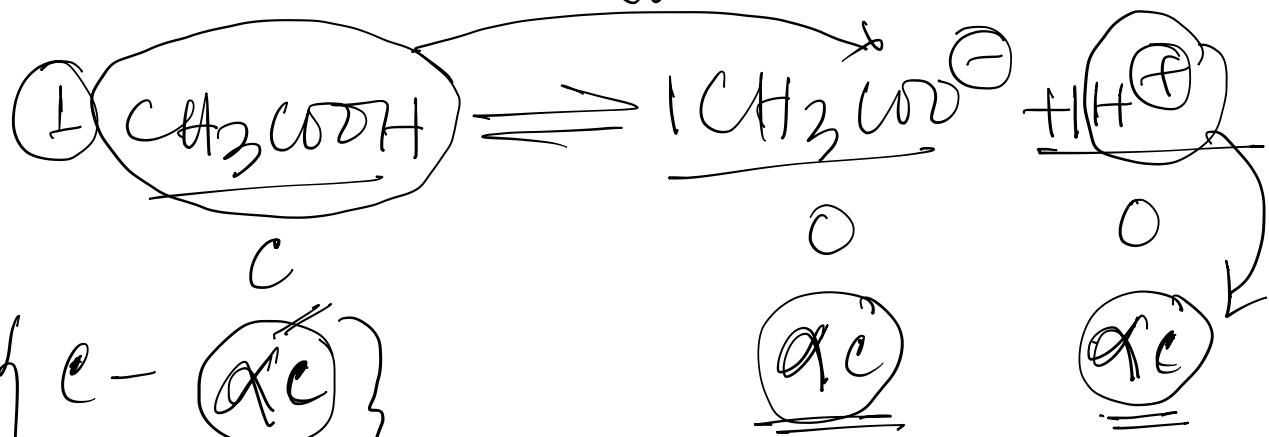
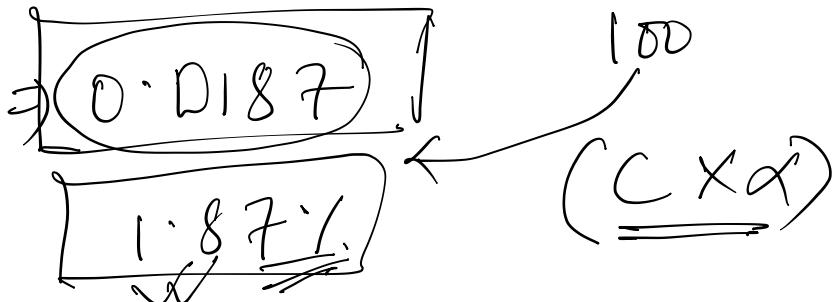


$$\alpha = \sqrt{\frac{K_a}{C}} \quad 80 \quad \frac{80 \times 20}{51.16} \approx 16$$

(80) → (16)



remain

$$0.0187 \times 0.05 \rightarrow \text{H}^+$$

cone

$$\begin{aligned} p^H &= -\log H^+ \\ &\Rightarrow -\log (^\circ) \end{aligned}$$

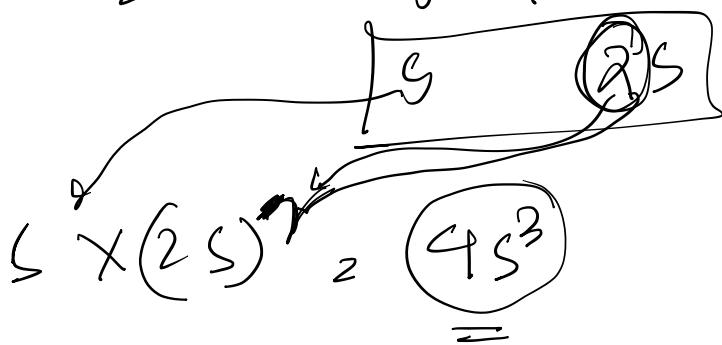
$$\Rightarrow 3.03$$

## Solubility pdt

$K_{SP}$



What is the solubility of hydroxide ions?



$$4S^3 = \frac{0.8}{3.2 \times 10^{-11}}$$

$$S^3 = \frac{0.8}{8 \times 10^{-12}}$$

$$= \boxed{2 \times 10^{-4}}$$

$$OH^- = 2S = 2 \times 2 \times 10^{-4}$$

$$\Rightarrow 4 \times 10^{-4}$$

$$P_{OH} = -\log (4 \times 10^{-4})$$

$$\Rightarrow -\log 4 - \log(10) \Rightarrow -\log 4 + 4n$$

$$\therefore -\log(4 \times 10^{-4}) - \log ab = \frac{\log P}{\log b}$$

$$\Rightarrow -\log 4 - \log 10^{-4}$$

Mg(OH)<sub>2</sub>

$$\Rightarrow -\log 4 + 4 \boxed{\log 10} \Rightarrow ①$$

$$= 4 - \log 10$$

$$\Rightarrow 4 - \log 2$$

$$= 4 - 2 \log 2$$

$$\Rightarrow 4 - 2 \times 0.301$$

$$\Rightarrow \boxed{4 - 0.6}$$

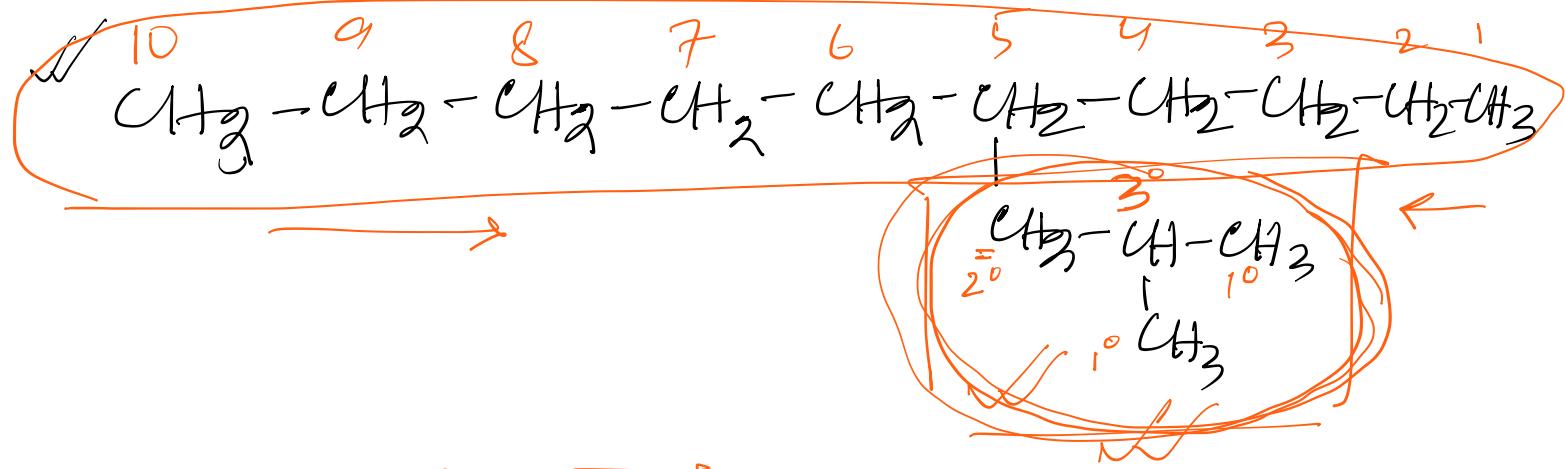
$$\Rightarrow 3.44 \quad \text{pOH}$$

$$P^H \Rightarrow 14 - P^{OH}$$

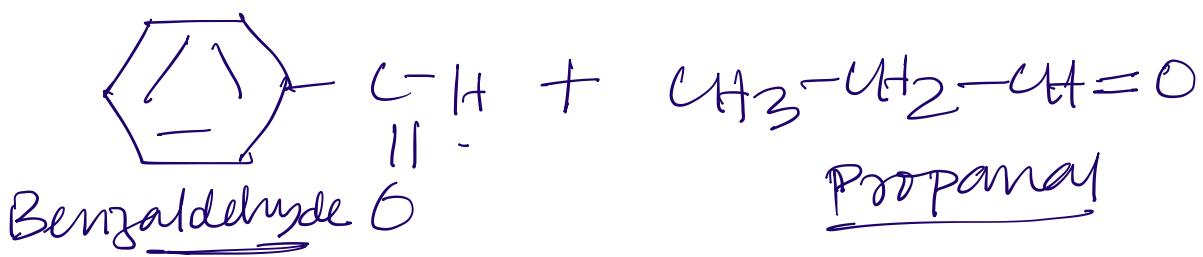
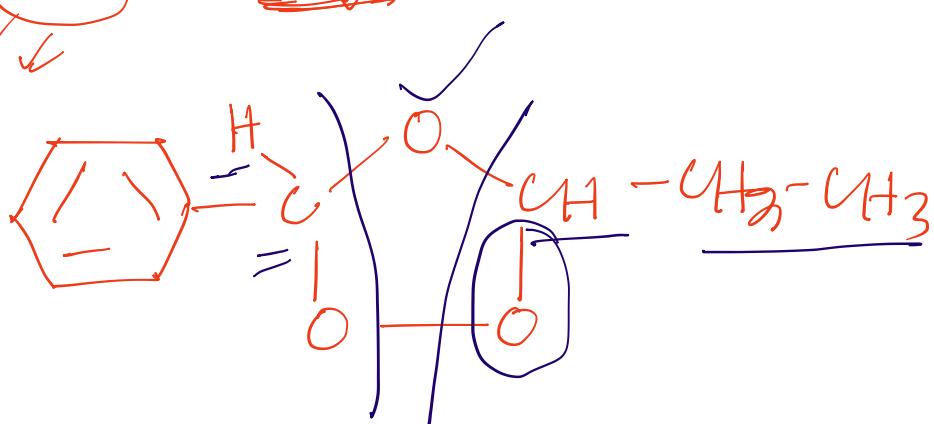
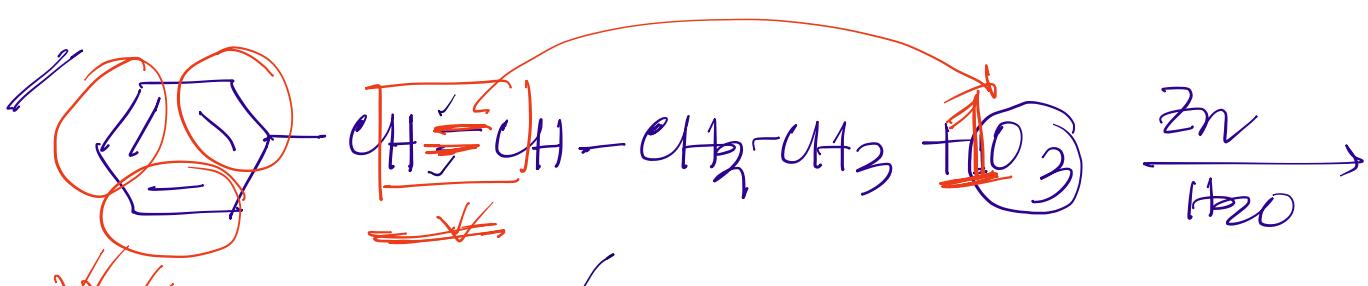
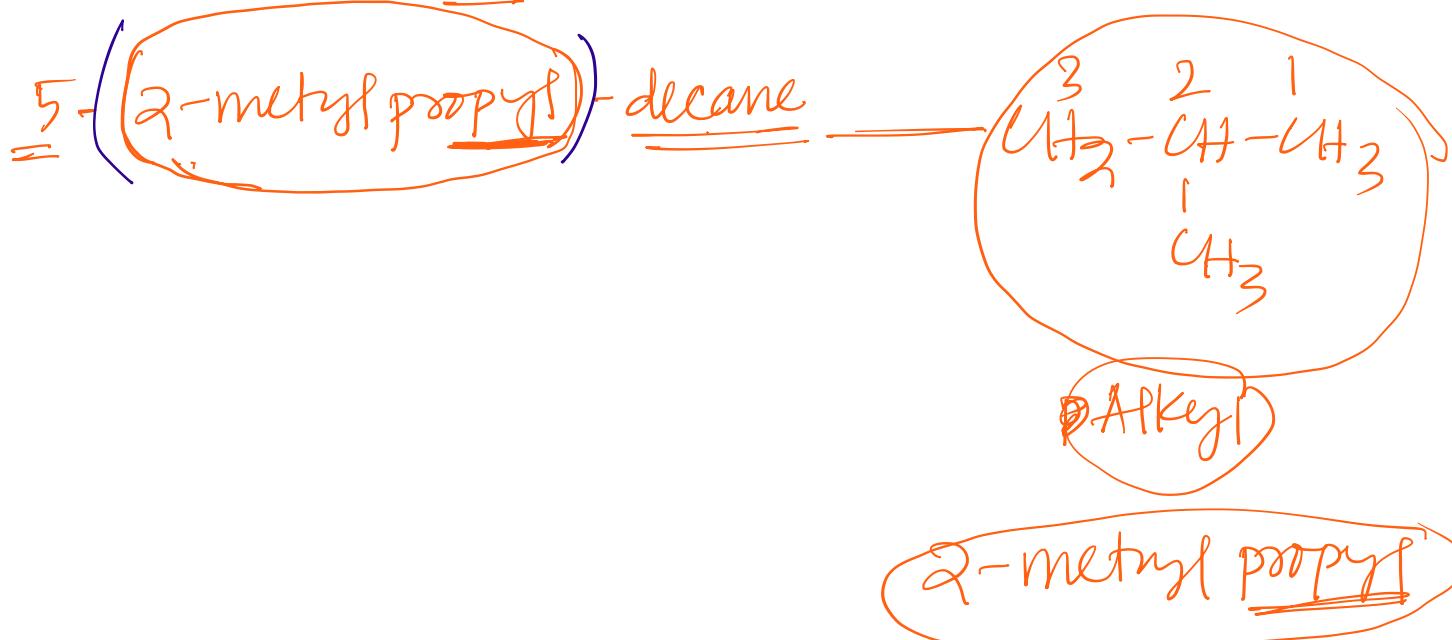
$$\Rightarrow 14 - 3.94$$

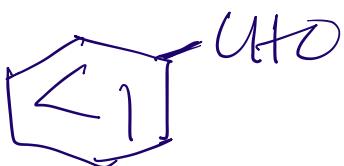
$$= \boxed{10.06}$$



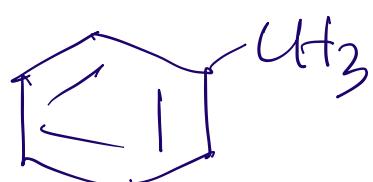


$\Rightarrow ??$  (Decane)

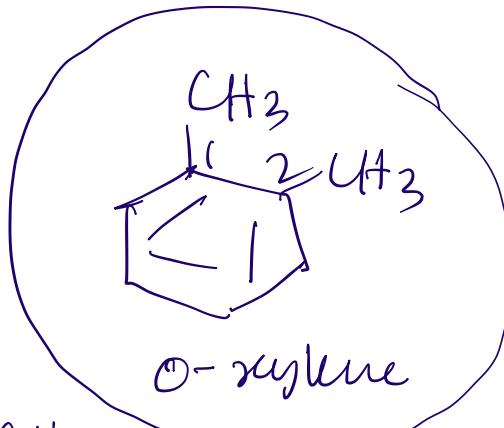




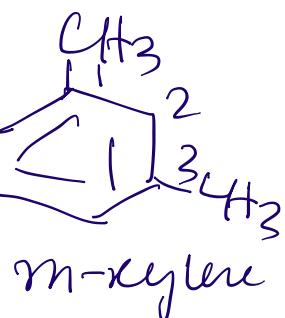
Write down the products of ozonolysis of  
1, 2-dimethyl benzene (o-xylene)



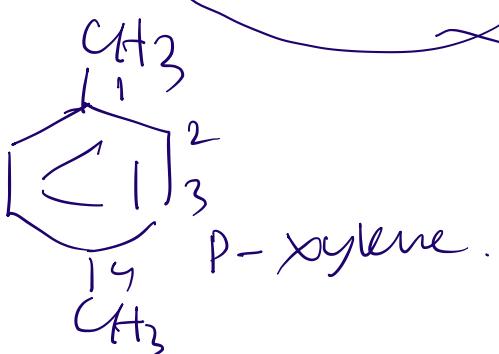
Toluene



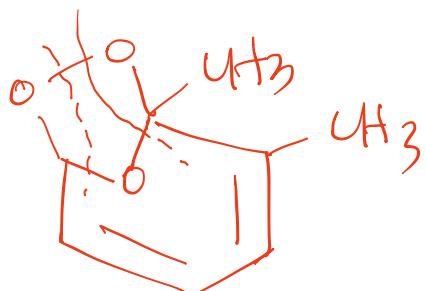
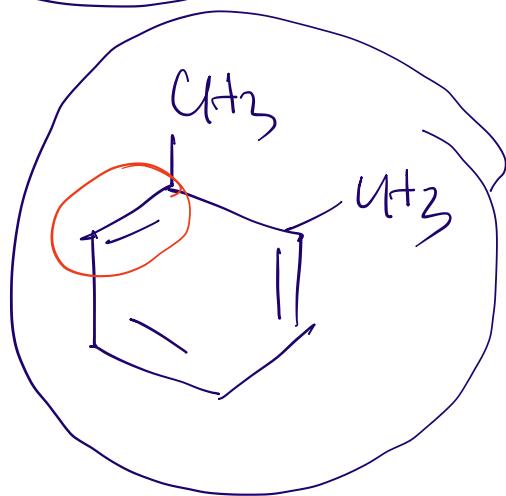
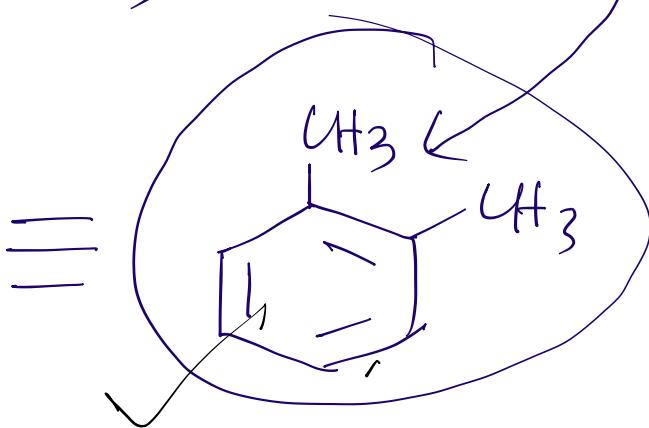
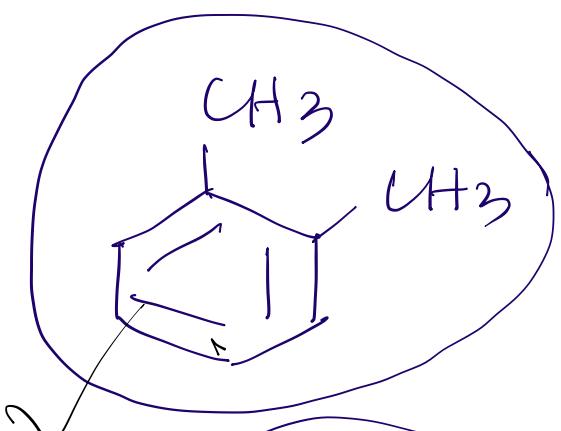
$\text{O-xylene}$

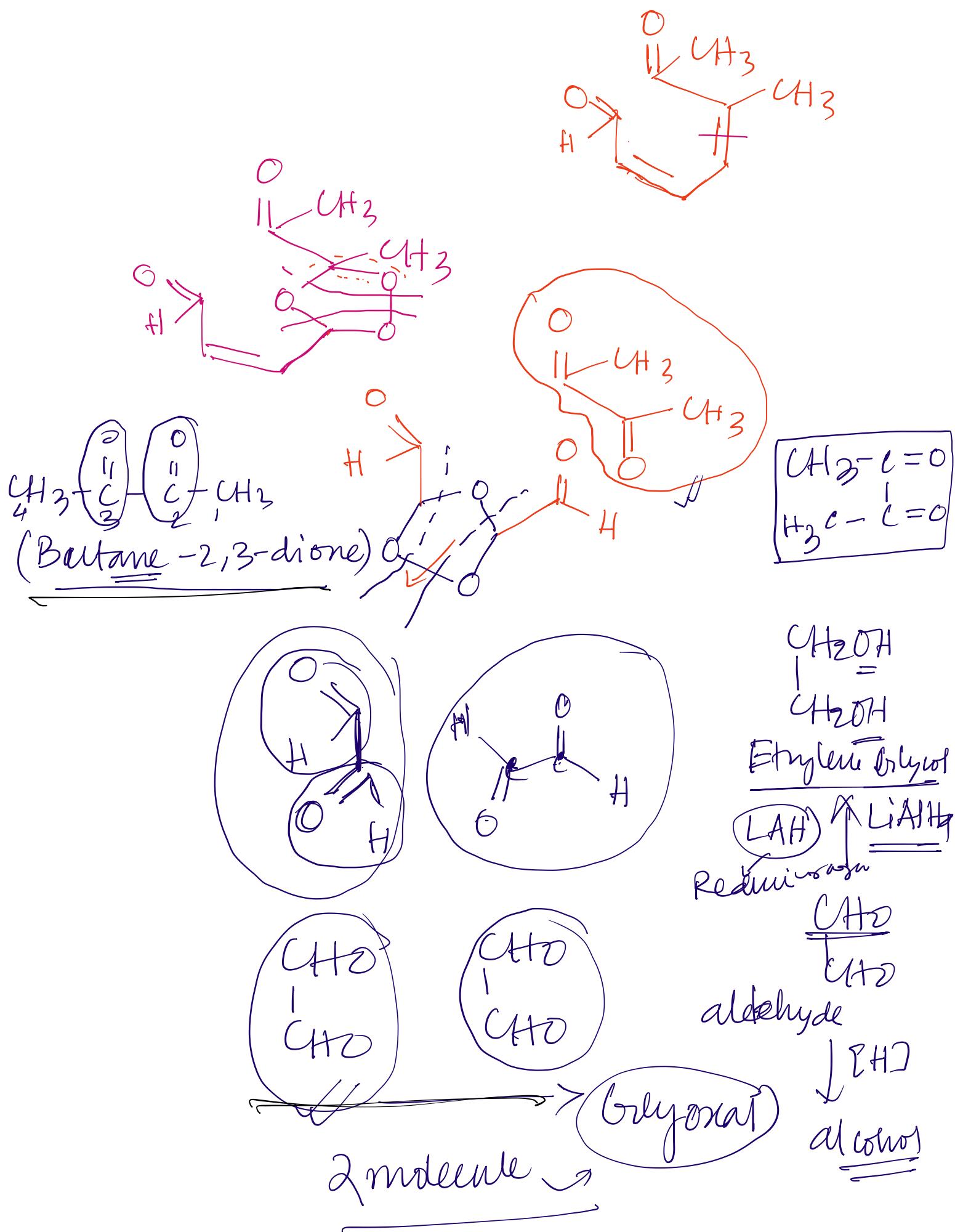


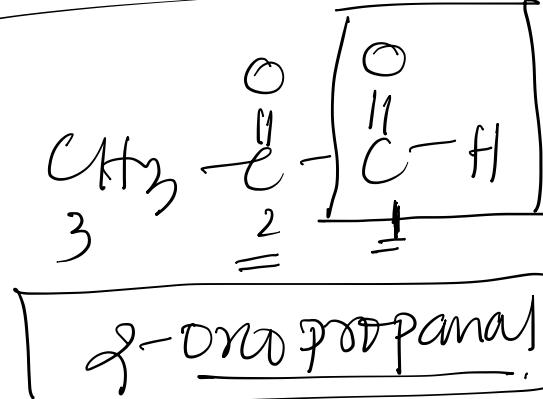
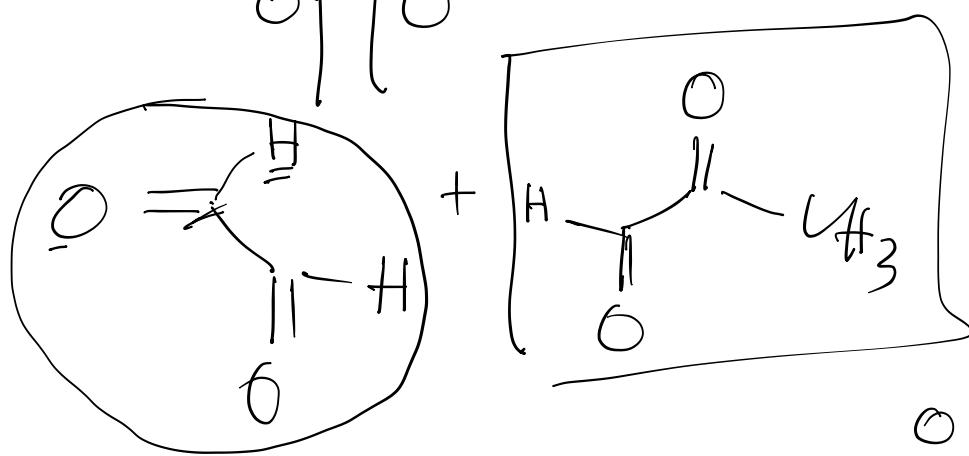
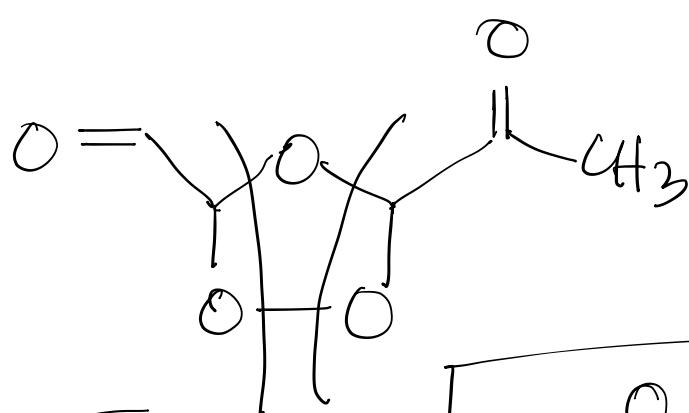
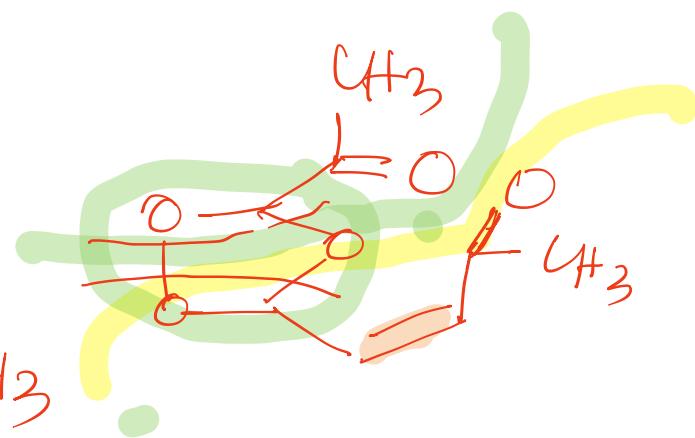
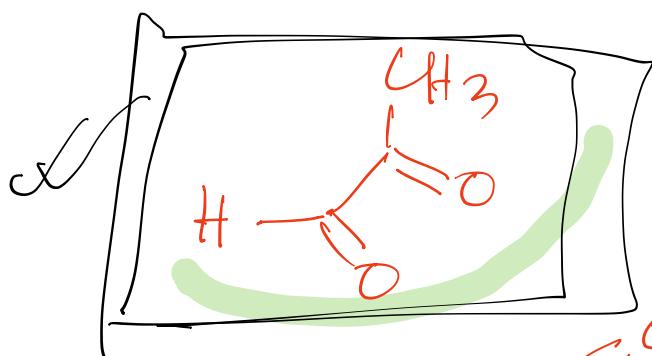
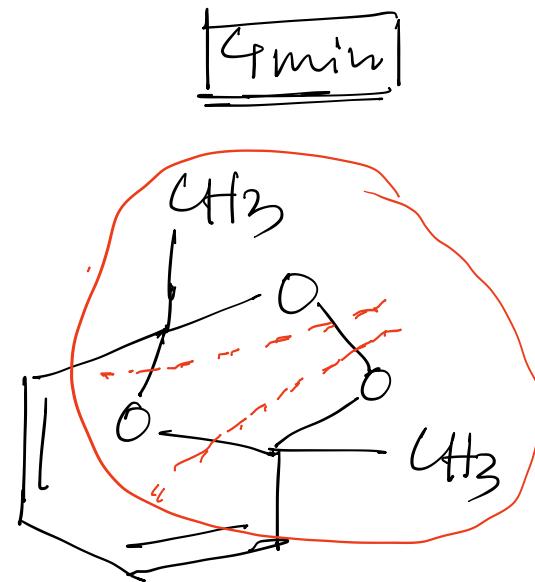
$m\text{-xylene}$



$p\text{-xylene}$ .





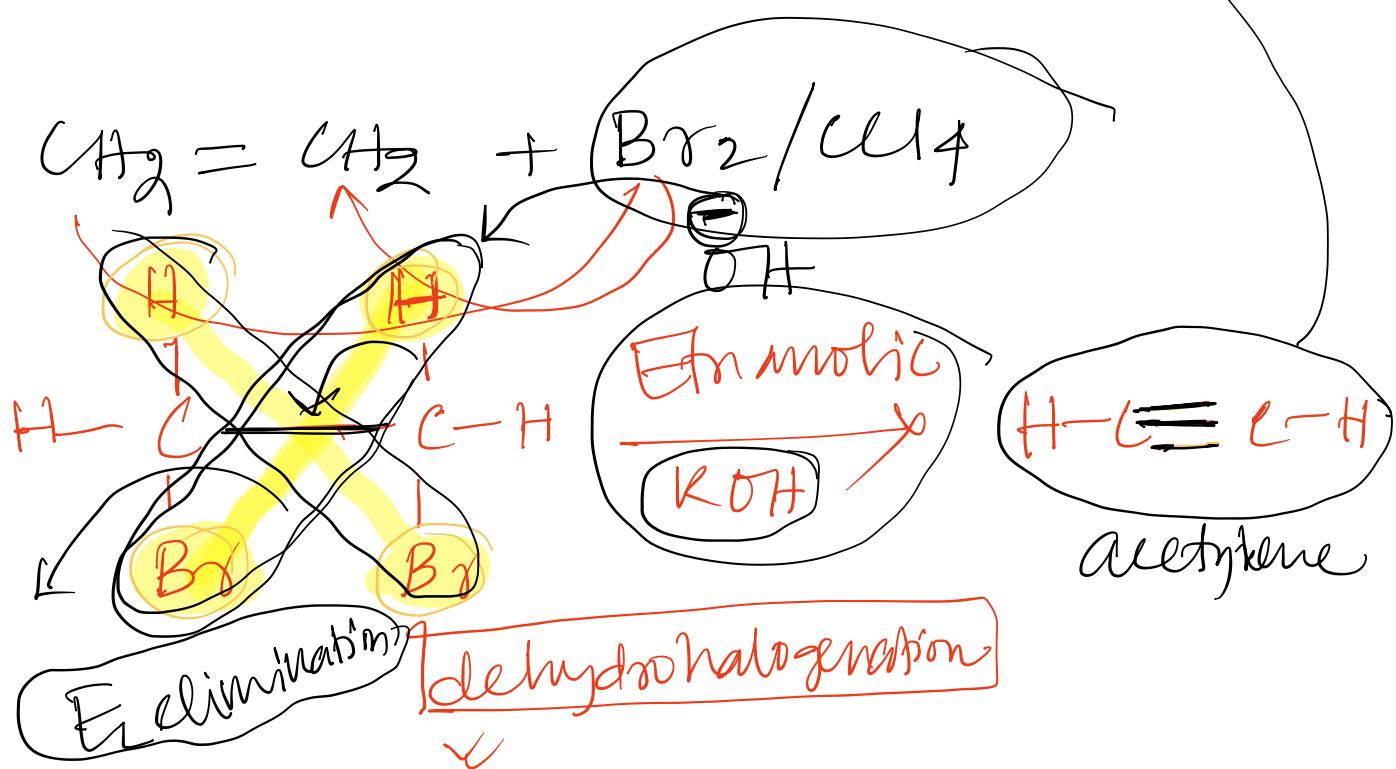
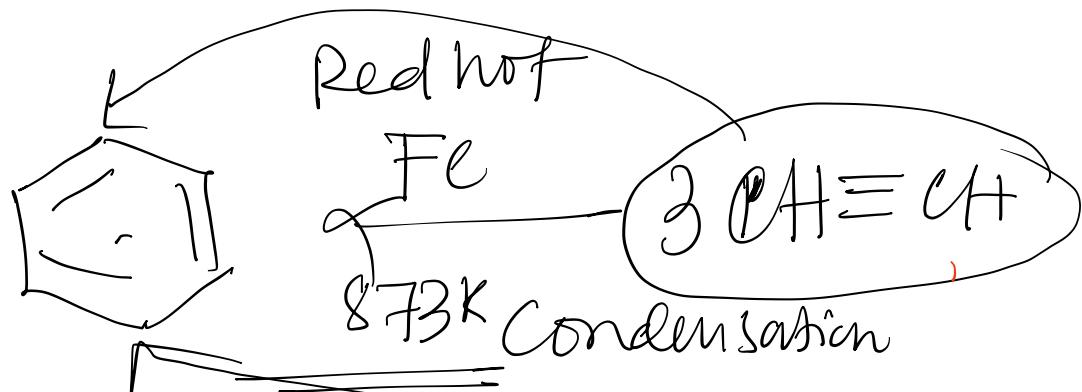


2-type  $\rightarrow$  3 type



indicate

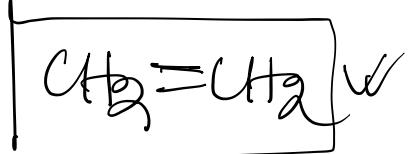
resonance



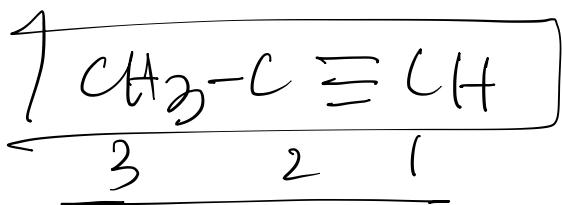
Ethylen  $\longrightarrow$

Propyne

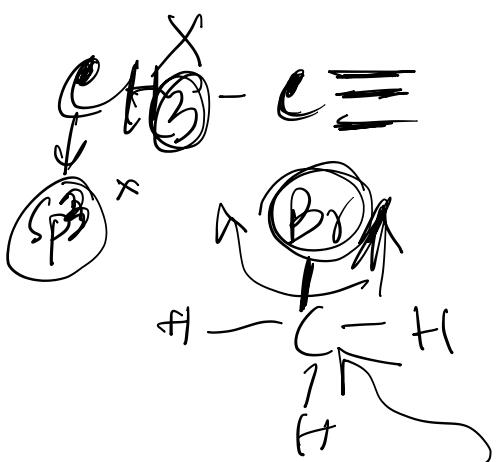
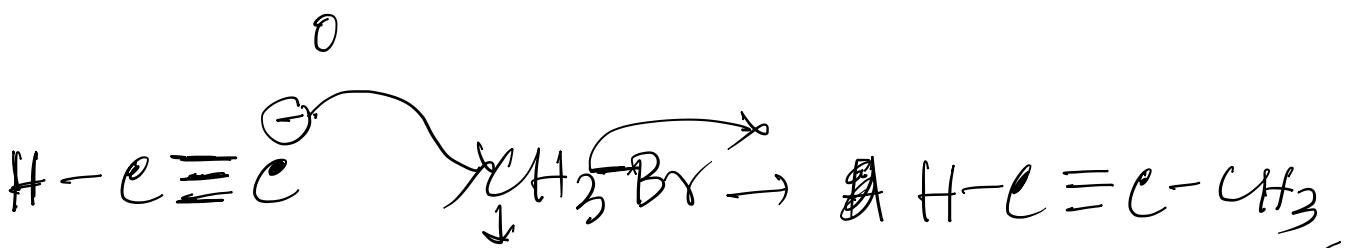
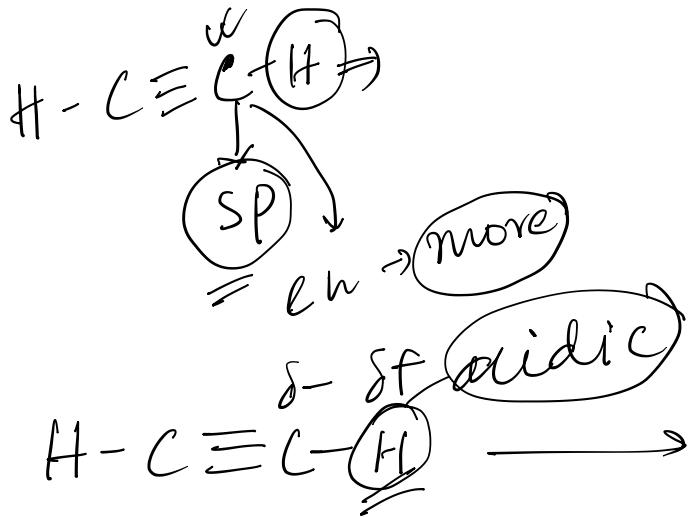
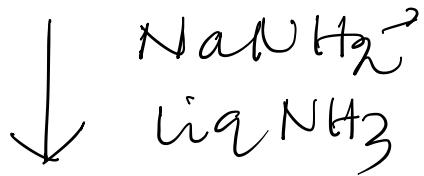
(Conversion)



2C



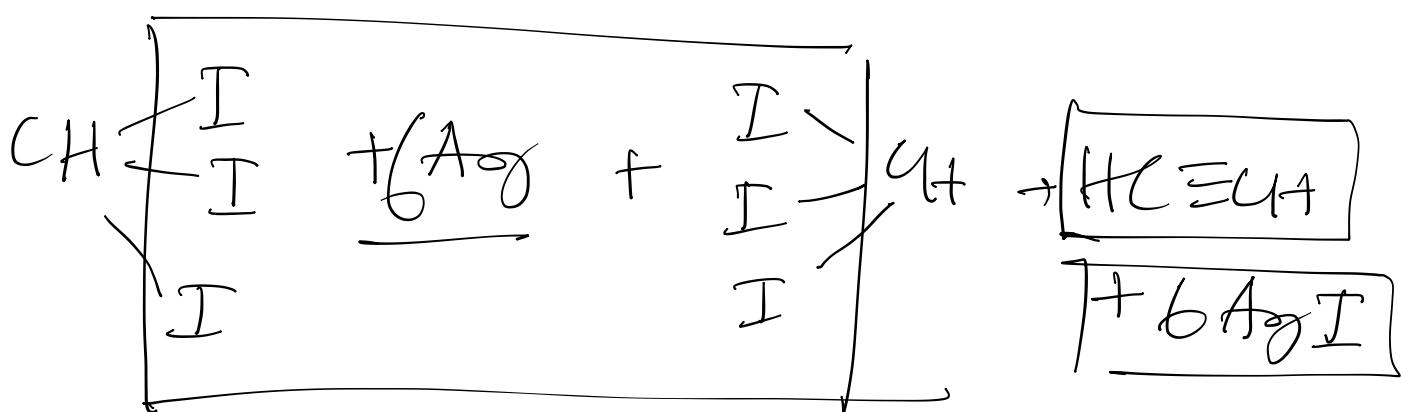
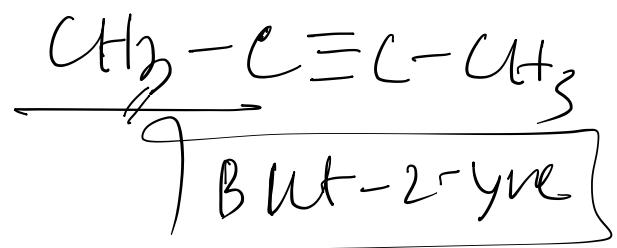
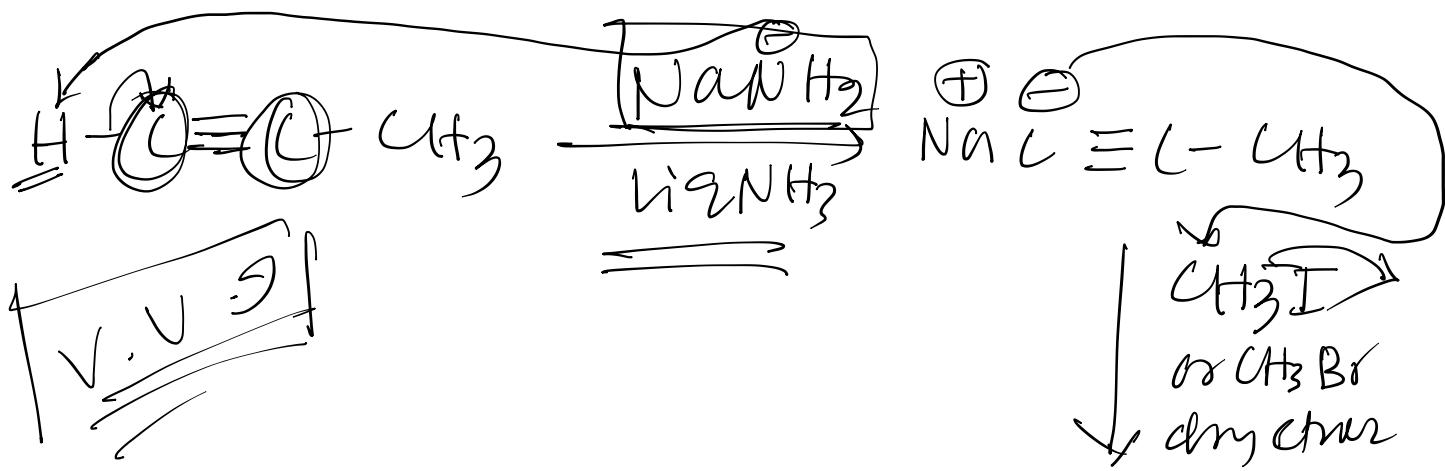
3C



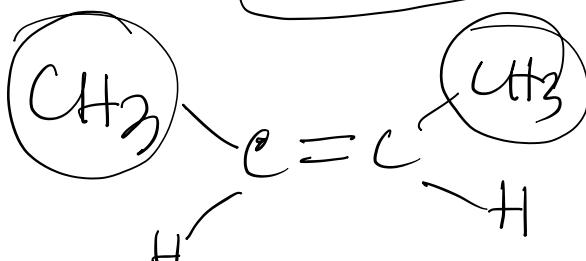
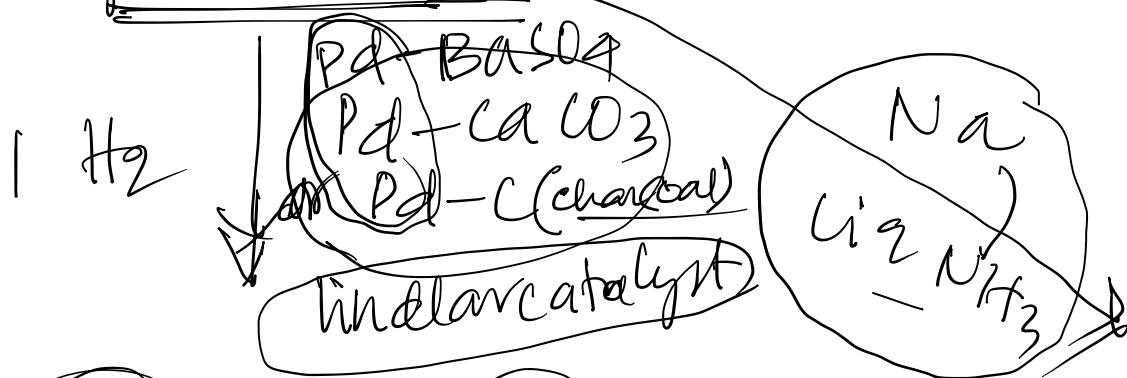
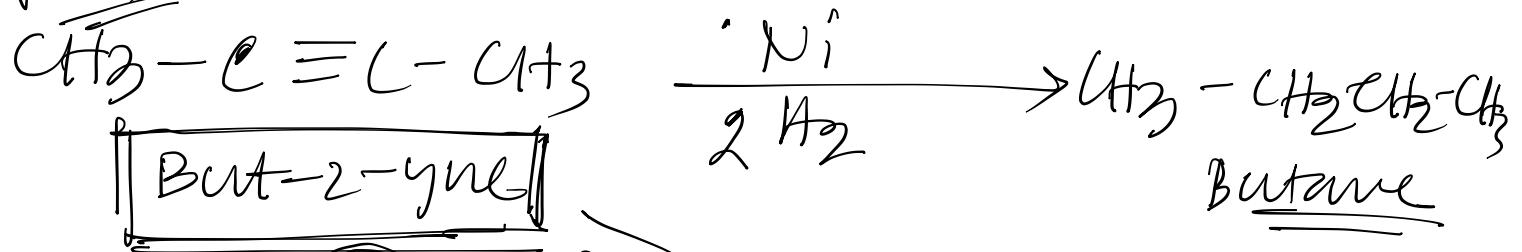
=

Propyne

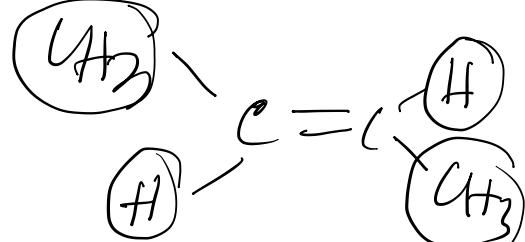
But-2-yne



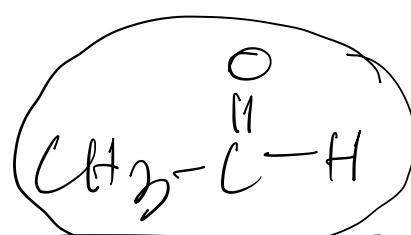
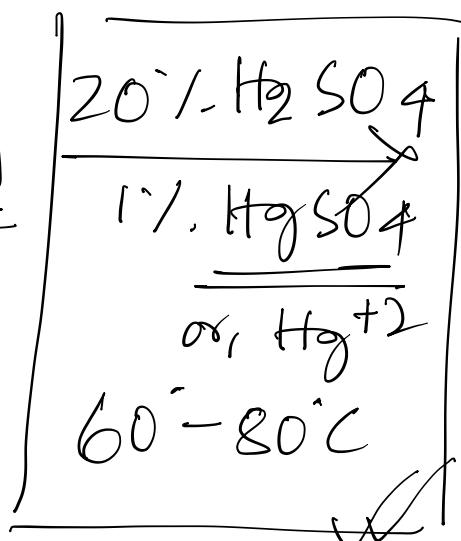
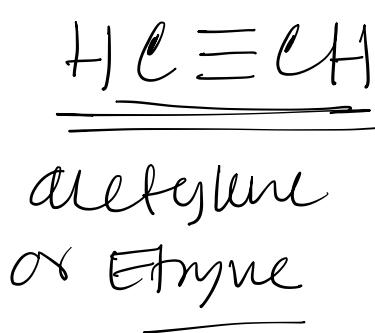
V.V.7



cis-2-butene

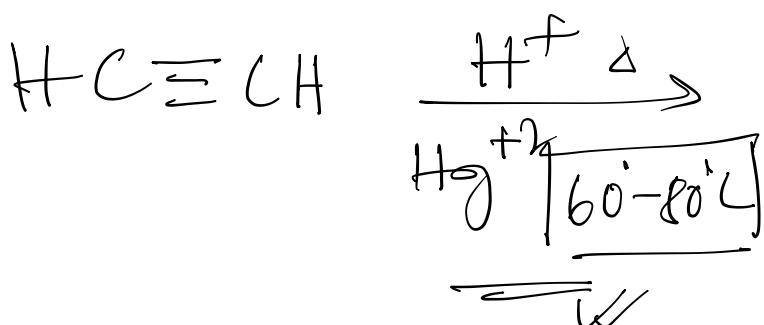


V.V.8

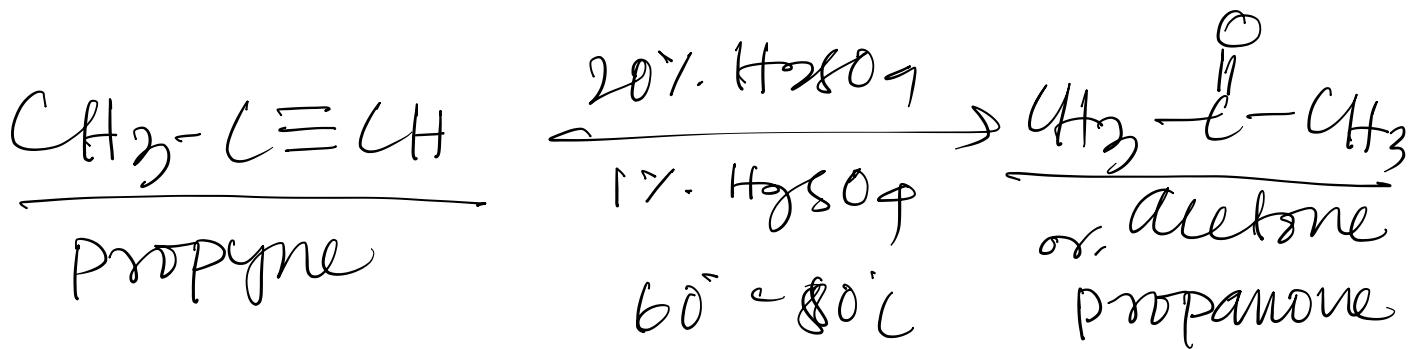


Etnanal

acetaldehyde

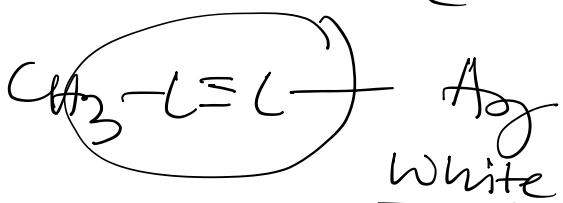
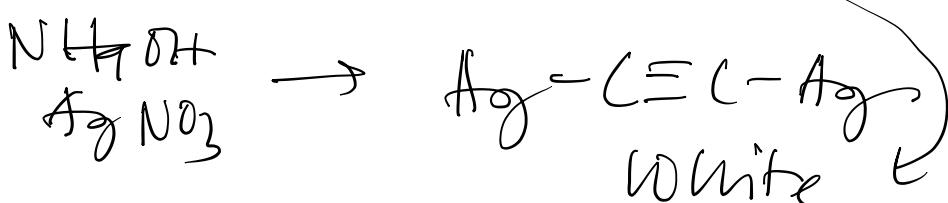
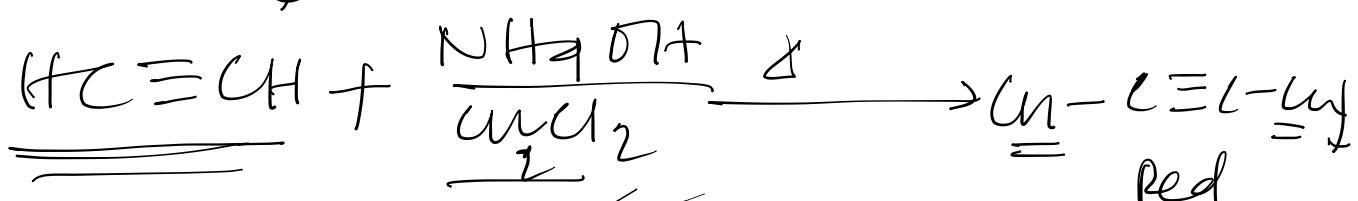


v.v.v.9



Ammonical silver nitrate

1 Cuprom chloride



separation

=  
ethane, ethene      Ethyne

~~Bromine~~ Test for unsaturation

~~B<sub>2</sub>O/C<sub>6</sub>H<sub>6</sub>~~

✓ Alkene / Alkyne  $\rightarrow$



Reddish Brown

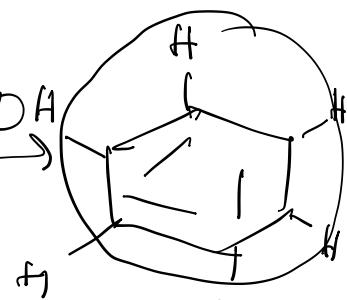
colour disappear

Alkane

fails to react with  $\text{Br}_2/\text{color}$   
as it does not react



Mg  
ether  
 $\text{or}$  THF



$\text{CH}_3-\text{Cl}$

Mg  
ether

$\text{CH}_3\text{MgCl}$

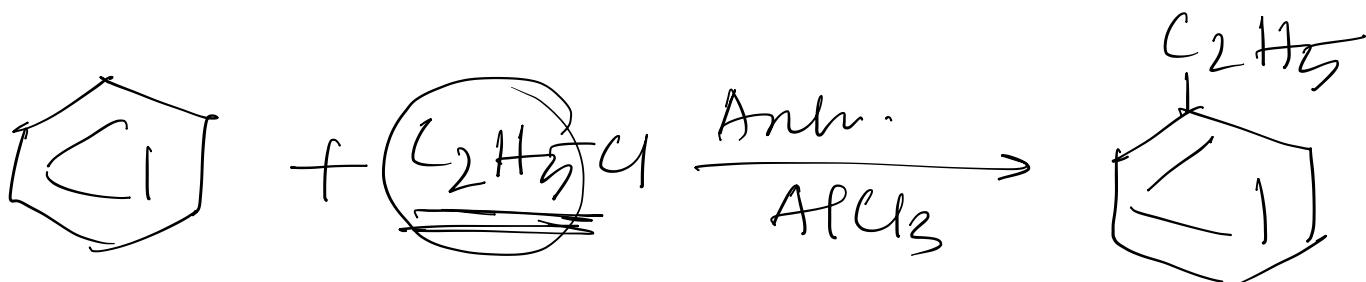
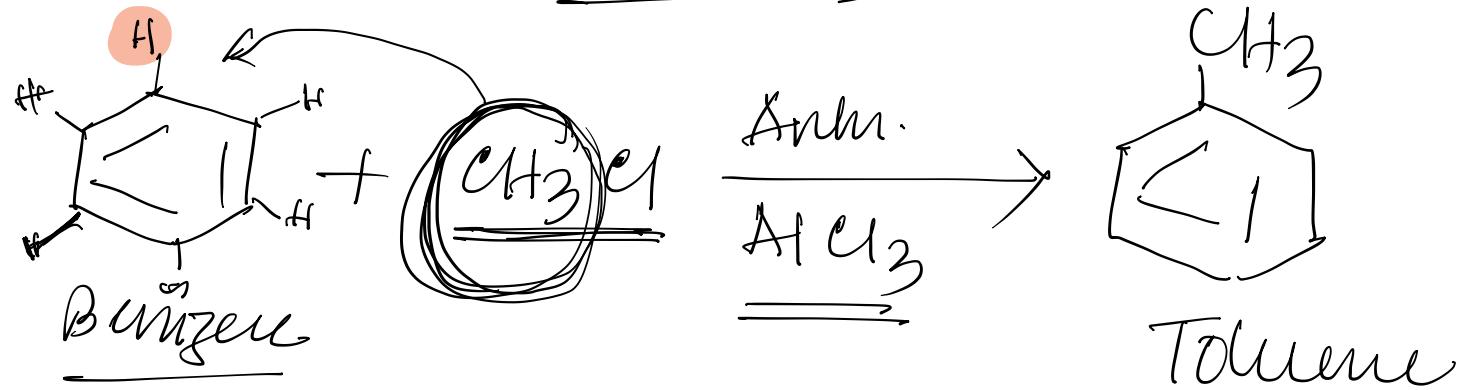
methyl  
magnesium  
chloride

(Grignard  
Reagent)

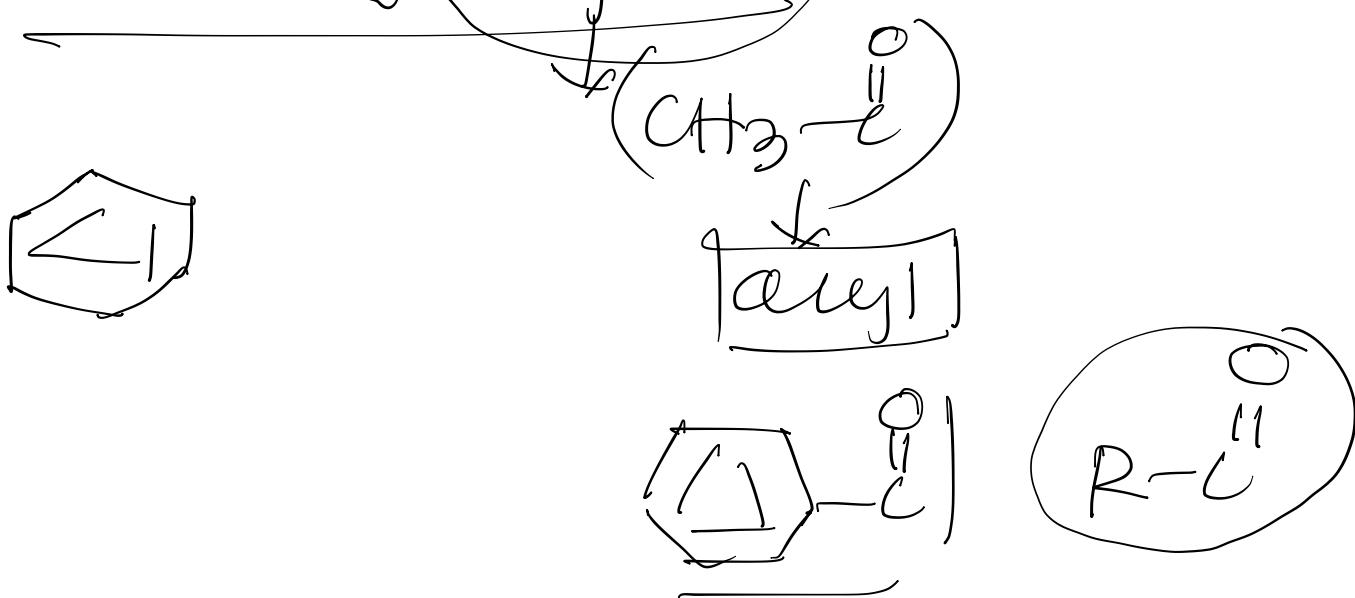
$\text{CH}_3$

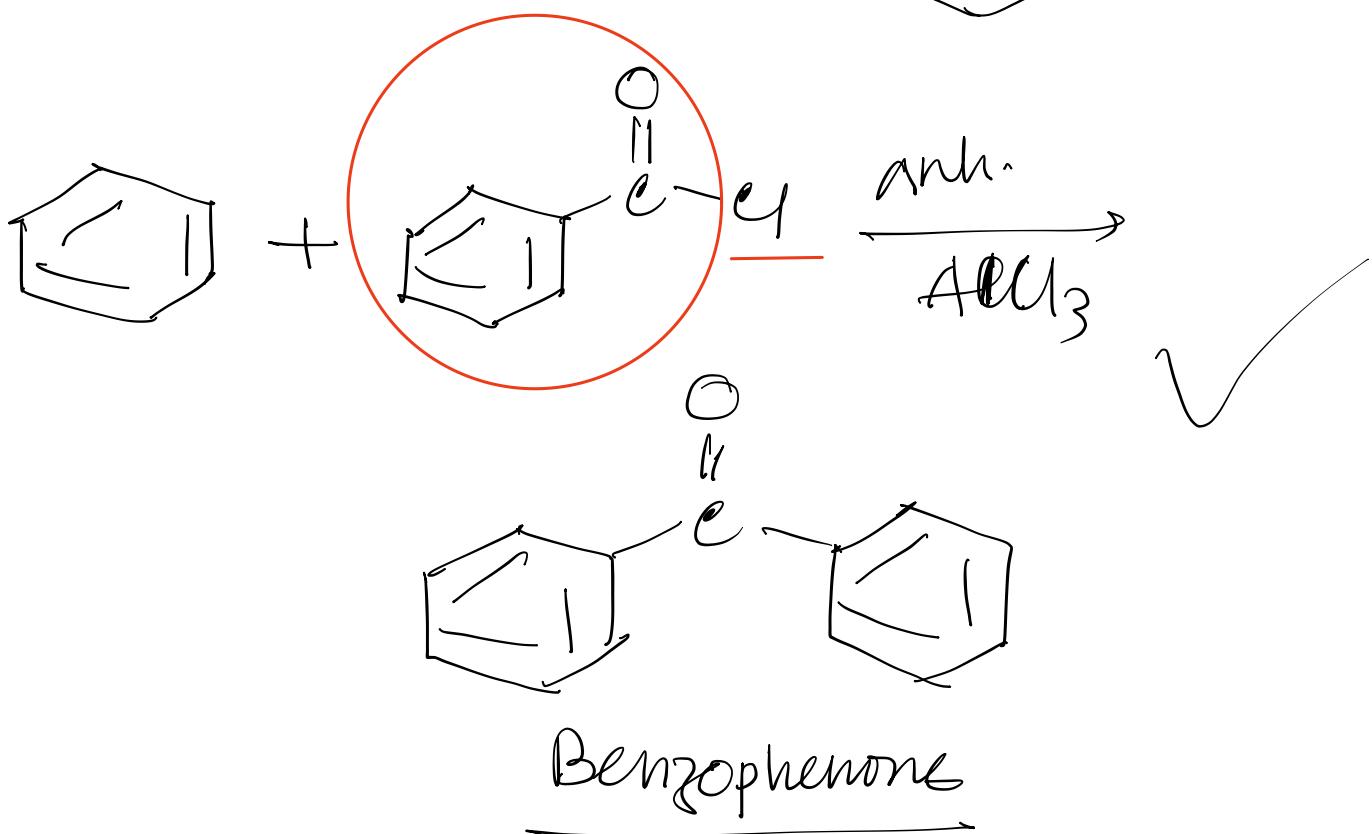
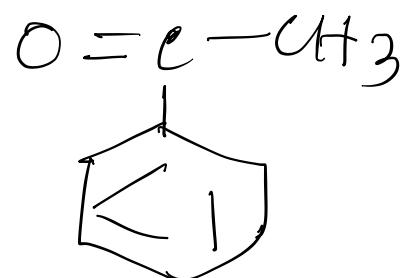
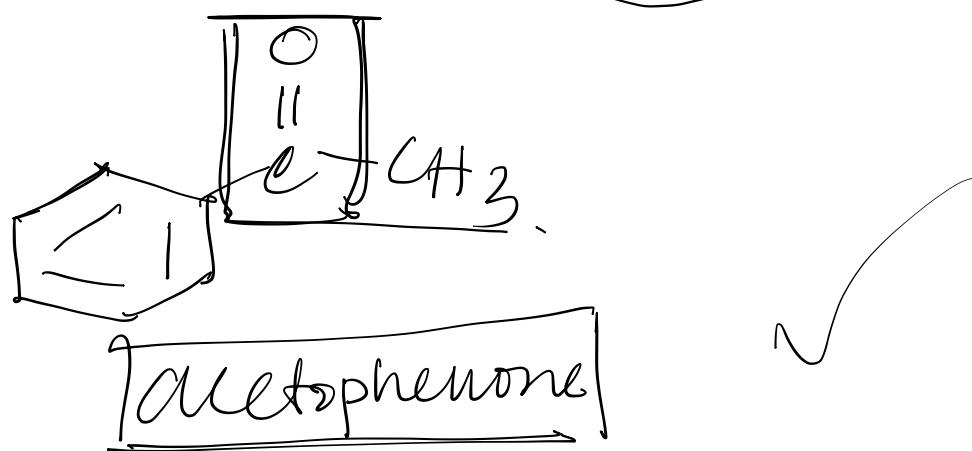
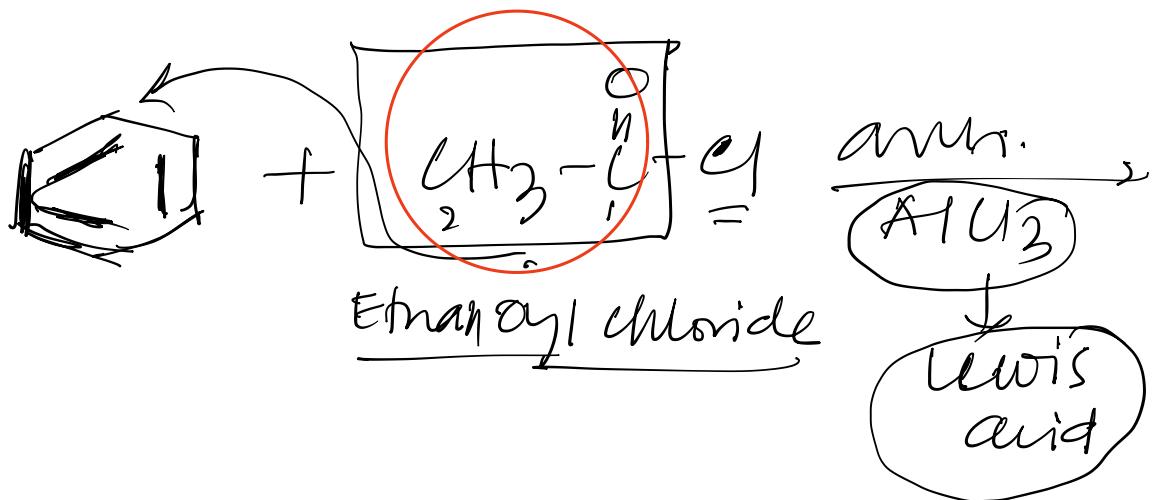
# Friedel-Crafts Alkylation:

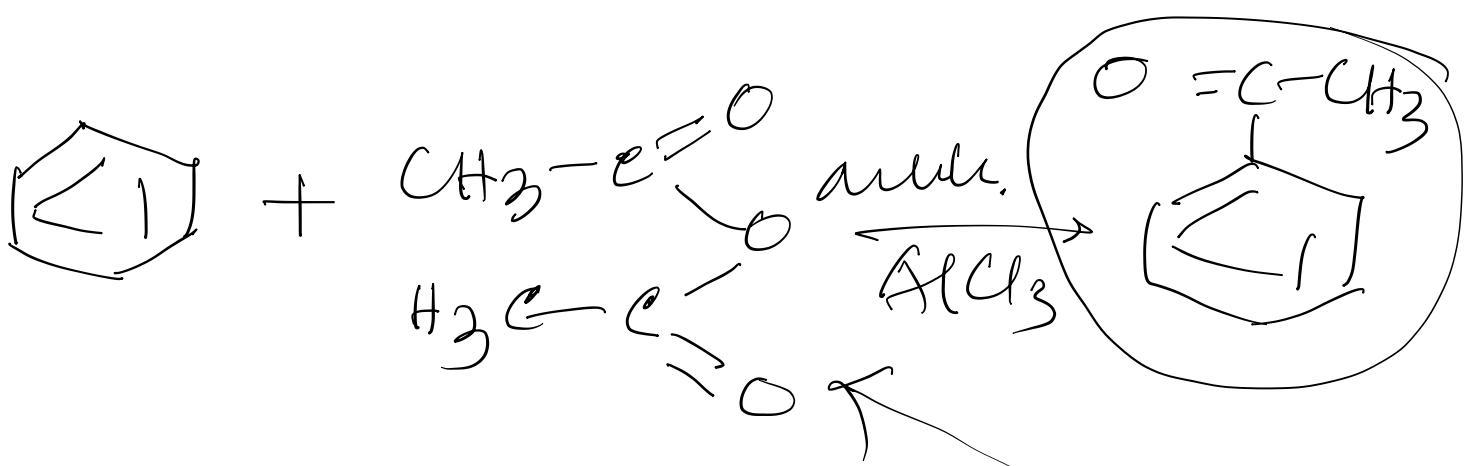
N. V. V.



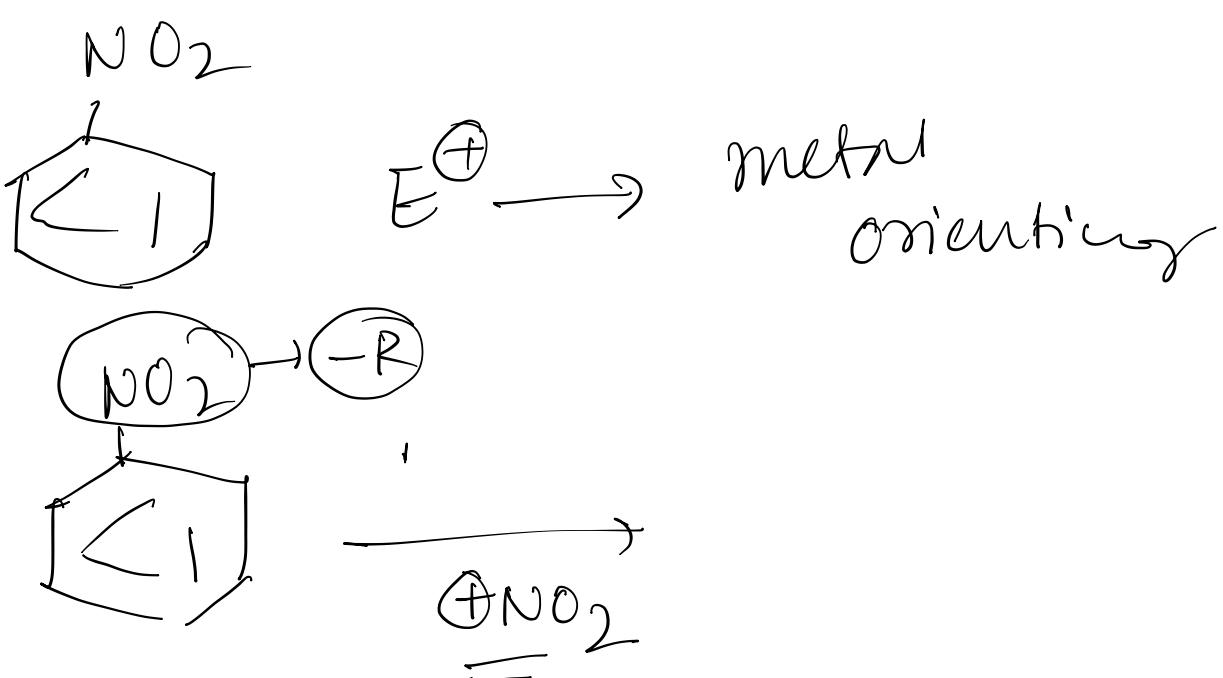
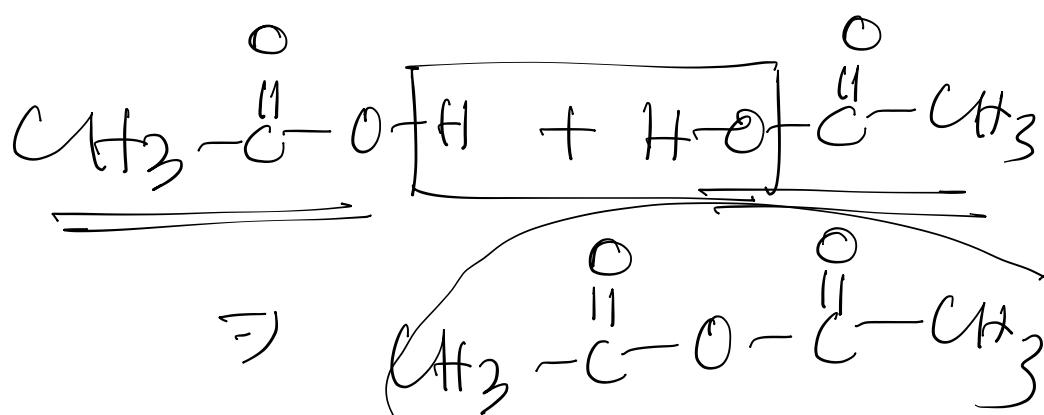
# Friedel-Crafts Acylation:

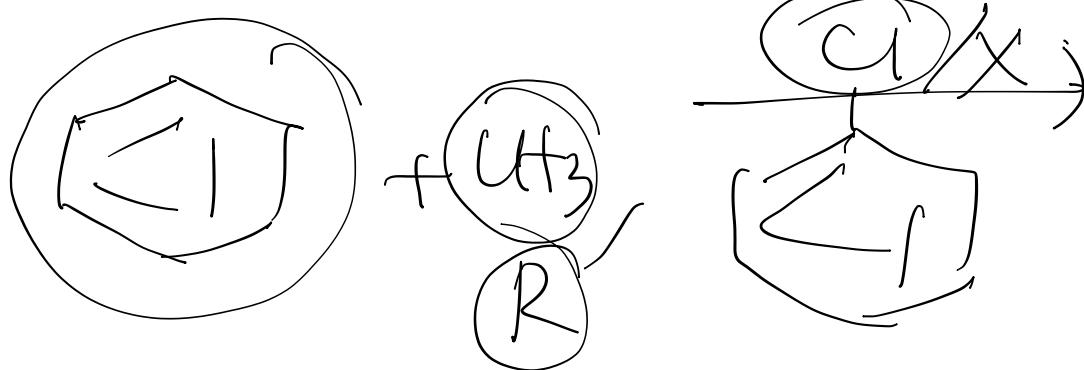
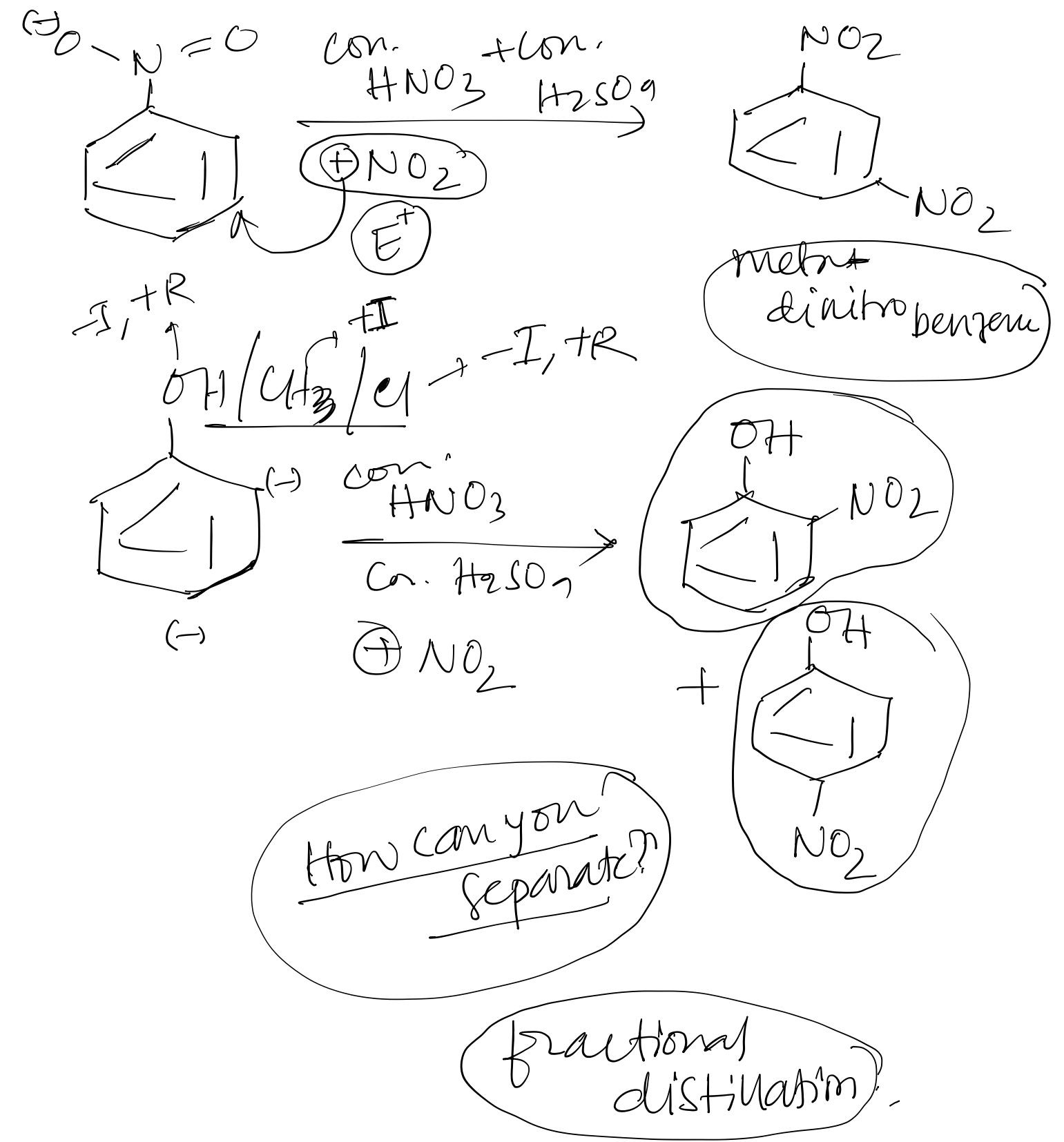


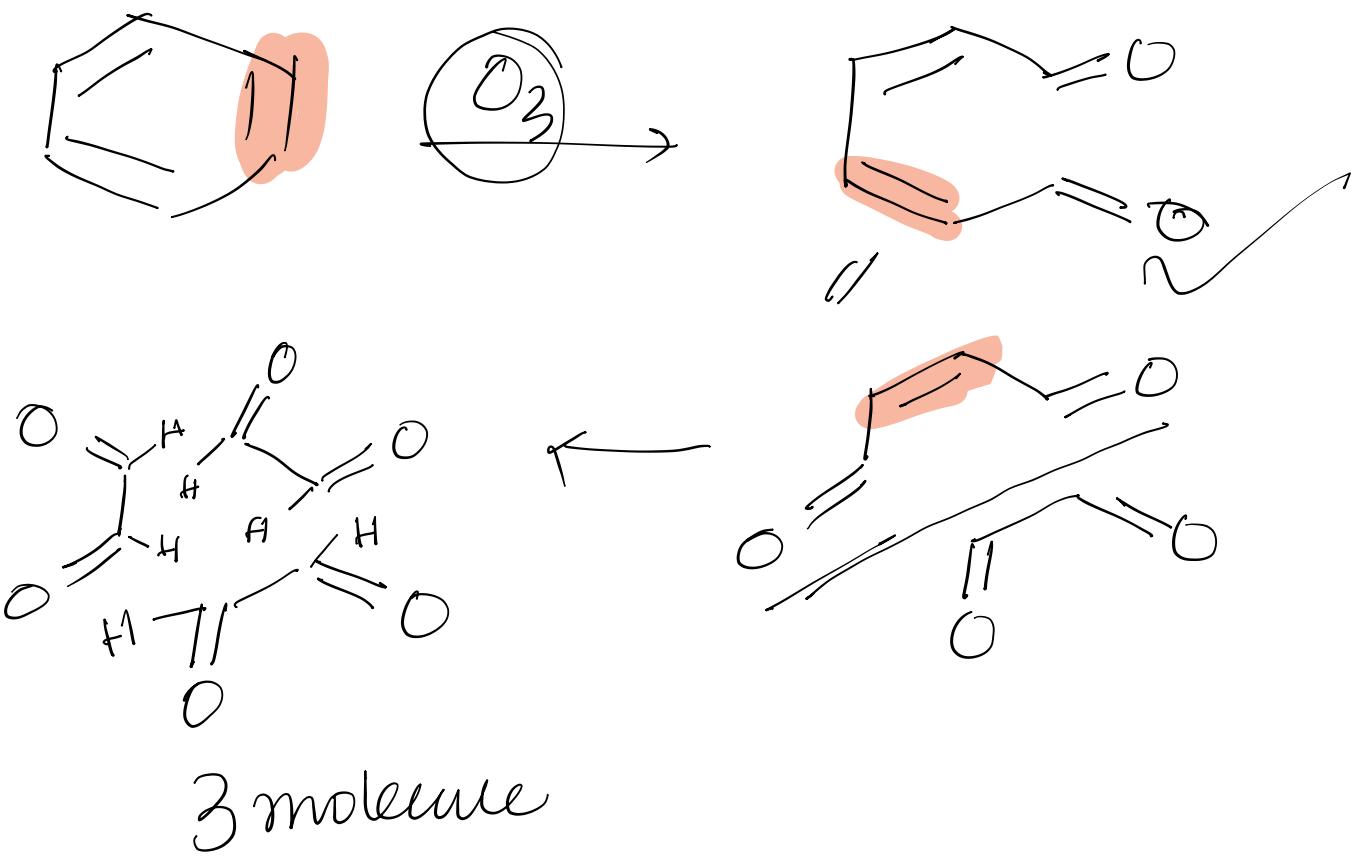
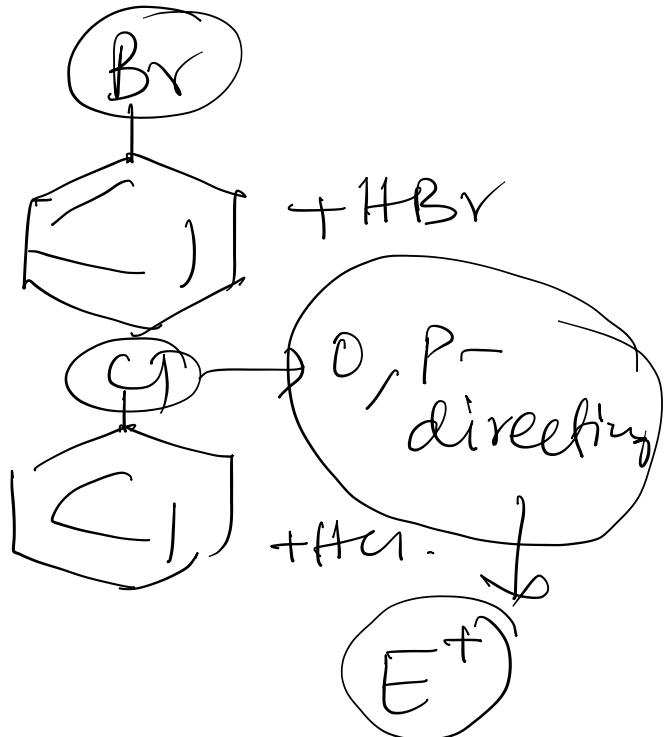
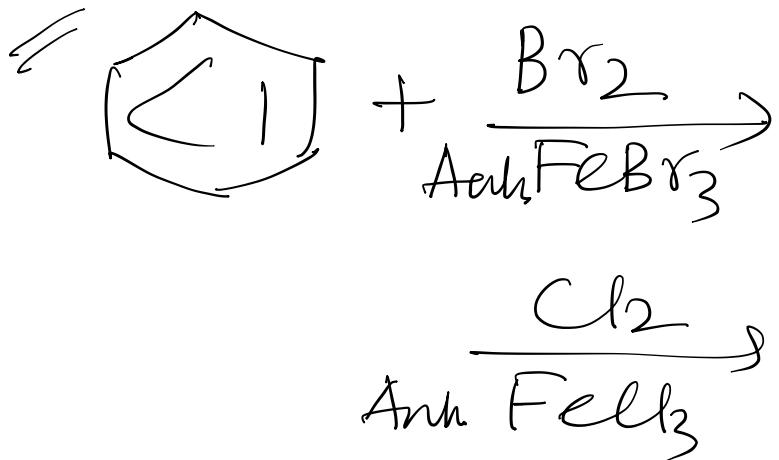
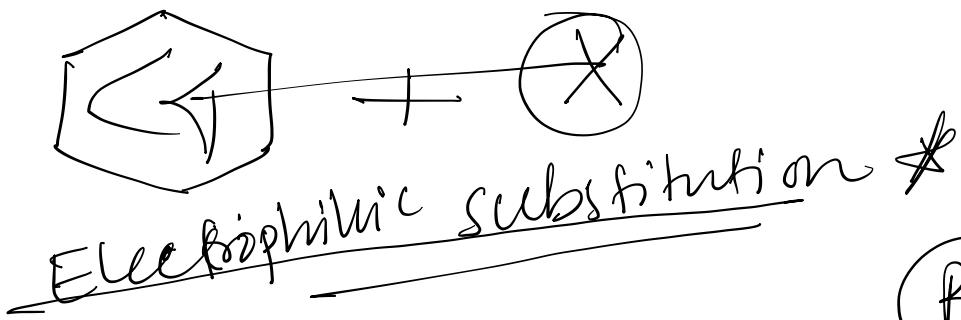


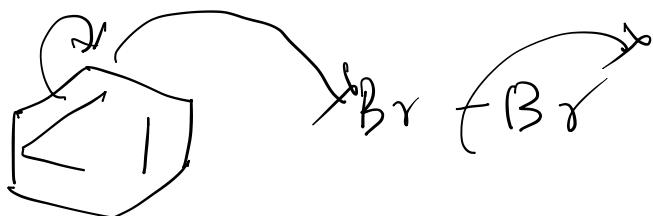
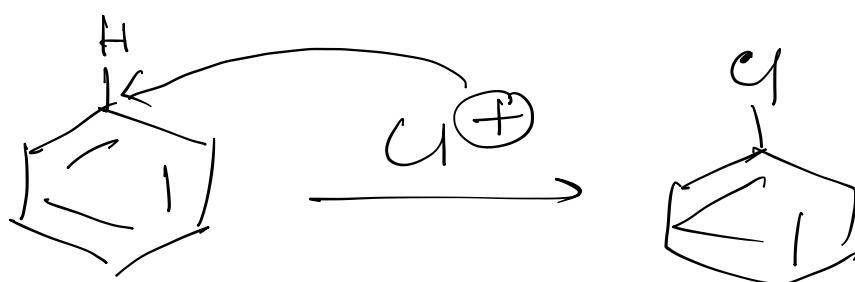
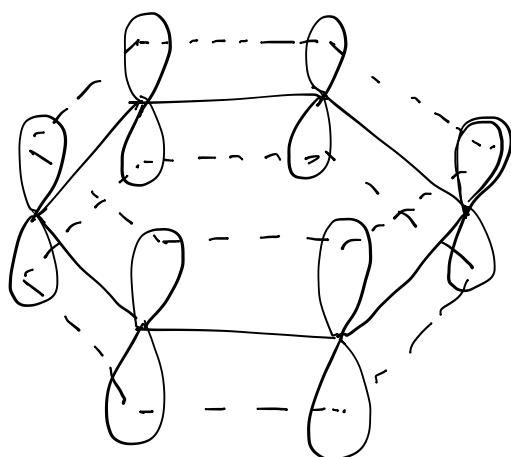
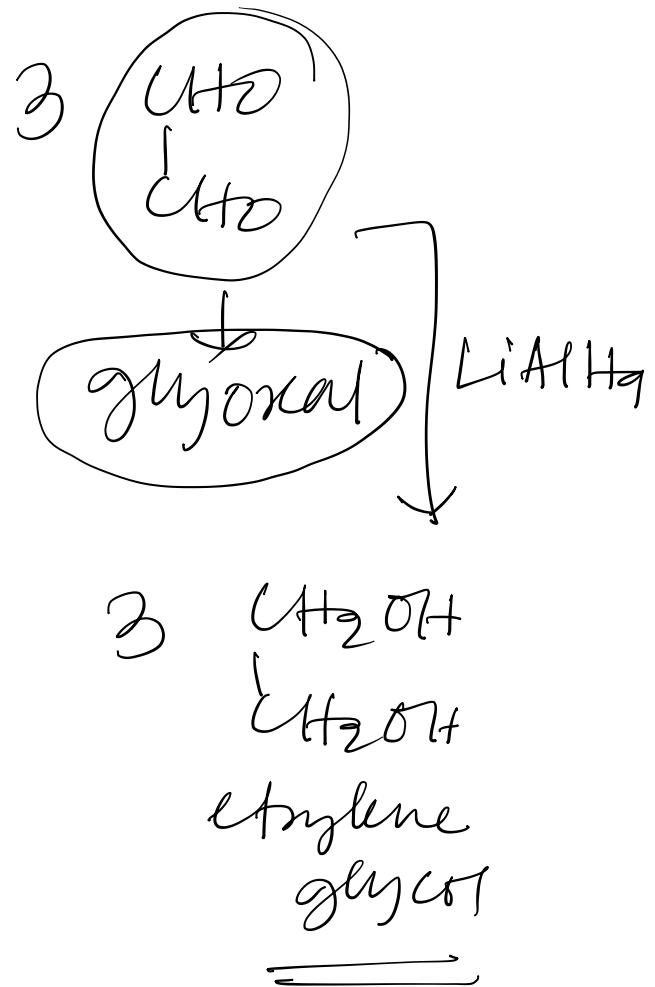
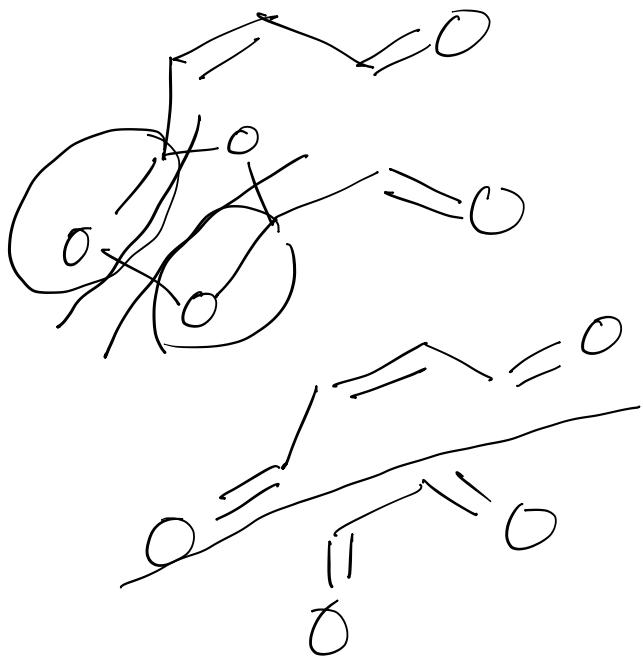


acetic anid -









## Electrophilic addition

