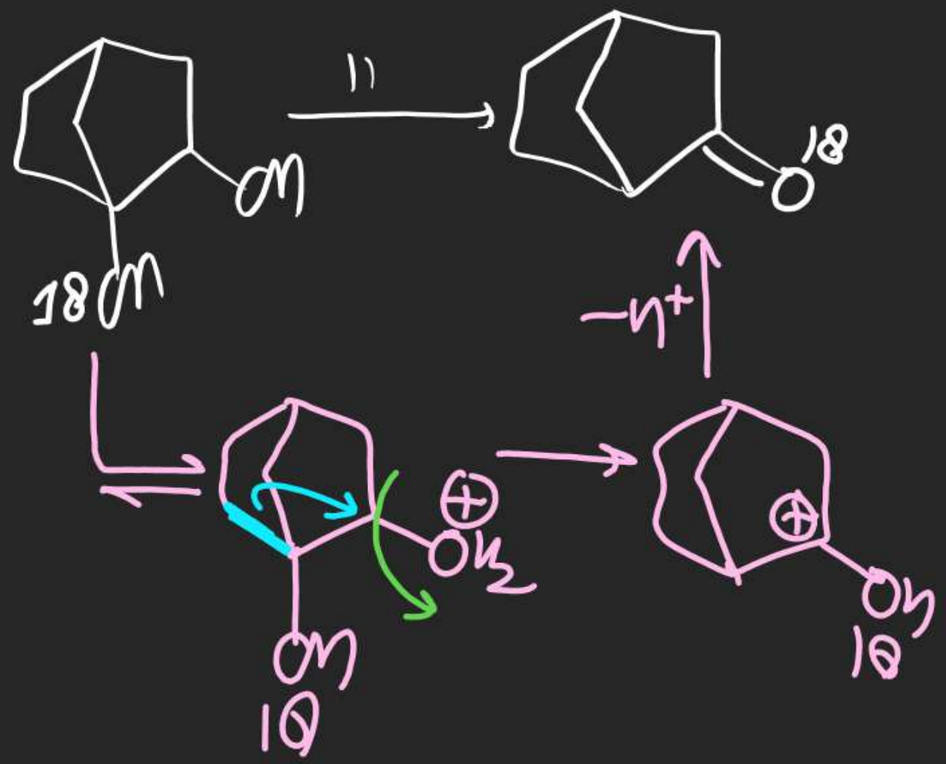

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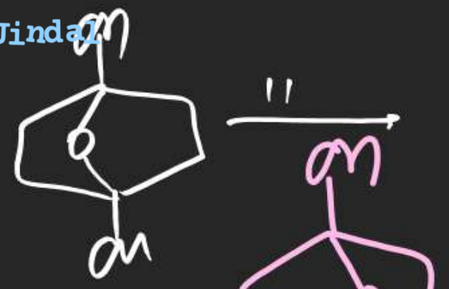
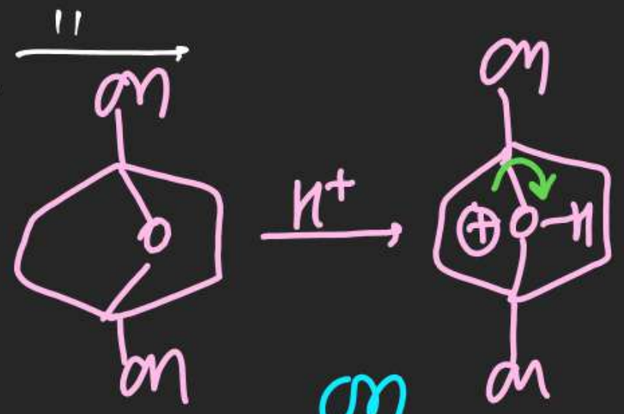
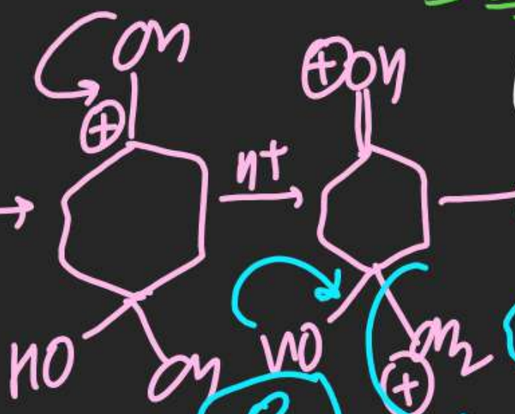
Semi Pinacolone Reverse!

(42)



Soln:





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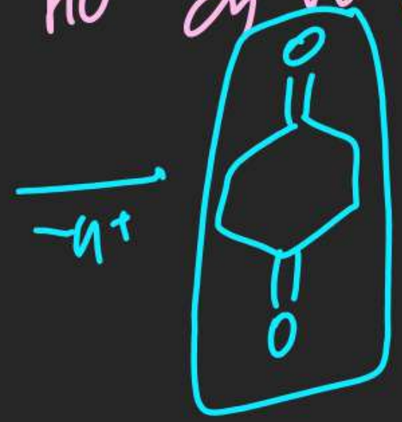

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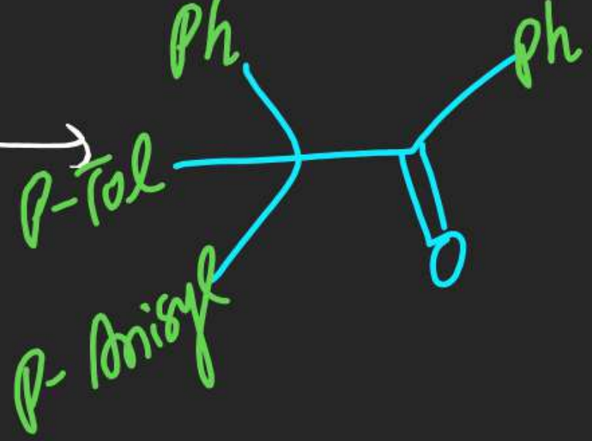

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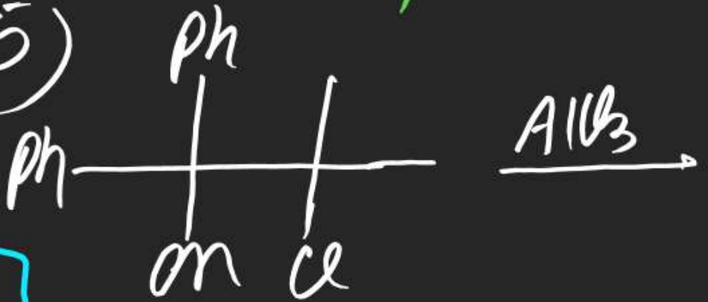

(46)

(47)

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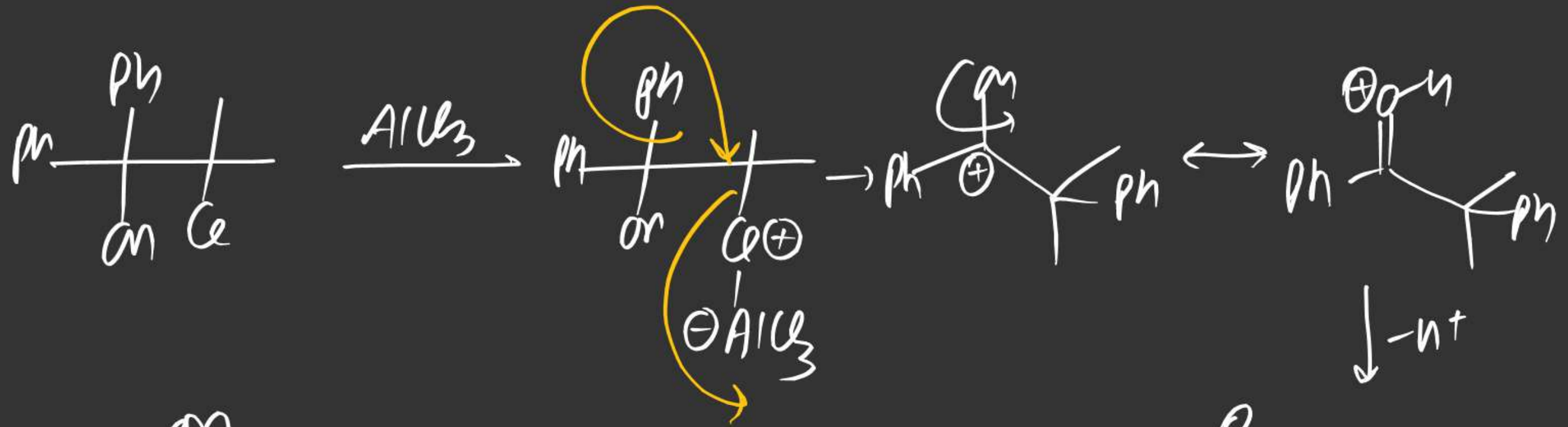
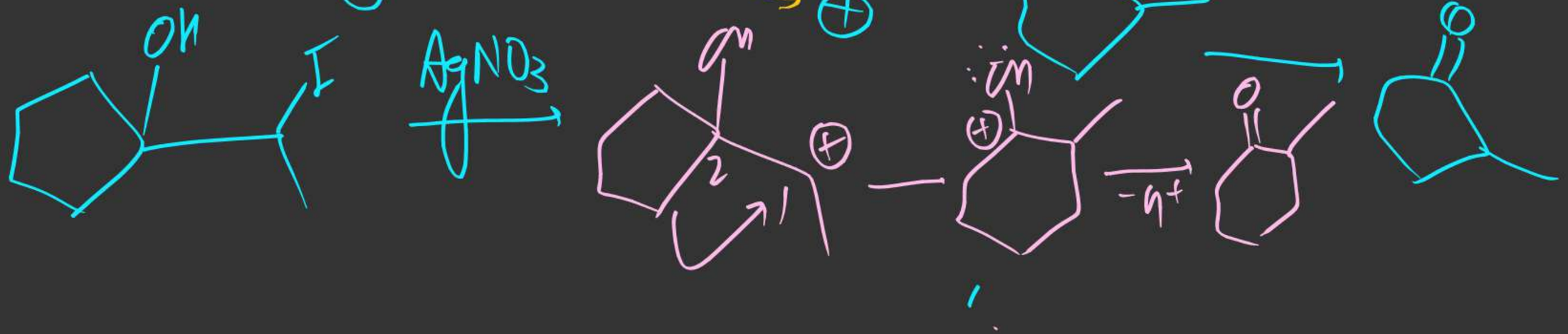
Soln (45)



(46)

(47)



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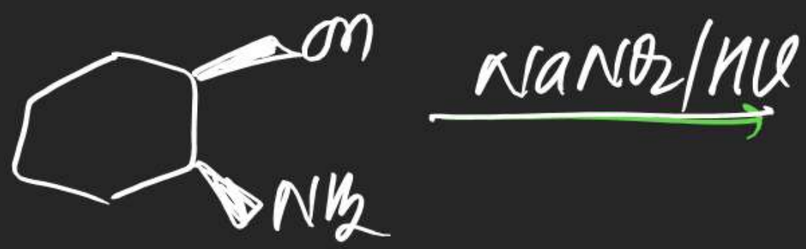
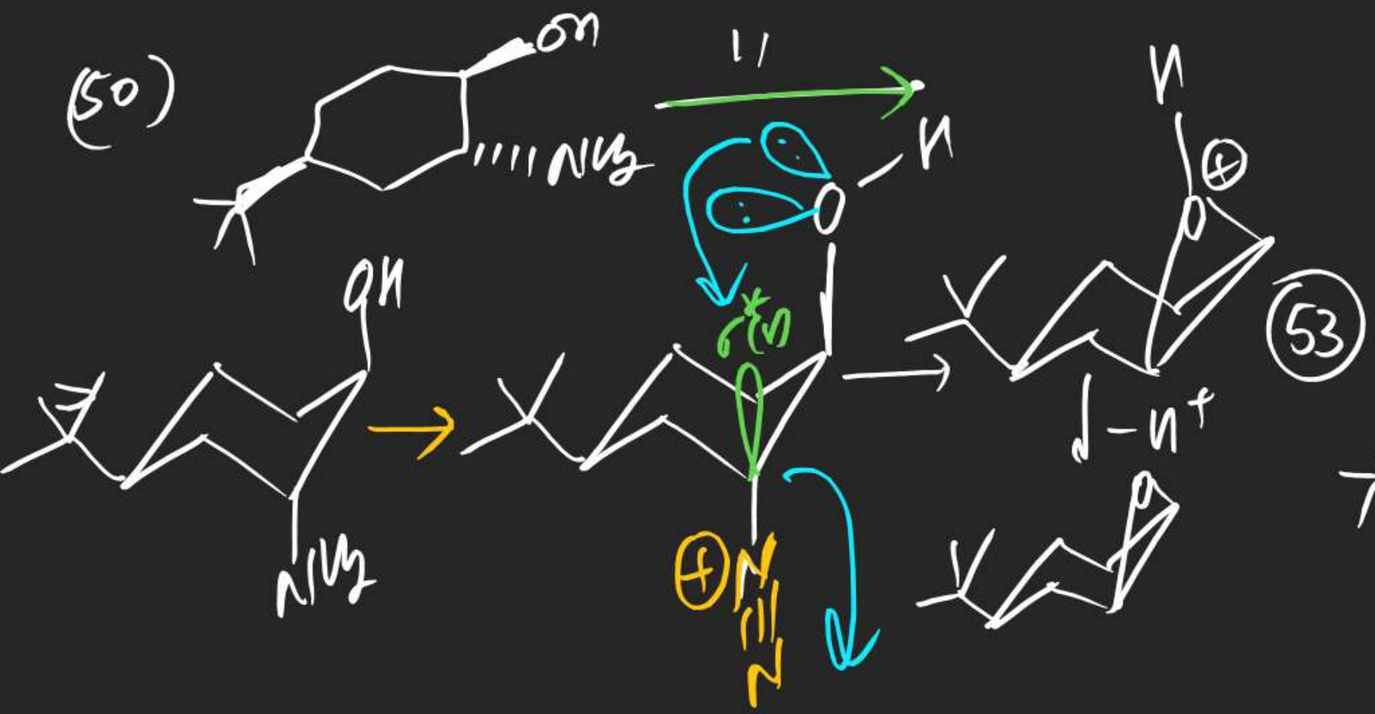
(48)



(49)

(50)



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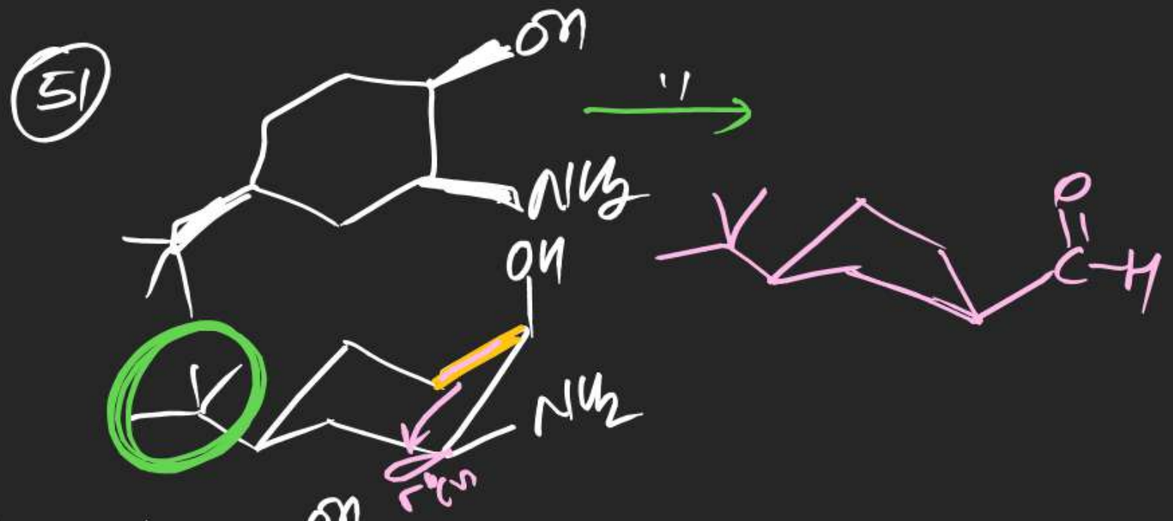

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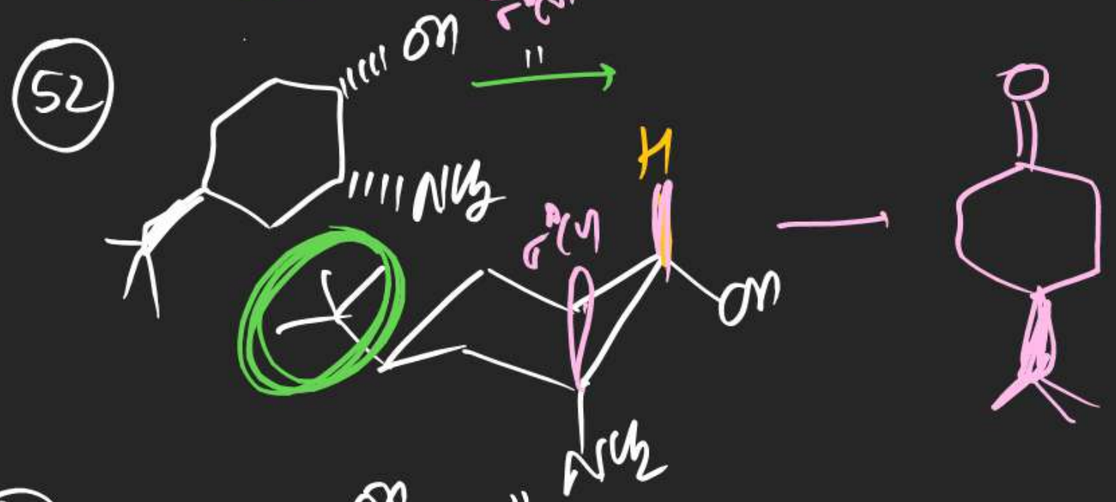

(53)

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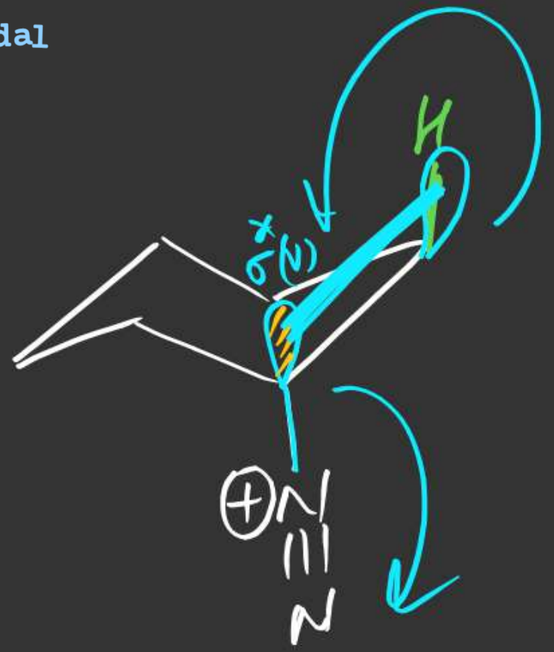

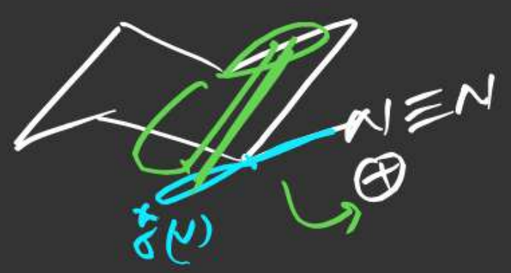

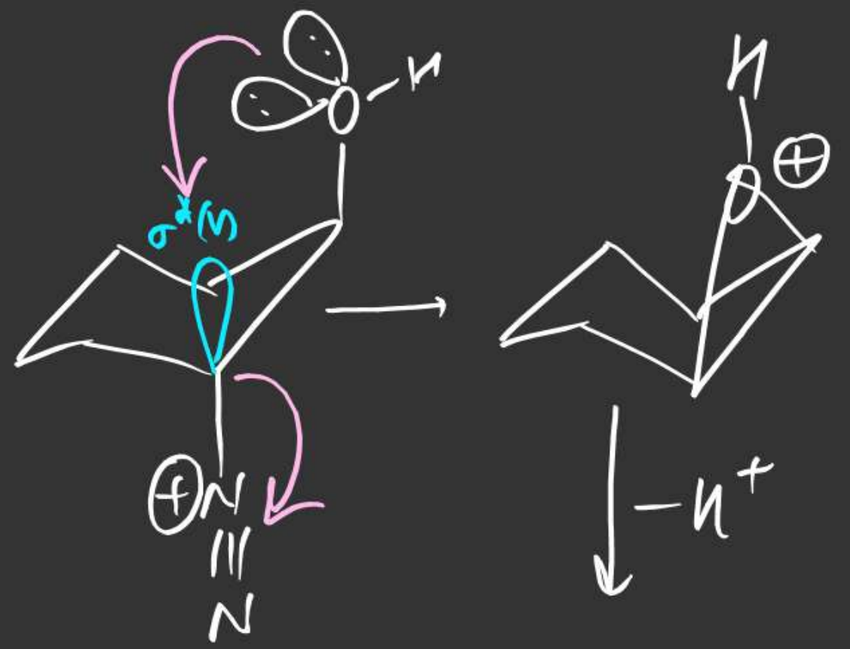

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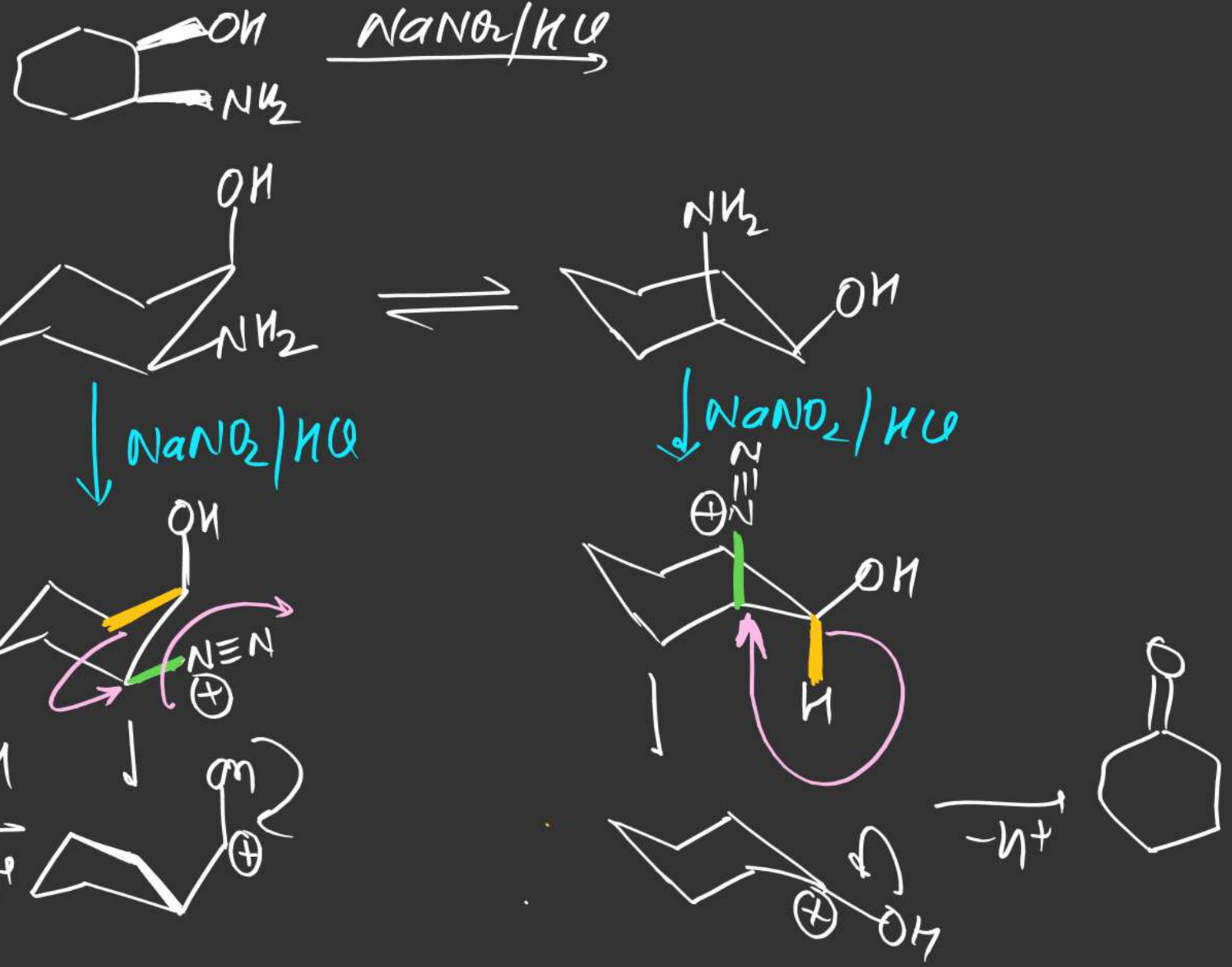
(40)



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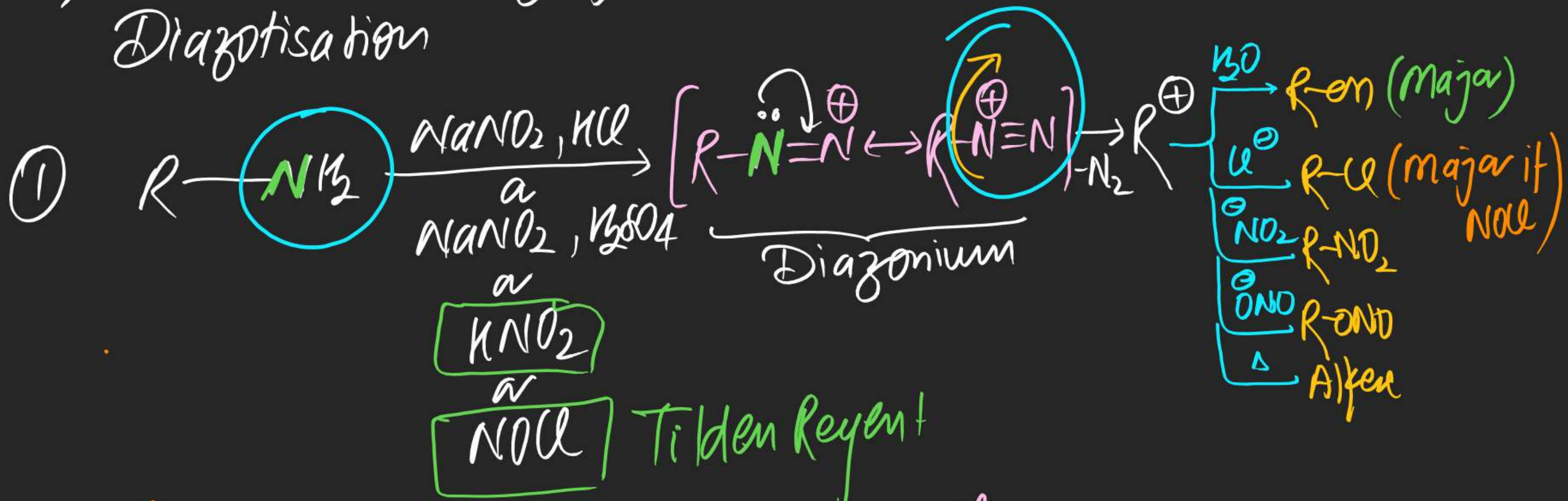
(#) Diazotisation:-

⇒ Formation of diazo group from primy Amine is known as Diazotisation



mechⁿ:-

$$NaNO_2 + HCl \longrightarrow HNO_2 + NaCl$$

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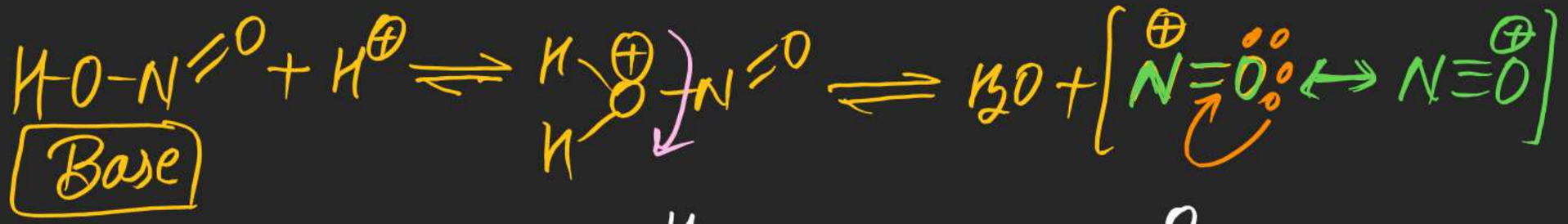
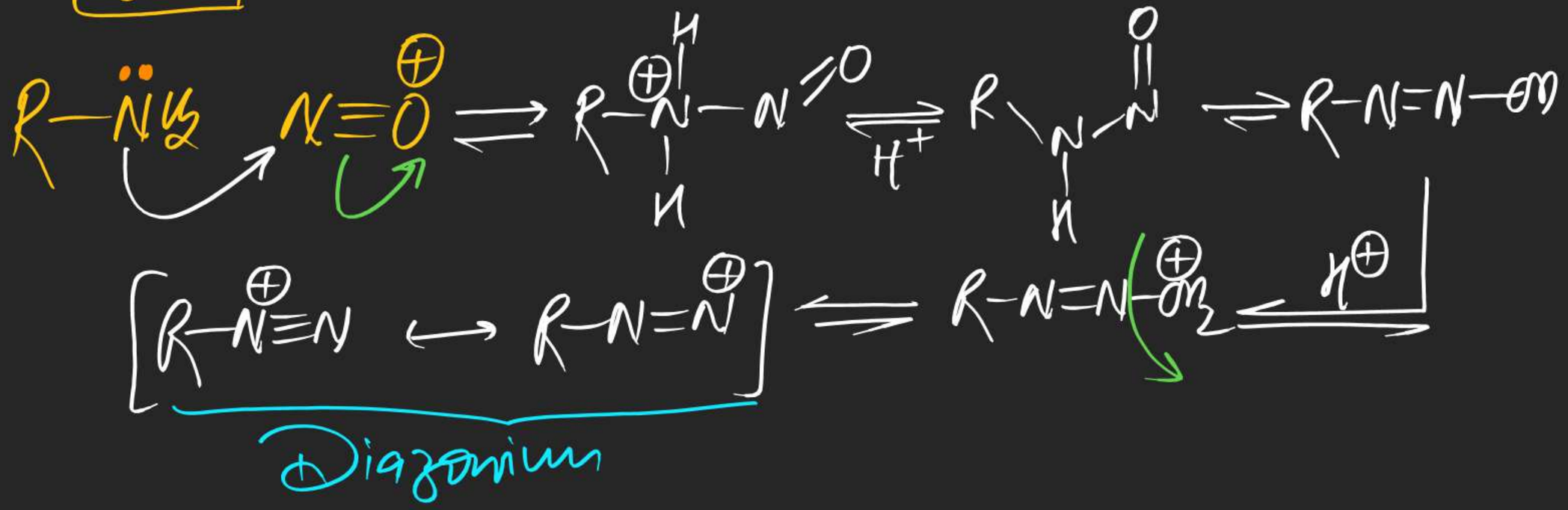




Note:

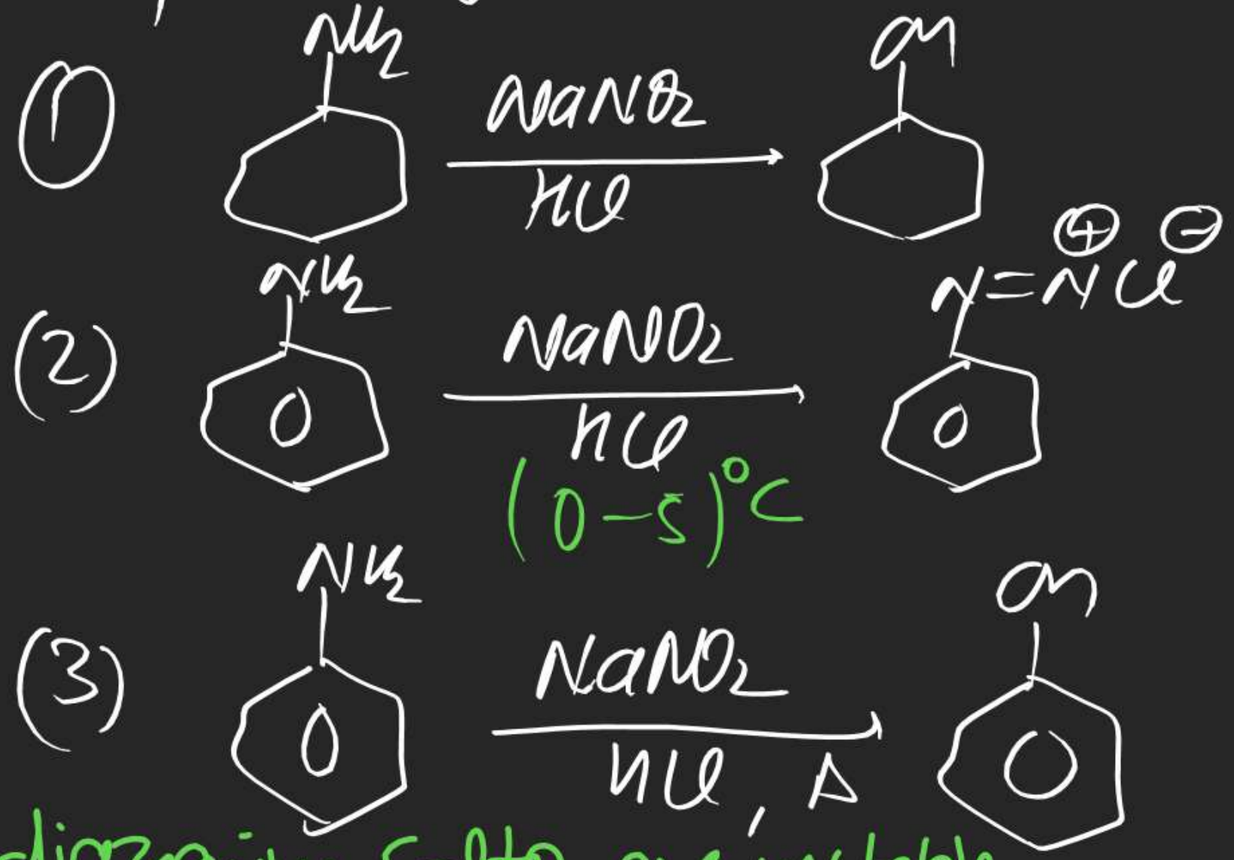
(i) HNO_2 behaves like Base

(ii) $\overset{\oplus}{N}O$ is Actual attacking Reagent

(iii) In case of aliphatic primary Amine, alcohal is obtained as a Product

(iv) Diazotisation is characteristic rxn of a Primary Amine.

(a) Any primary amine gives stable diazonium salt b/w (0-5)°C



(vi) Alkyl diazonium salts are instable

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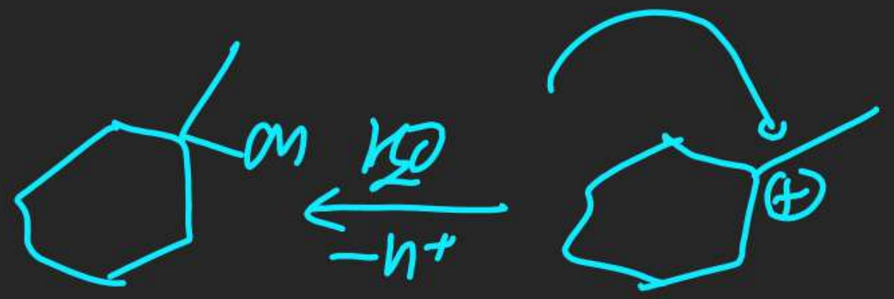
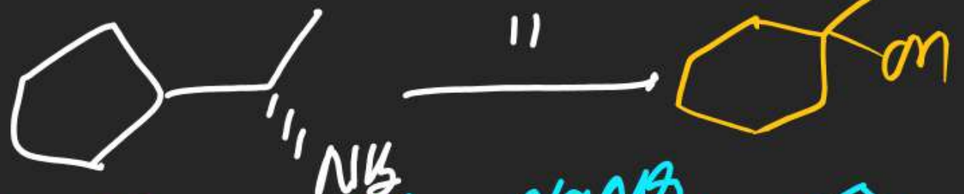
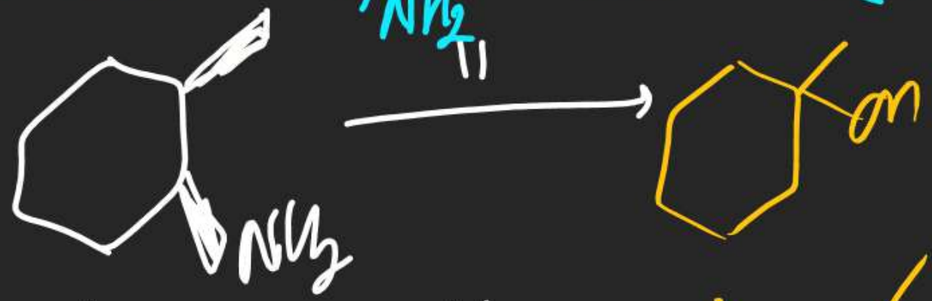
(4) 

(5) 



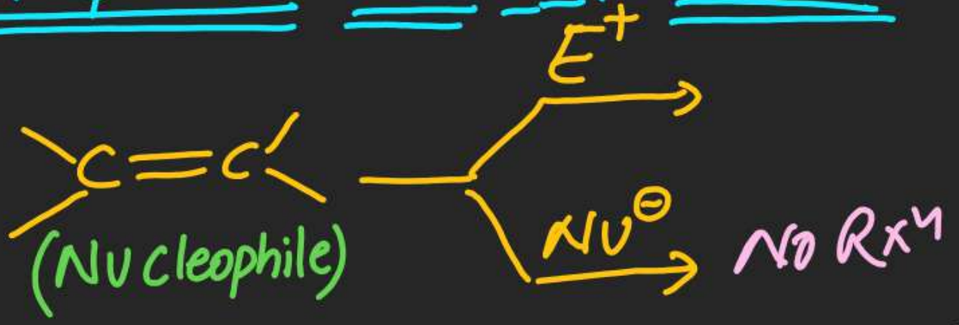
(6) 

Soln: 

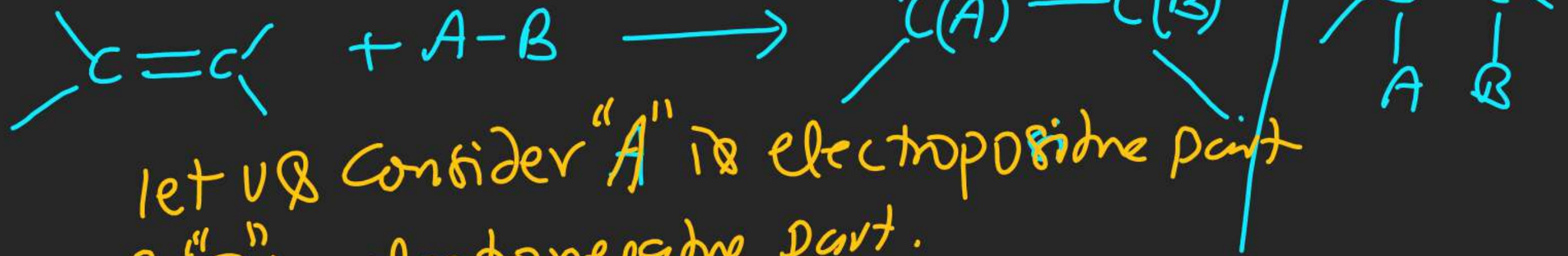
(7) 

(8) 

(#) Electrophilic addition Reaction:

(1) 

$\Rightarrow$ Compound containg π Bond b/w Carbon & Carbon often show Electro. addition Reaction

(2) 

let us consider "A" is electropositive part & "B" is electronegative part.

Note(i): When A doesn't contains lone pair

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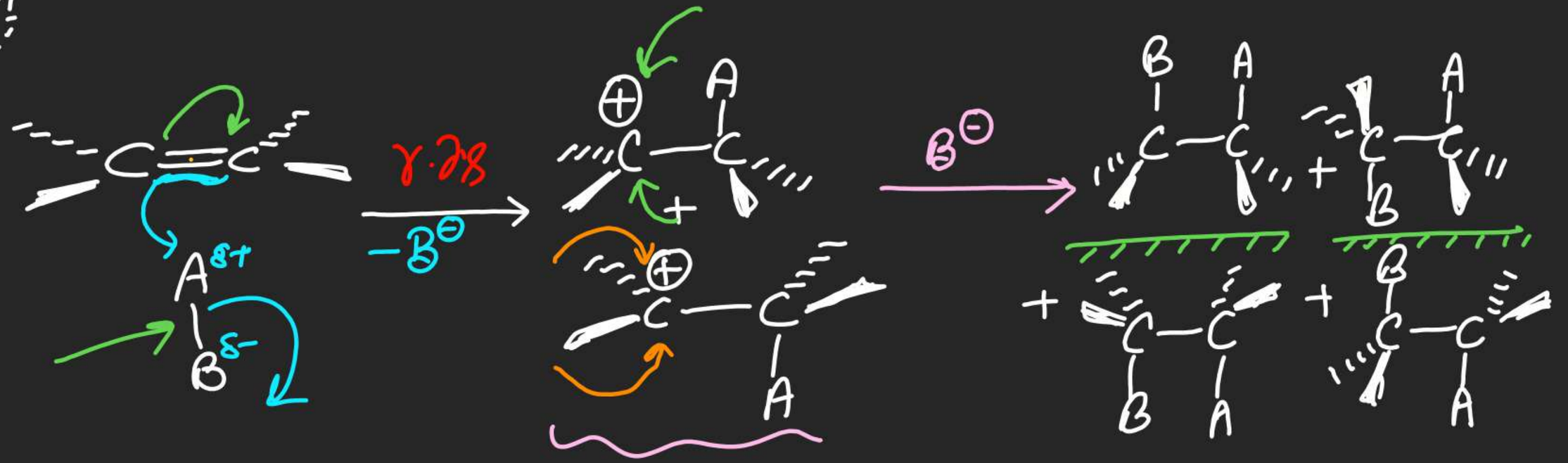
Mech^{n}:



Note (i) Electrophilic addⁿ

(ii) Formation of Carbocation is r.d.s

Rate of Electrophilic addⁿ $\propto$ Nucleophilicity of alkene

$\propto$ stability of Carbocation

$\propto \frac{1}{\text{Stability of Alkene}}$

(iv) Carbocation intermidiate
(v) Rearrangement possible
(vi) Exothermic Rxn
(vii) Both Syn & Anti addn products are obtained
(viii) Possible A–B :-

A–B	$A^{\oplus}$ (Electrophile)	$B^{\ominus}$ (Nucleophile)
H–I	$H^{\oplus}$	$I^{\ominus}$
H–Br	$H^{\oplus}$	$Br^{\ominus}$
H–Cl	$H^{\oplus}$	$Cl^{\ominus}$
D–Cl	$D^{\oplus}$	$Cl^{\ominus}$
D–Br	$D^{\oplus}$	$Br^{\ominus}$
HNO_3	$H^{\oplus}$	$^{\ominus}ONO_2$
H_2SO_4	$H^{\oplus}$	$^{\ominus}OSO_3H$
$H^{\oplus}/H_2O$	$H^{\oplus}$	$:OH_2$
$H_3O^{\oplus}$	$H^{\oplus}$	$:OH_2$
Dil H_2SO_4	$H^{\oplus}$	$:OH_2$ / $^{\ominus}OSO_3H$
$H^{+}/R\text{-}COOH$	$H^{\oplus}$	$R\text{-}COOH$
$H^{\oplus}/ROH$	$H^{\oplus}$	$R\text{-}OH$
T–Cl	$T^{\oplus}$	$Cl^{\ominus}$
H–F	$H^{\oplus}$	$F^{\ominus}$
D_2SO_4	$D^{\oplus}$	$^{\ominus}OSO_3D$
D–I	$D^{\oplus}$	$I^{\ominus}$

Case (ii): when A of A–B contains lone pair