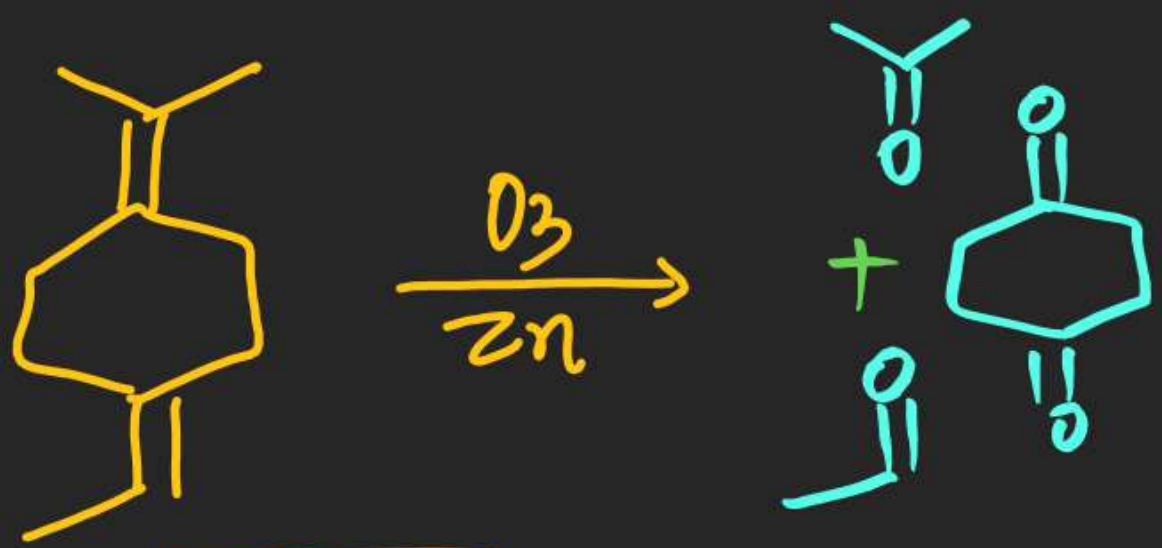
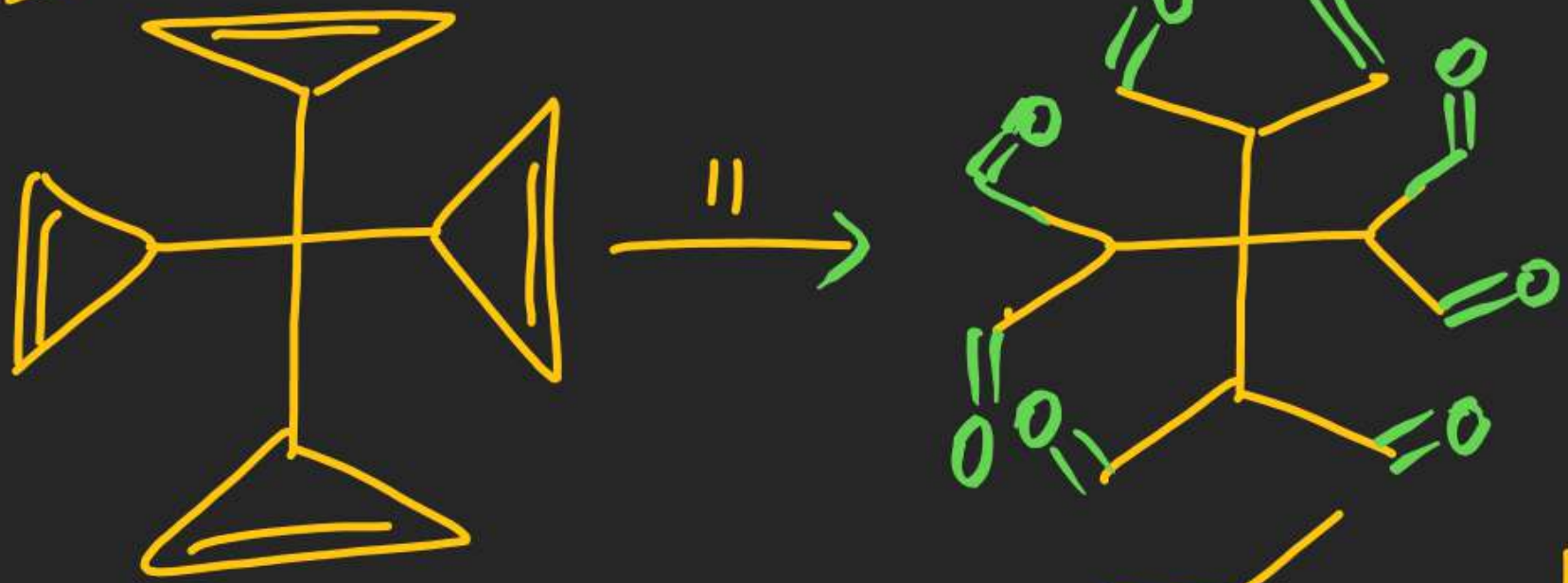


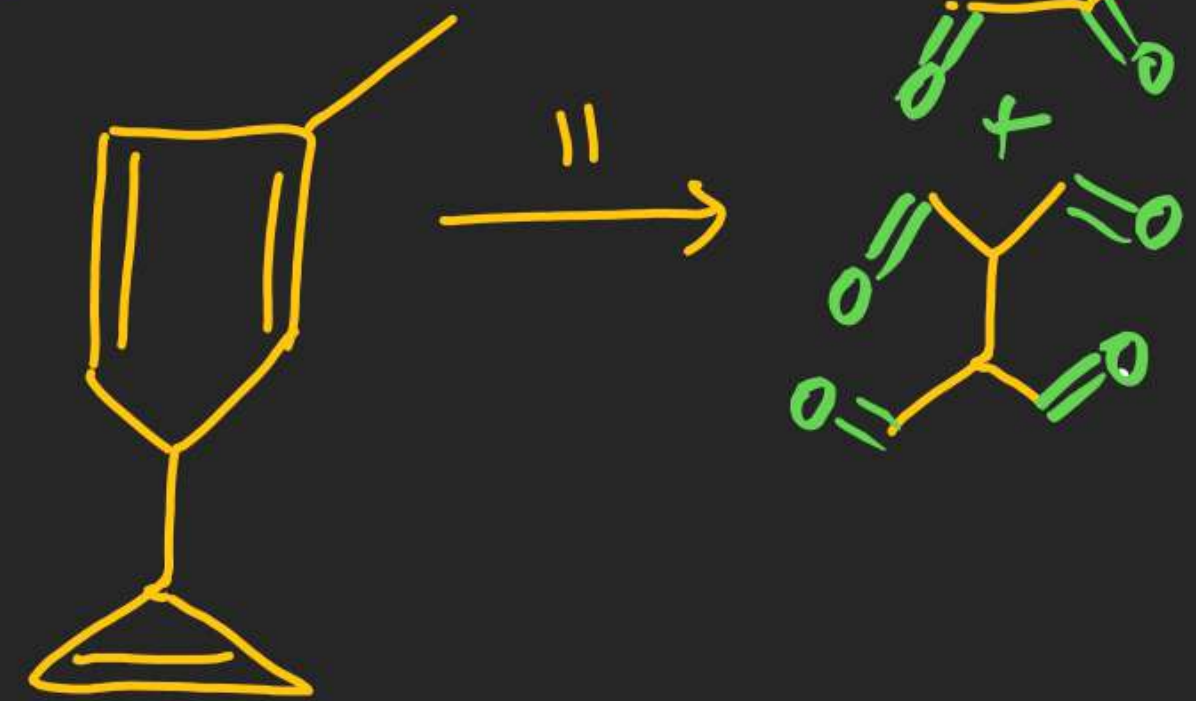
(16)



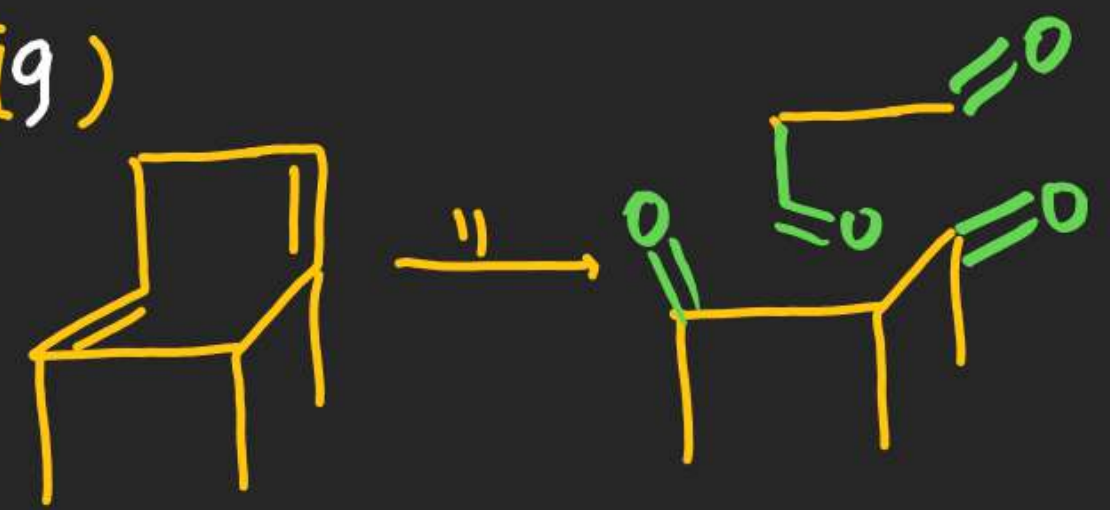
(17)



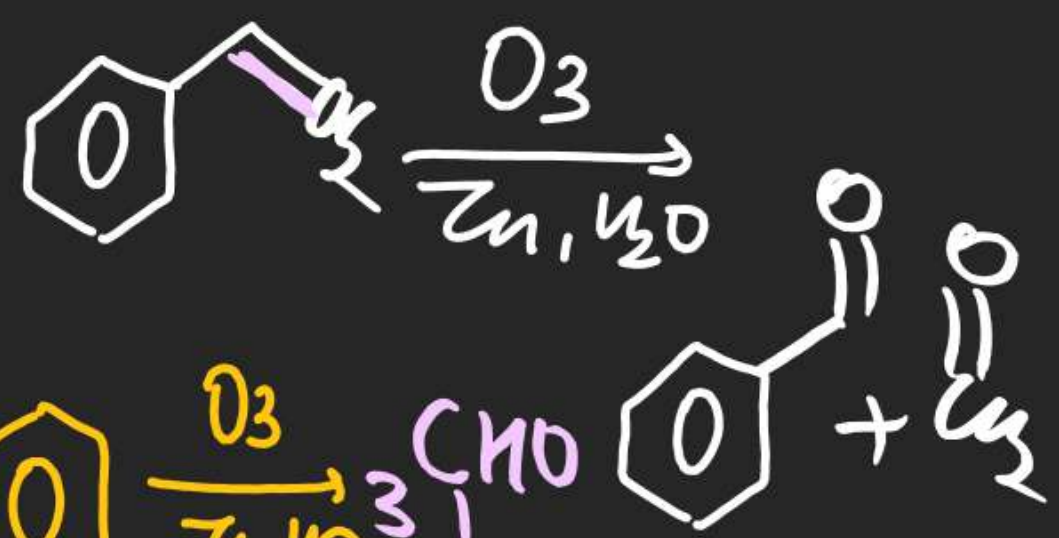
(18)



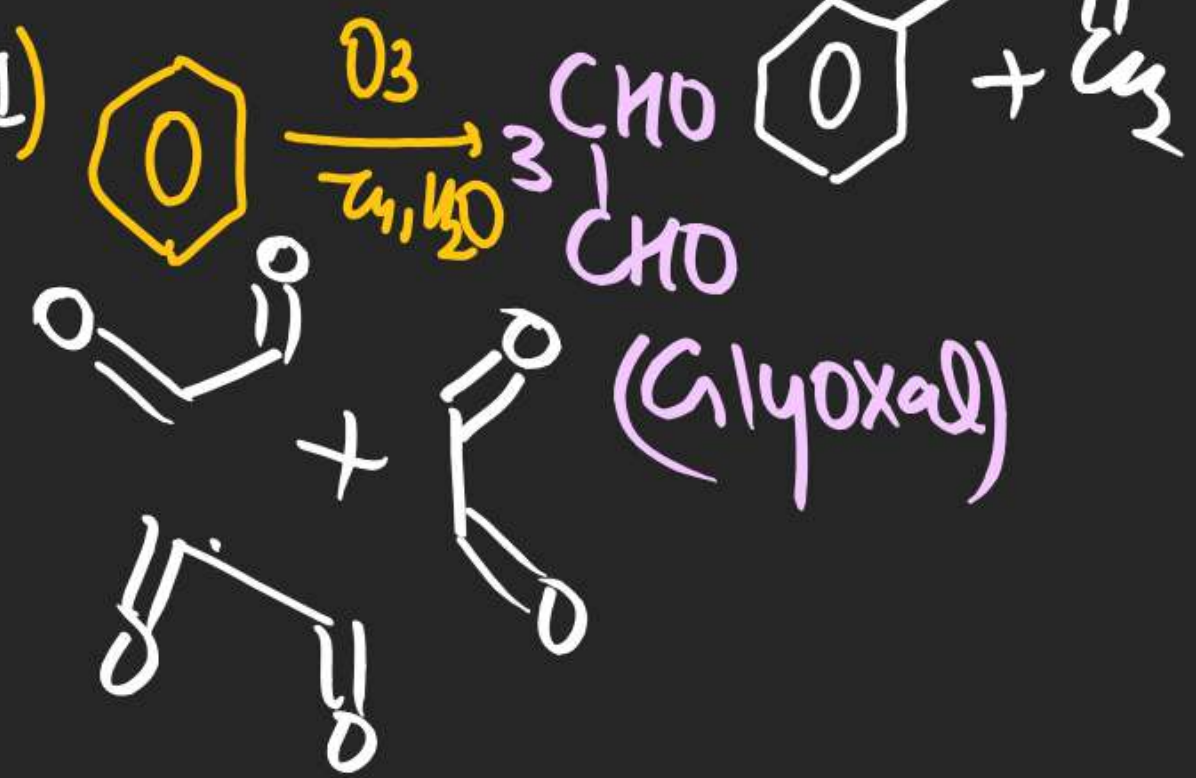
(19)



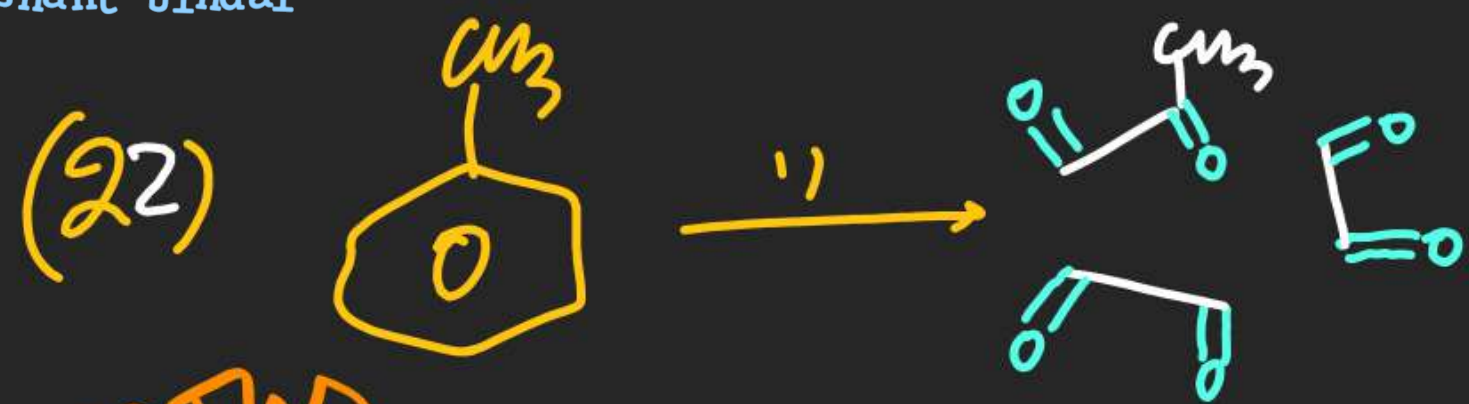
(20)



(21)

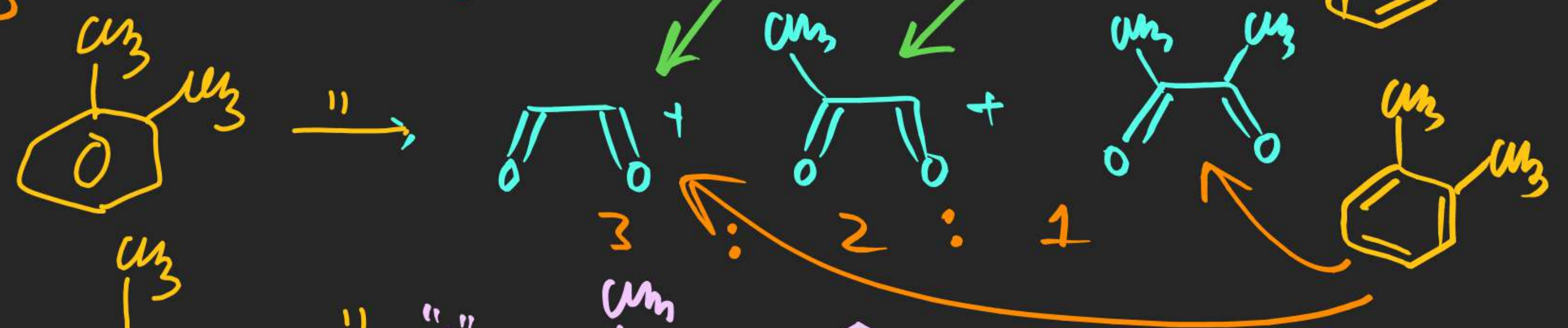




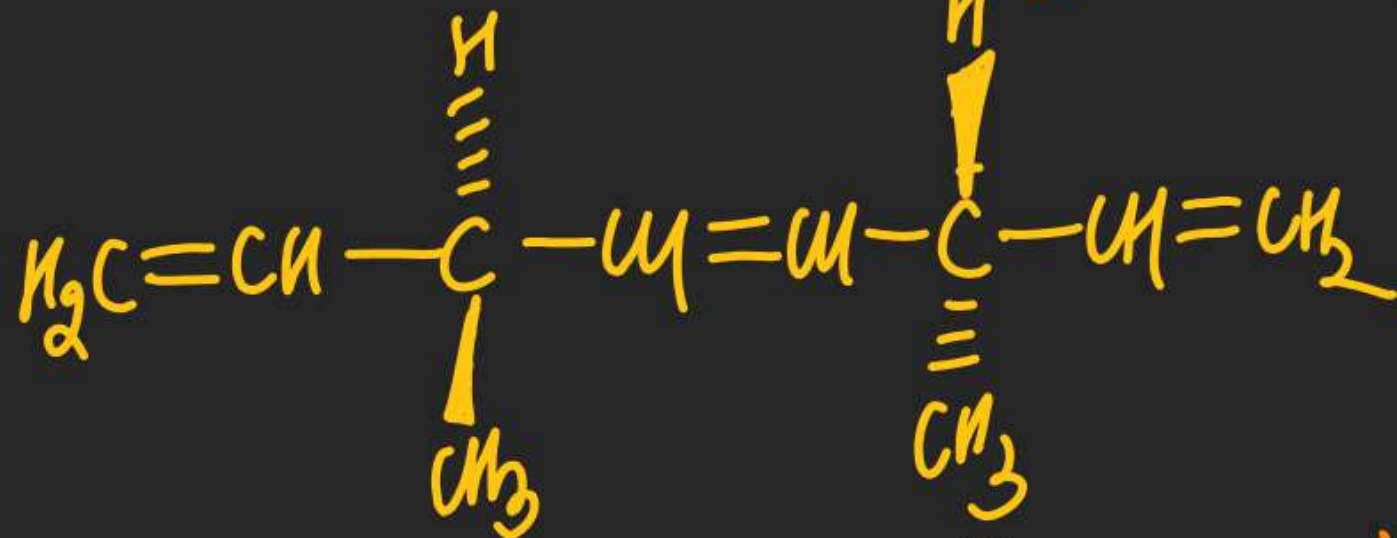
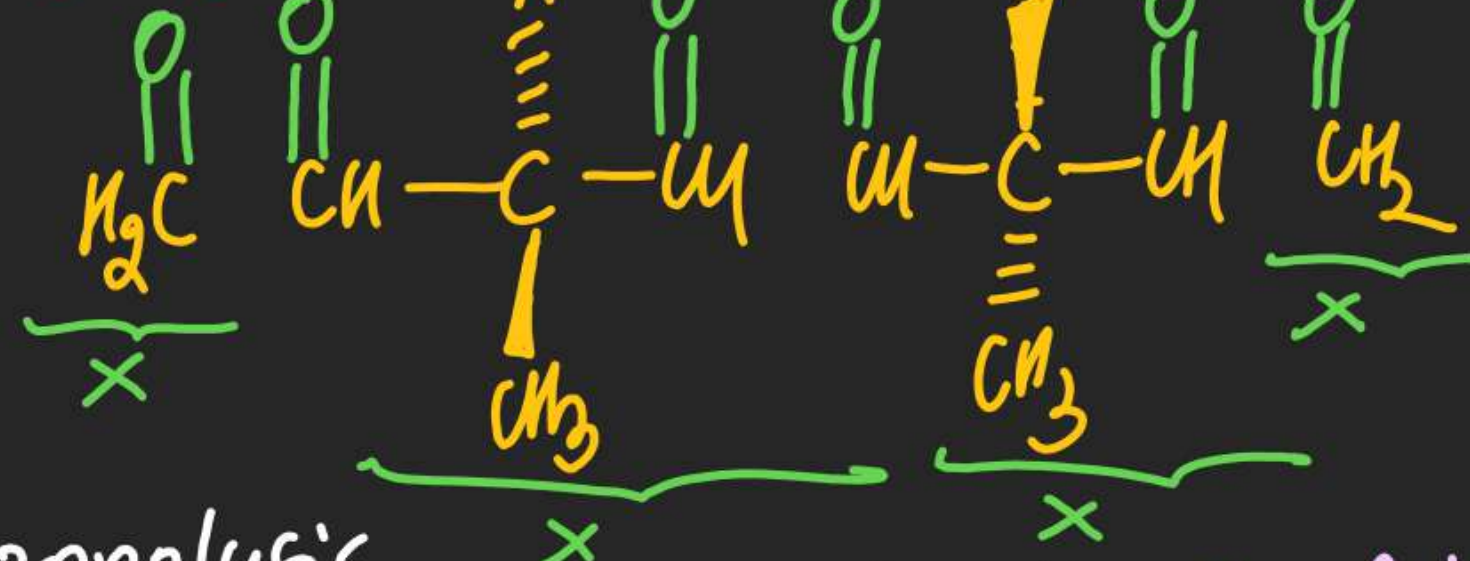
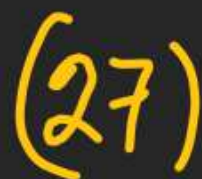
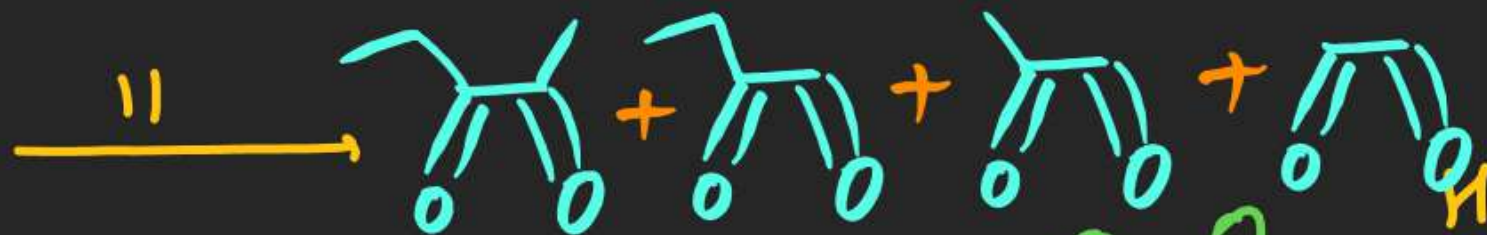


M.M.T.W

(23)



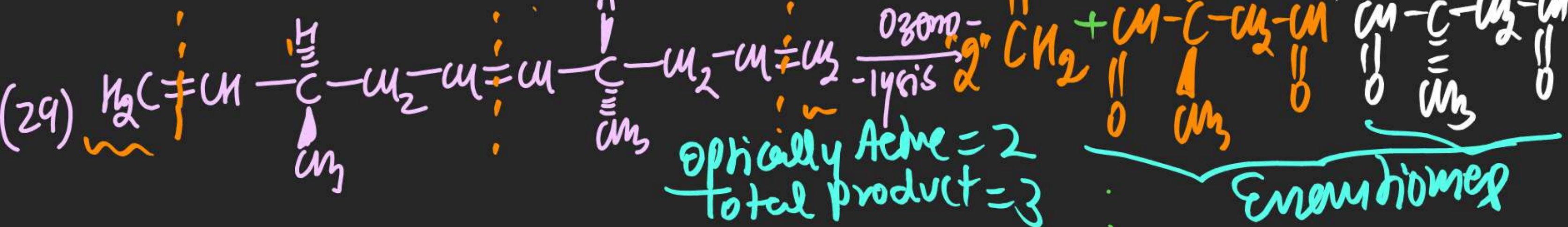




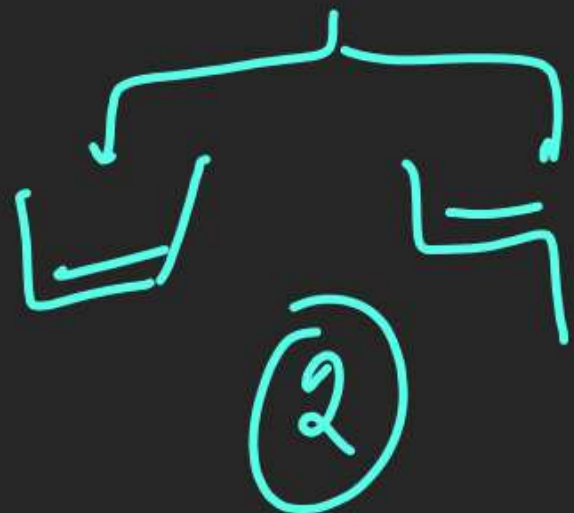
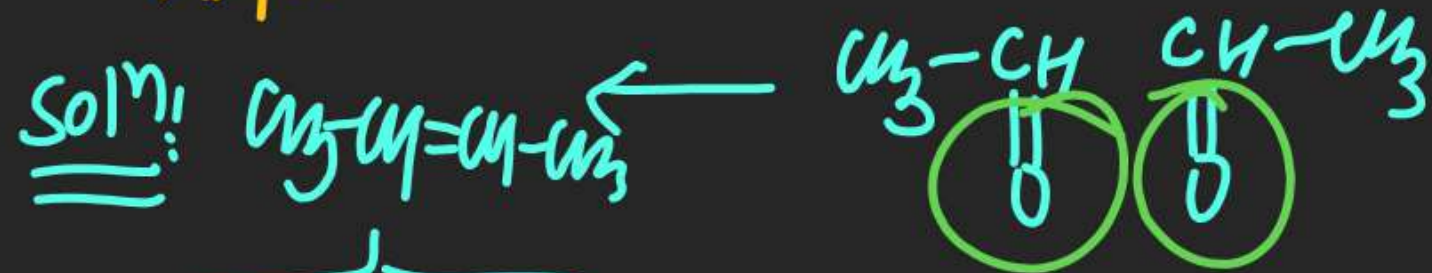
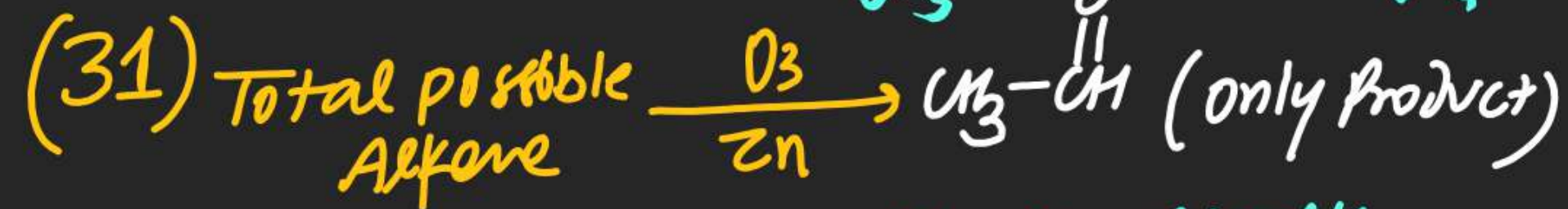
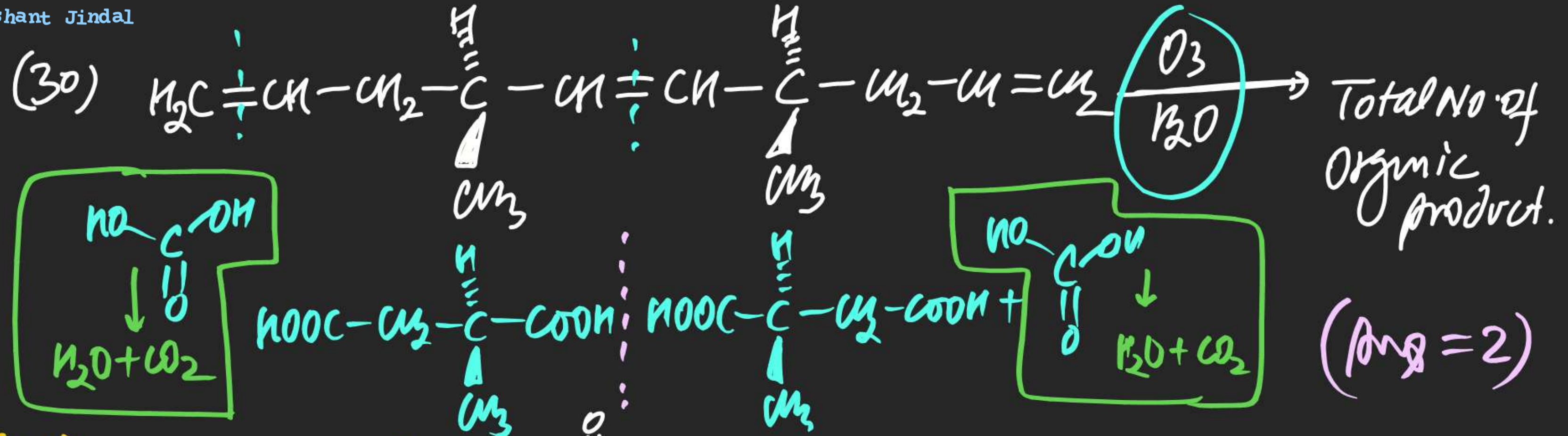
## ozonolysis

Total no. of optically Active product.

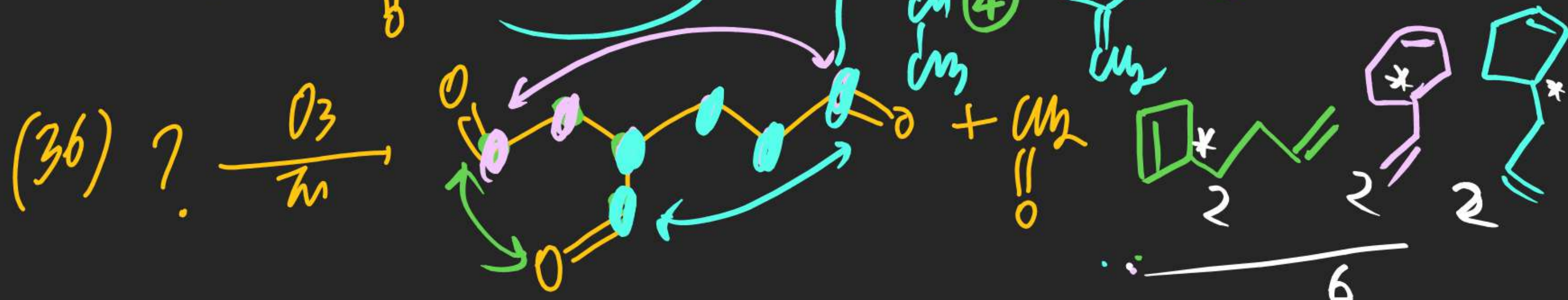
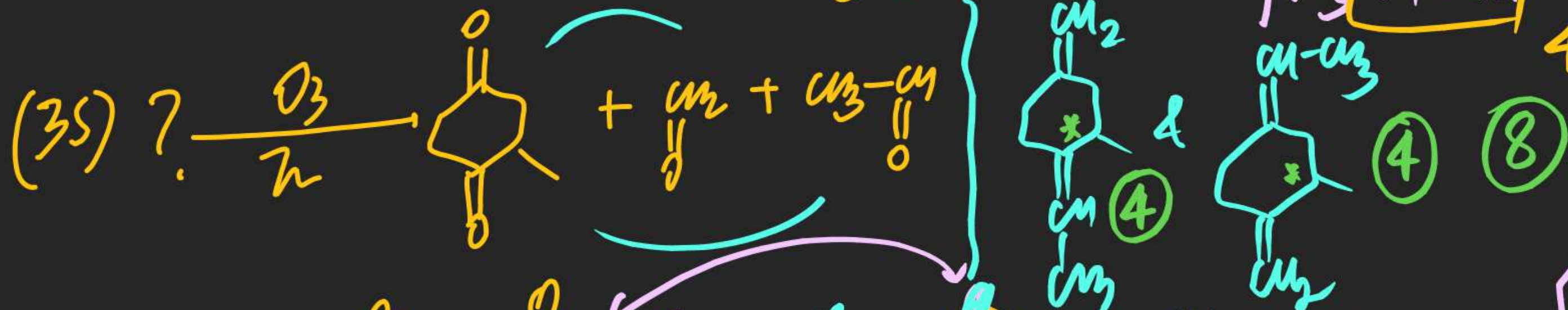
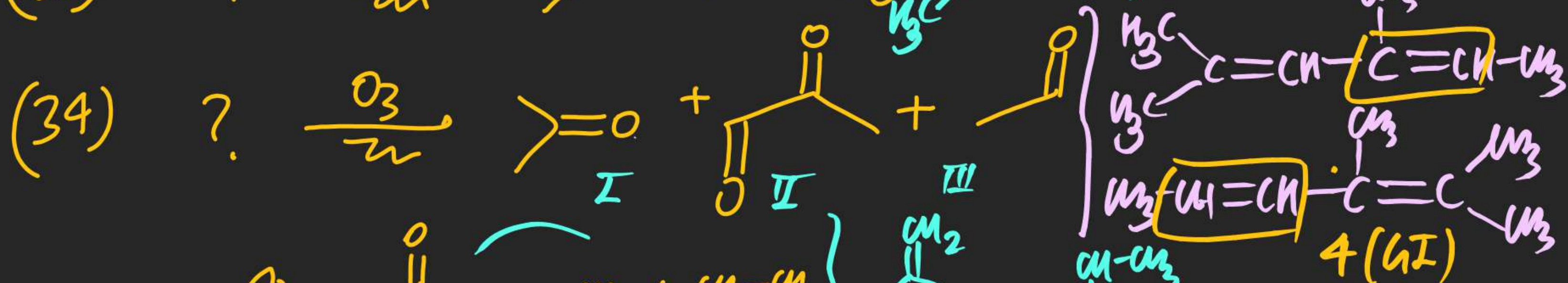
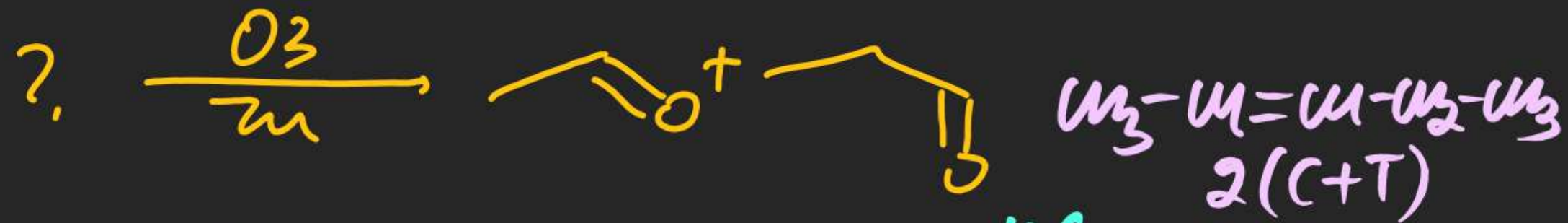
Ans "0"



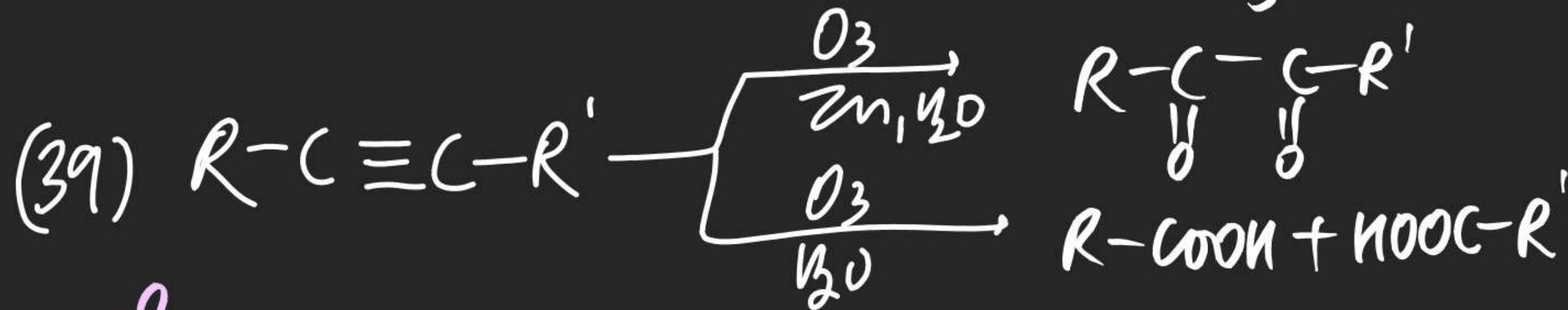
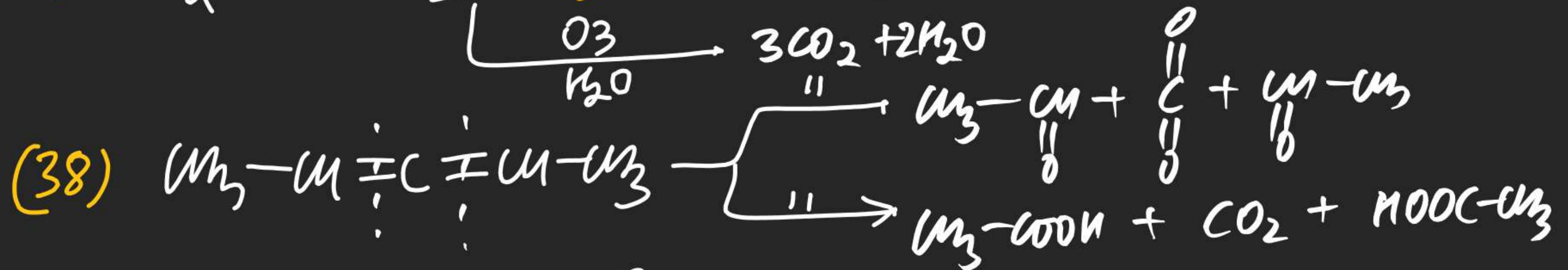
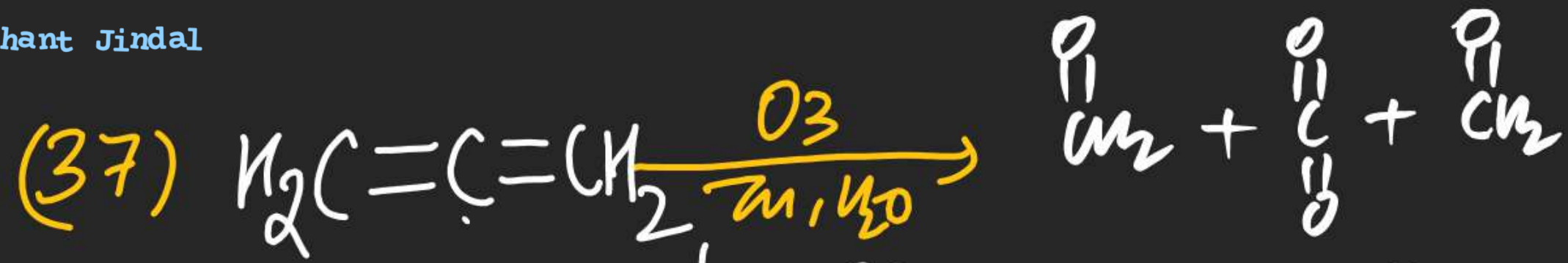






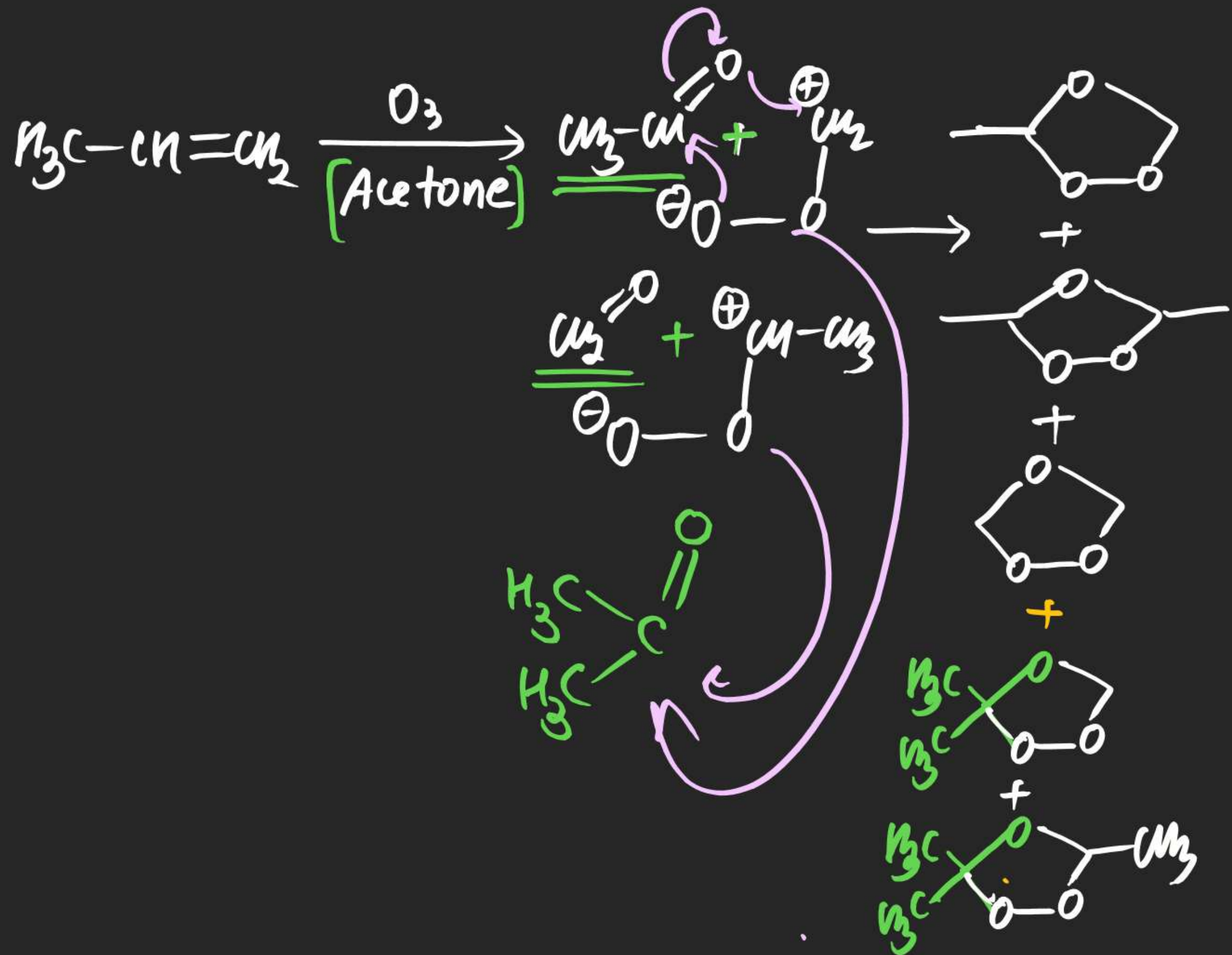




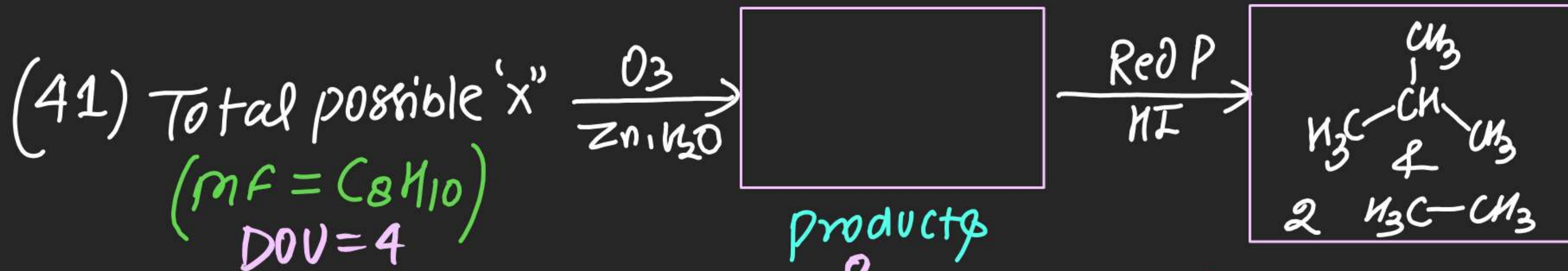


Imp  
(40)



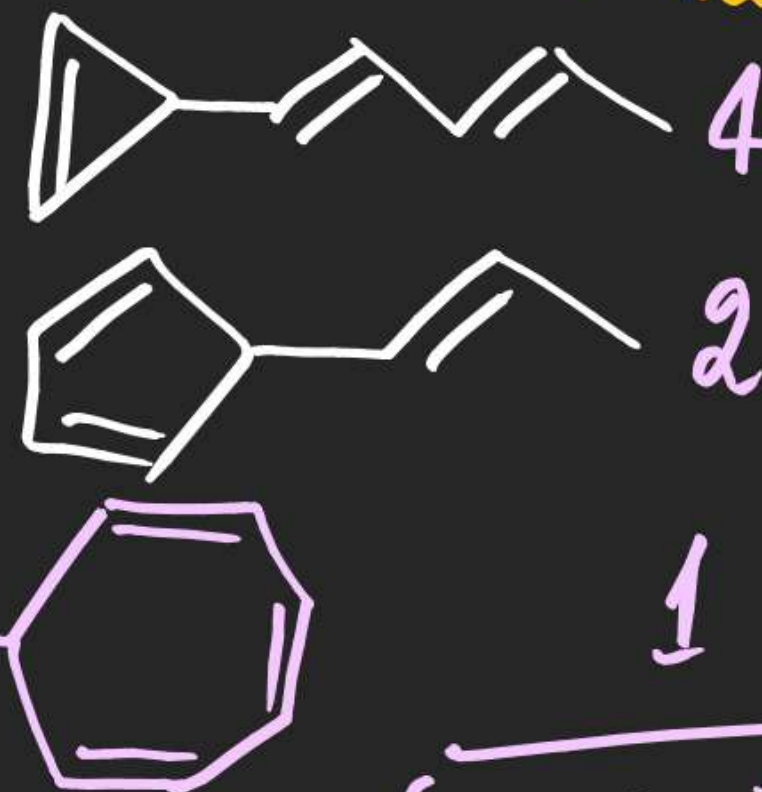
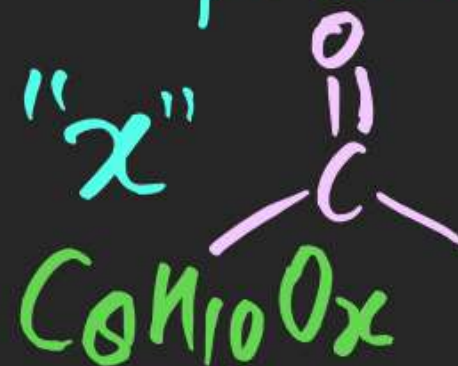
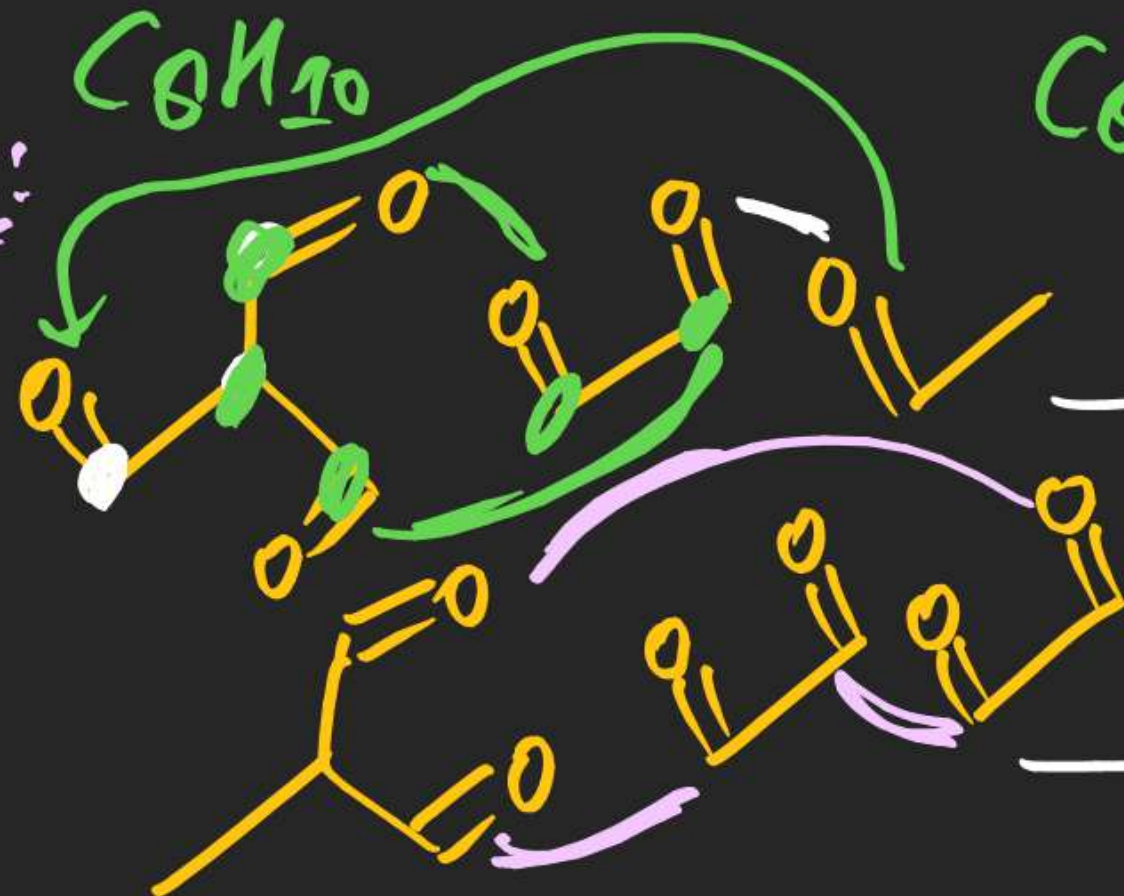
Sol<sup>n</sup>(40)





Solution:

Case (i)

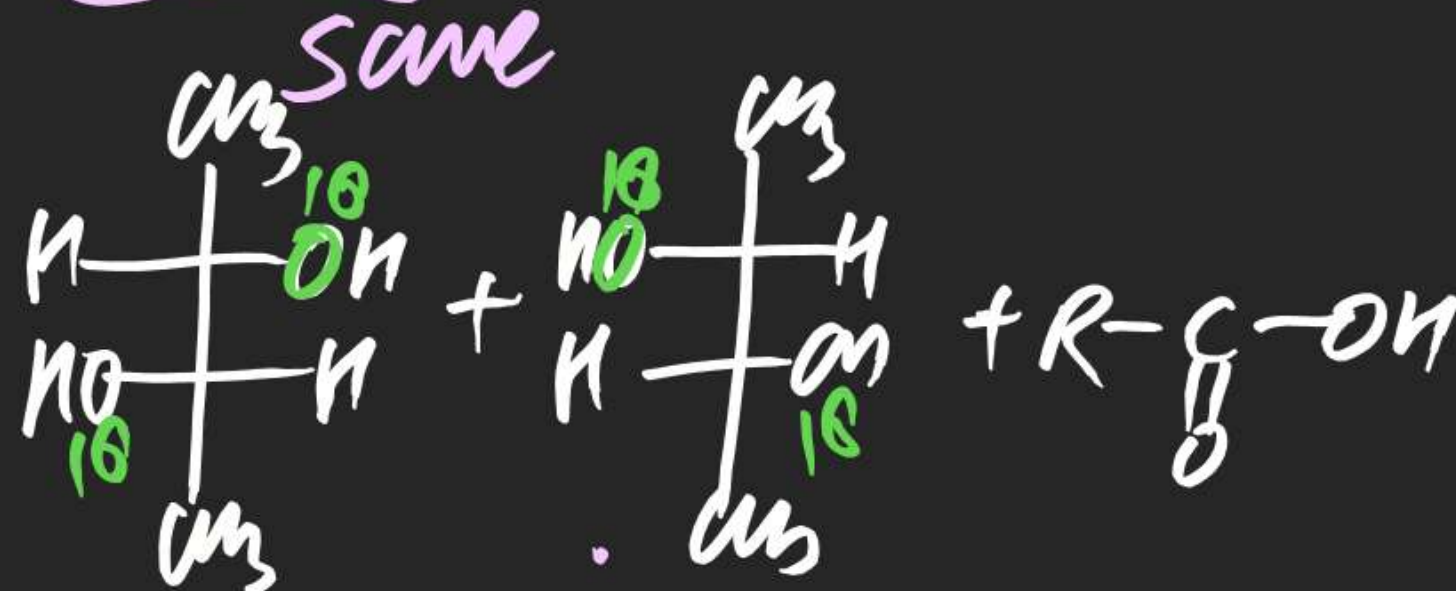
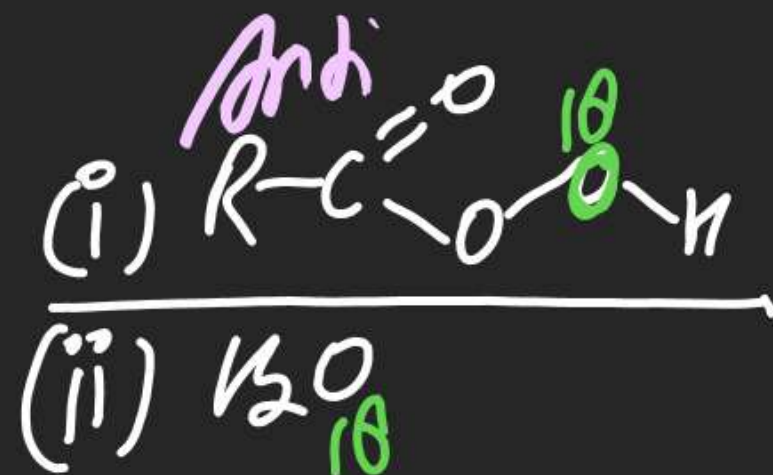
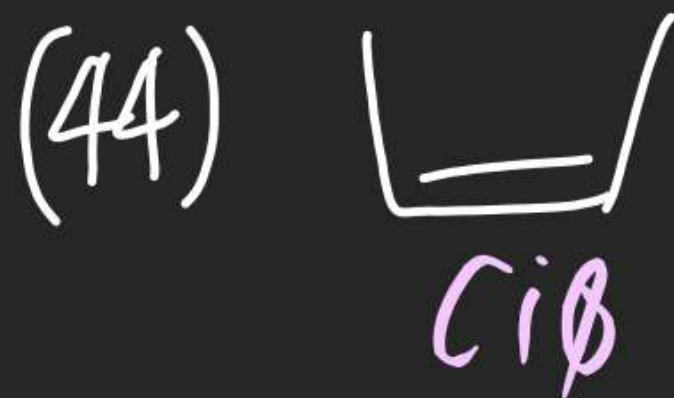
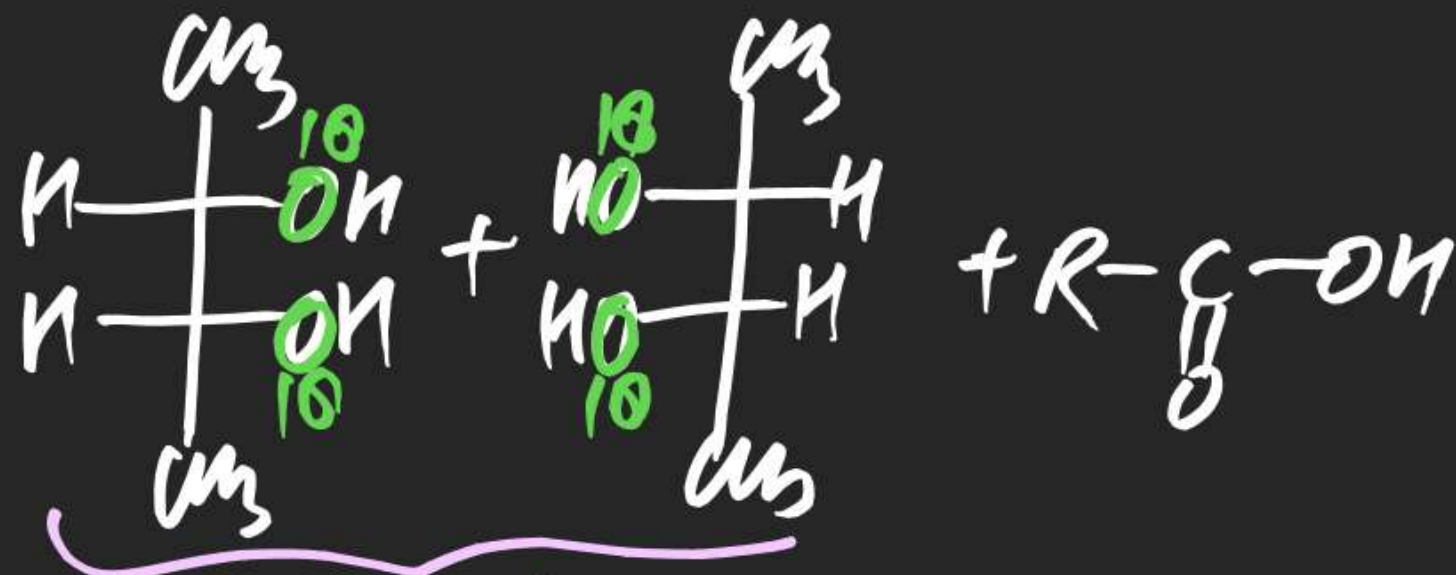
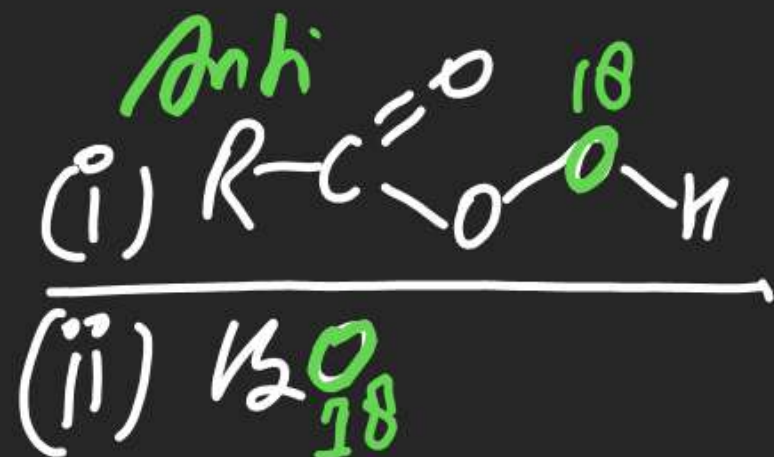
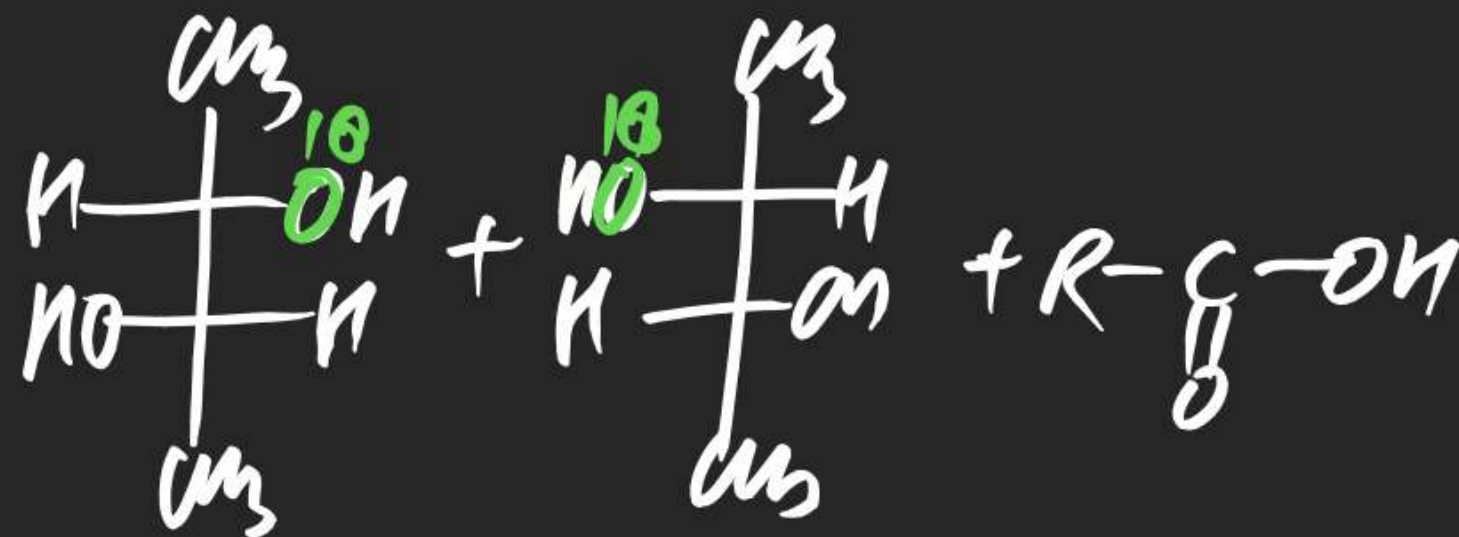
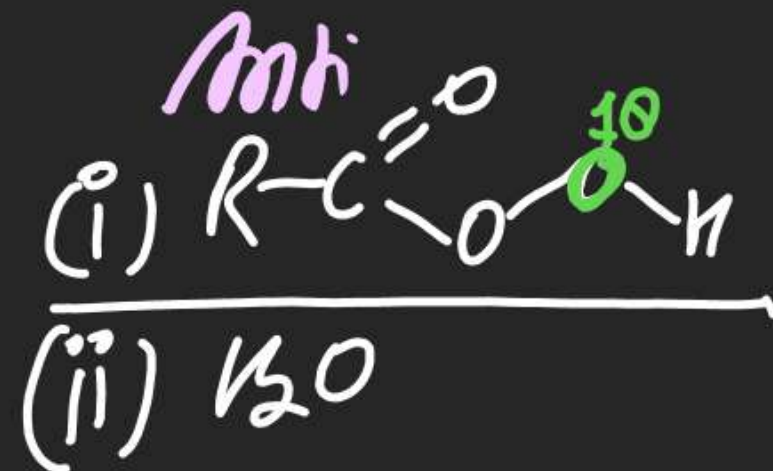


$10 + 2x = 22$   
 $\Rightarrow \boxed{x=6}$

$\frac{1}{\text{Total} = 7}$

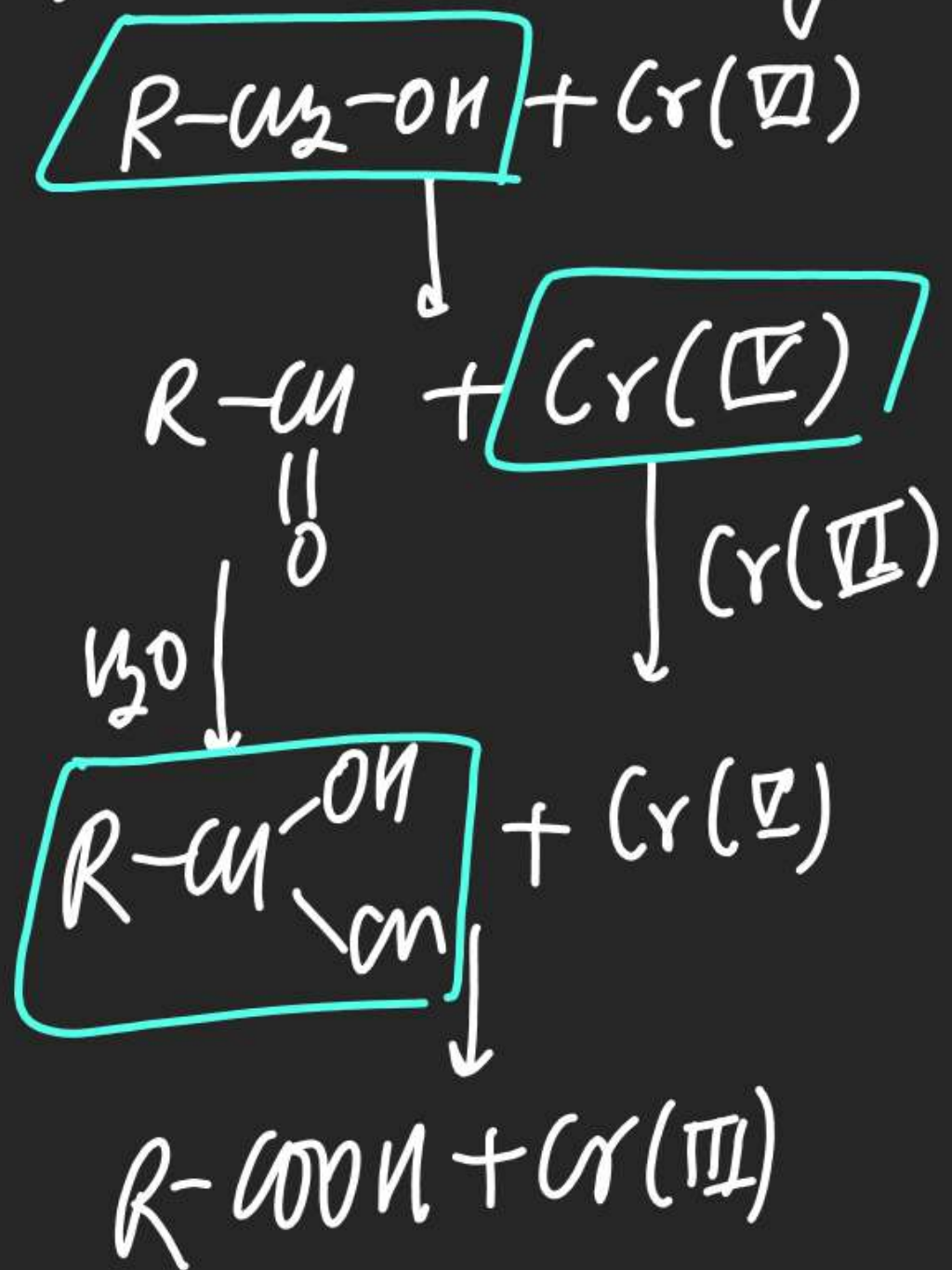
Case (ii)







Note (i) Cr-Ester intermediate  
(ii) species oxidised during Rxn



(iii) O.S change



(iv) color change

MIX Orange  $\rightarrow$  Green

(v) Rxn is used in POC for distinction of Alcohol.

(vi) Decomposition of Cr-Ester is r.d.b

(vii) Kinetic isotopic effect present.



## (2) By Jone's Reagent:

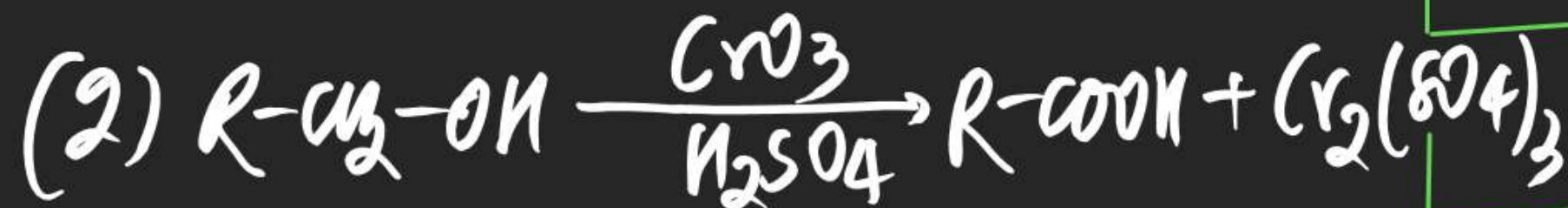
$\Rightarrow \text{CrO}_3$  in  $\text{H}_2\text{SO}_4$

$\Rightarrow$  Strong Oxidising Agent

$1^\circ \longrightarrow$  Acid

$2^\circ \longrightarrow$  Ketone

$3^\circ \longrightarrow$  No Oxid<sup>n</sup>



mech<sup>n</sup>:

Note: (i)  $\text{Cr(VI)} \longrightarrow \text{Cr(III)}$

(ii) Orange  $\longrightarrow$  Green

(iii)  $3^\circ \text{R-OH}$  don't show this Test.

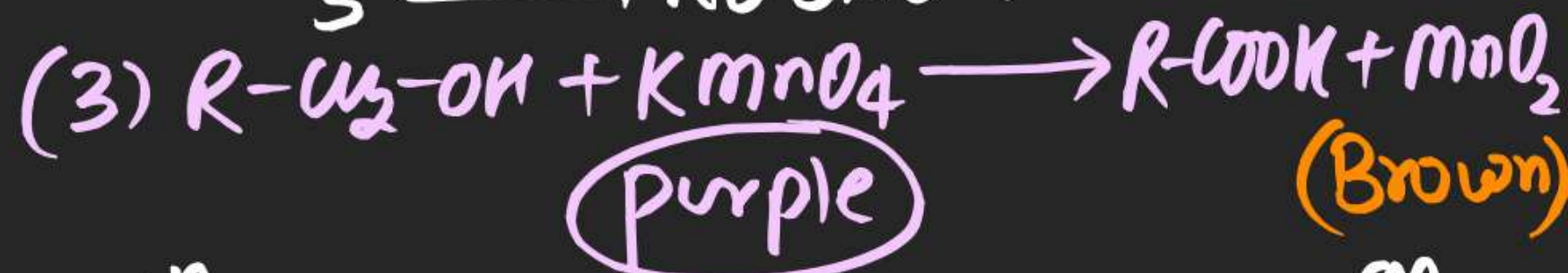
## (3) By $\text{KMnO}_4$

$\Rightarrow$  Strong O. Agent

$\Rightarrow 1^\circ \longrightarrow$  Acid

$2^\circ \longrightarrow$  Ketone

$3^\circ \longrightarrow$  No Oxid<sup>n</sup>



mech<sup>n</sup>:



$\longrightarrow \text{R-COOH}$  Mn-ester

Note (i)  $\text{KMnO}_4$  is stronger than  $\text{K}_2\text{Cr}_2\text{O}_7$

(ii) purple to Brown

(iii)  $\text{Mn}(+7) \longrightarrow \text{Mn}(+4)$

(iv)  $\text{RX}^\text{n}$  is used in PDC.



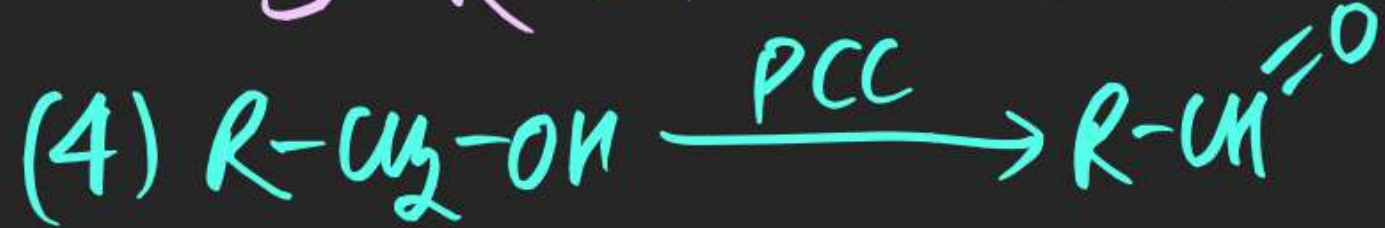
(4) By Pyridinium Chloro Chromate! (PCC) m.m.TyD (5) By Pyridinium Di chromate! (PDC)

⇒ mild oxidising agent

⇒  $1^\circ R-OH \longrightarrow \text{Aldehyde}$

$2^\circ R-OH \longrightarrow \text{ketone}$

$3^\circ R-OH \longrightarrow \text{No oxid}^n$



Note: (i) Oxidation State Cr(VI)  $\rightarrow$  Cr(III)

(ii) Orange  $\rightarrow$  Green

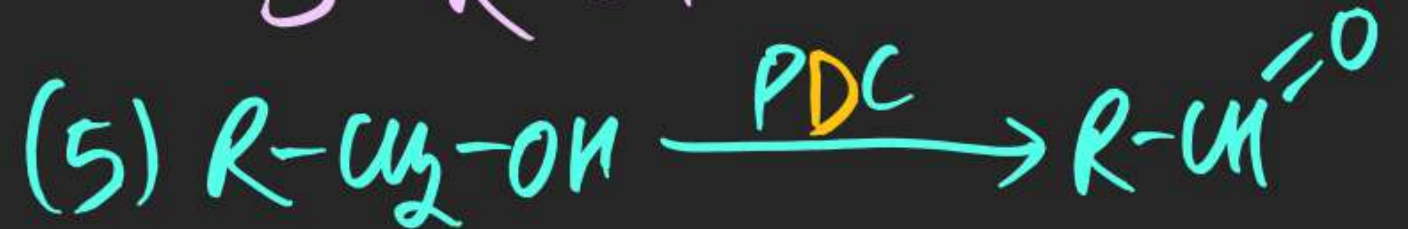
(iii) PCC is mostly used in  $CH_2Cl_2$

⇒ mild oxidising agent

⇒  $1^\circ R-OH \longrightarrow \text{Aldehyde}$

$2^\circ R-OH \longrightarrow \text{ketone}$

$3^\circ R-OH \longrightarrow \text{No oxid}^n$



Note: (i) Oxidation State Cr(VI)  $\rightarrow$  Cr(III)

(ii) Orange  $\rightarrow$  Green

(iii) PDC is mostly used in  $CH_2Cl_2$



(6) By Collins Reagent:  
 $\Rightarrow$  mild oxidising agent

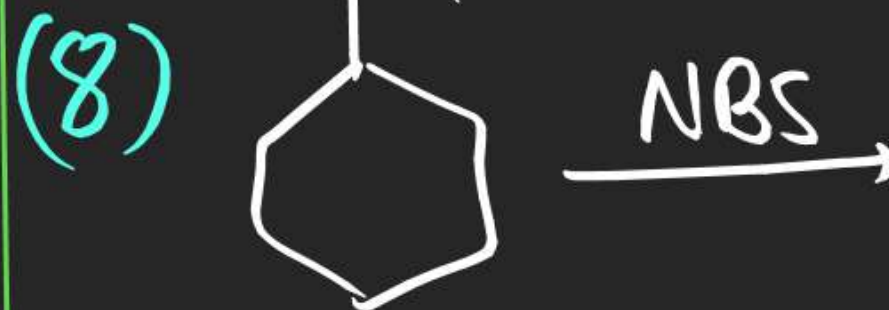
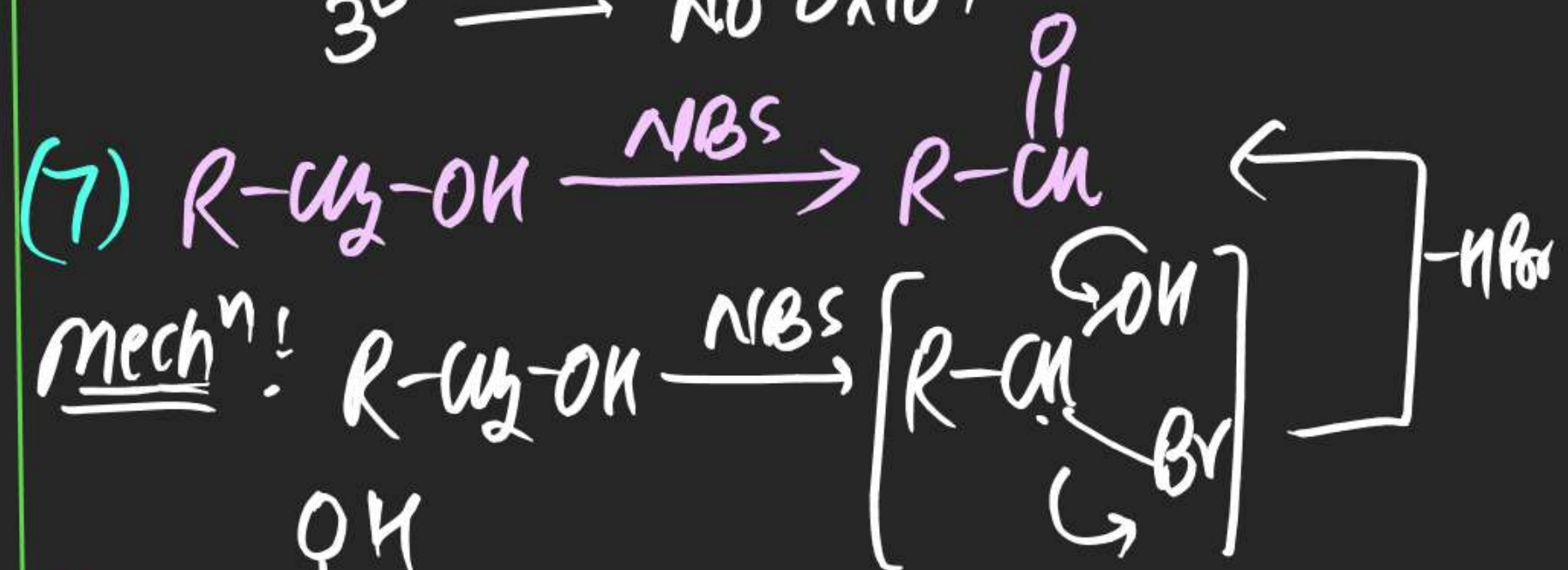
(7) By NBS:

$\Rightarrow$  mild oxidising agent

1<sup>o</sup>  $\longrightarrow$  Aldehyde

2<sup>o</sup>  $\longrightarrow$  Ketone

3<sup>o</sup>  $\longrightarrow$  NO OXID<sup>n</sup>





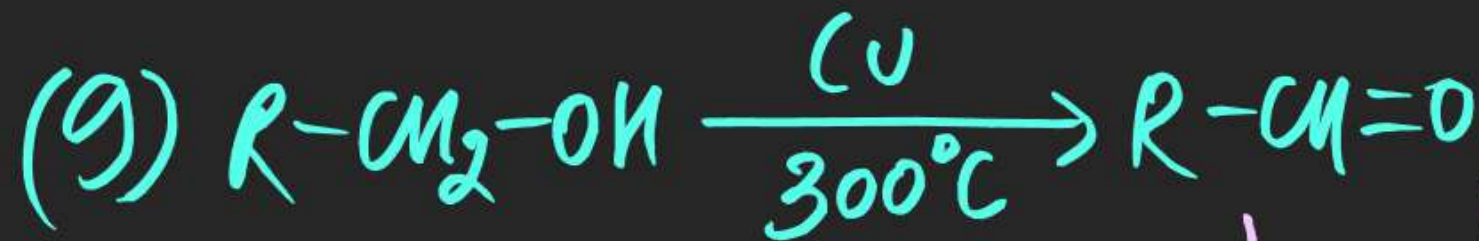
(8) By Cu, Δ:

⇒ mild oxidising agent

1° → Aldehyde

2° → Ketone

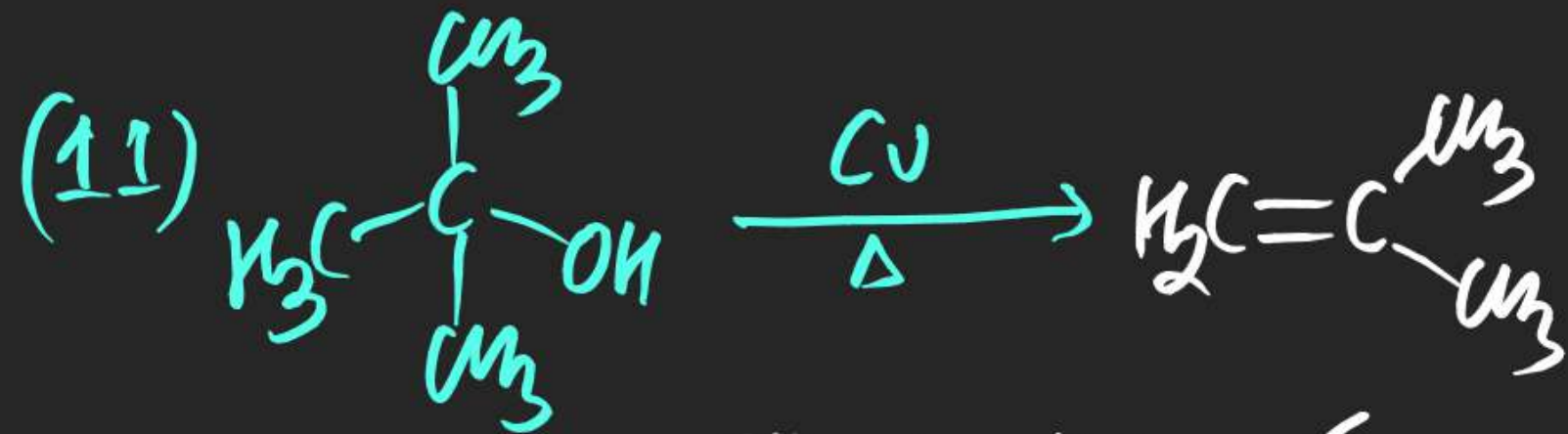
3° → Alkene



Elimination ✓  
Dehydrogenation ✓  
Oxidation ✓



Elimination ✓  
Dehydrogenation ✓  
Oxidation ✓



Elimination ✓  
dehydration ✓  
Oxidation X



(9) By TsCl, DMSO & NaHCO<sub>3</sub>:

⇒ mild oxidising agent

1° → Aldehyde

2° → ketone

3° → No oxid<sup>n</sup>

