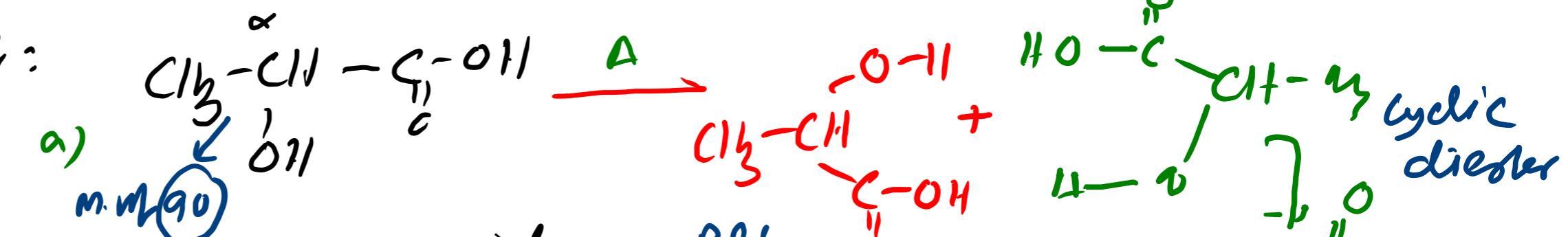


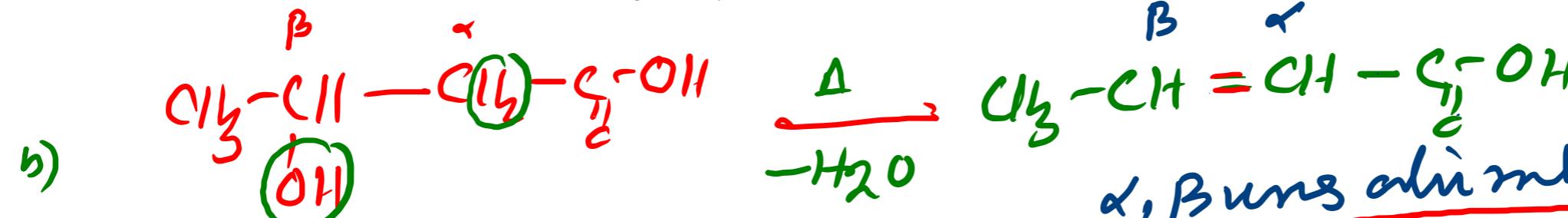
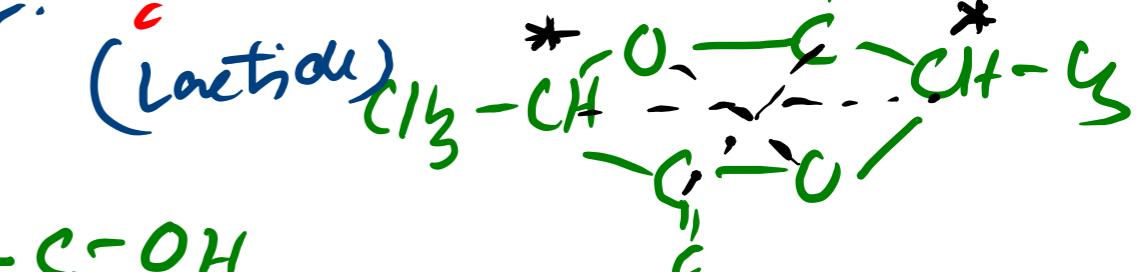
(on heating)
M. wt is
increased.

Heating Effect:



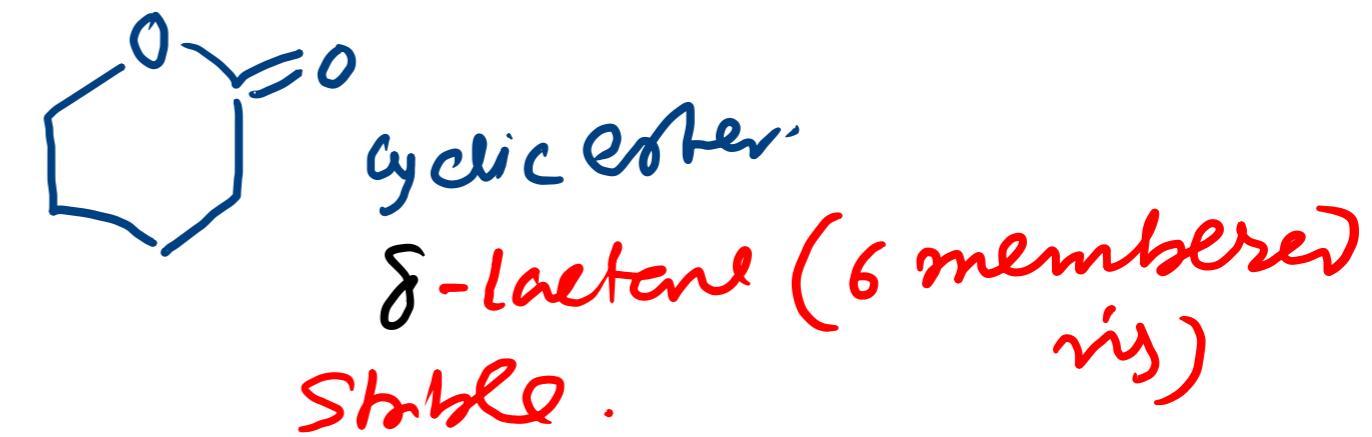
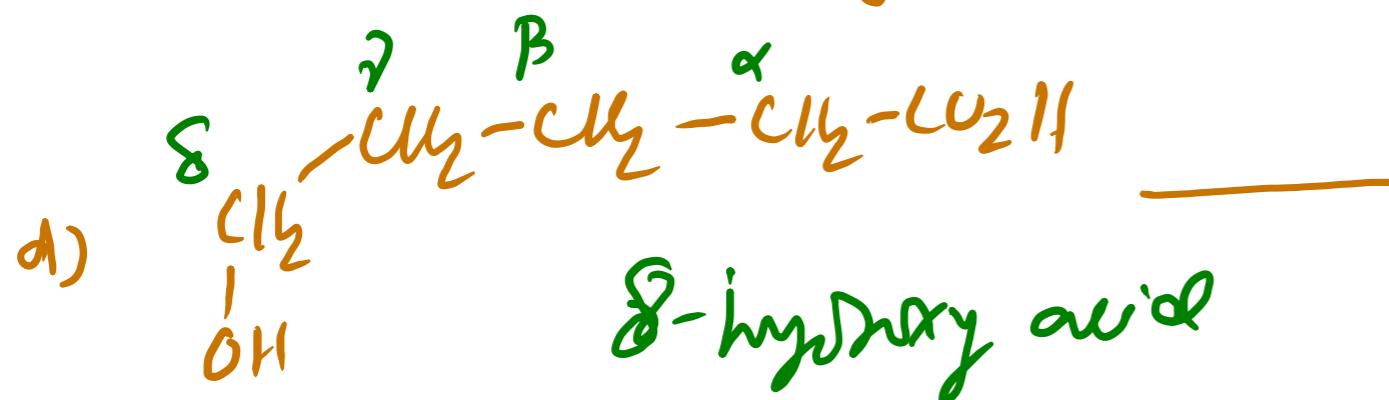
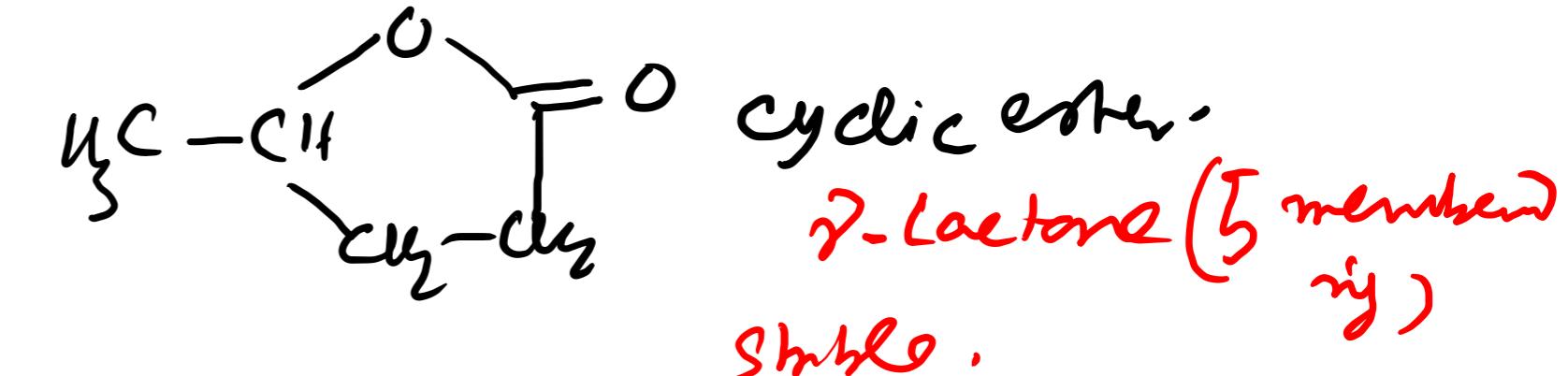
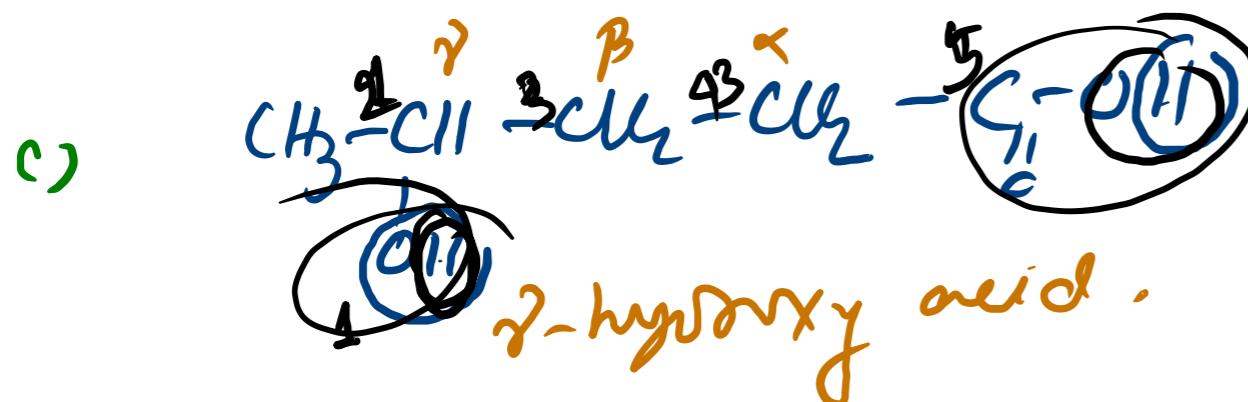
(Lactic Acid) α -hydroxy acid
 $2 \times 90 - 2 \times 18 = 144$

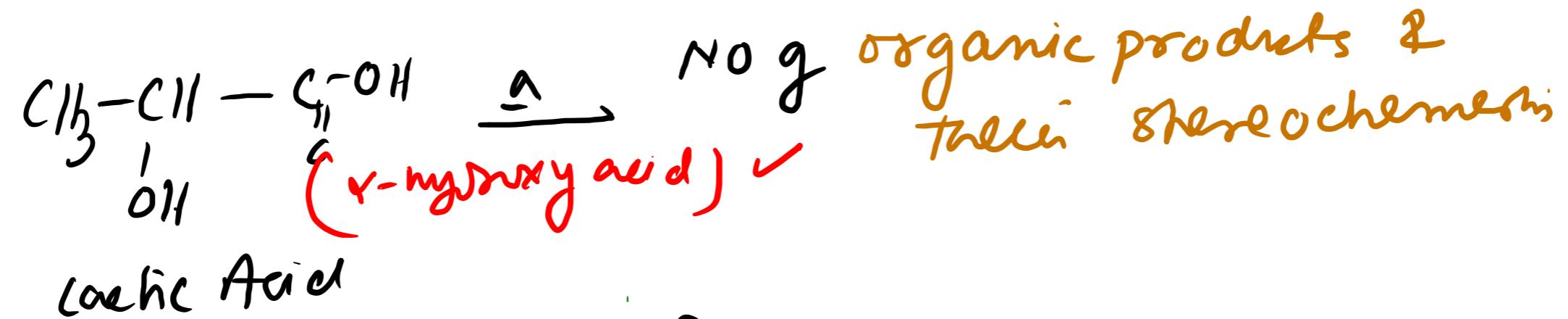
Pdt.



α, β -unsaturated acid. (extended
(significantly))

β -hydroxy acid

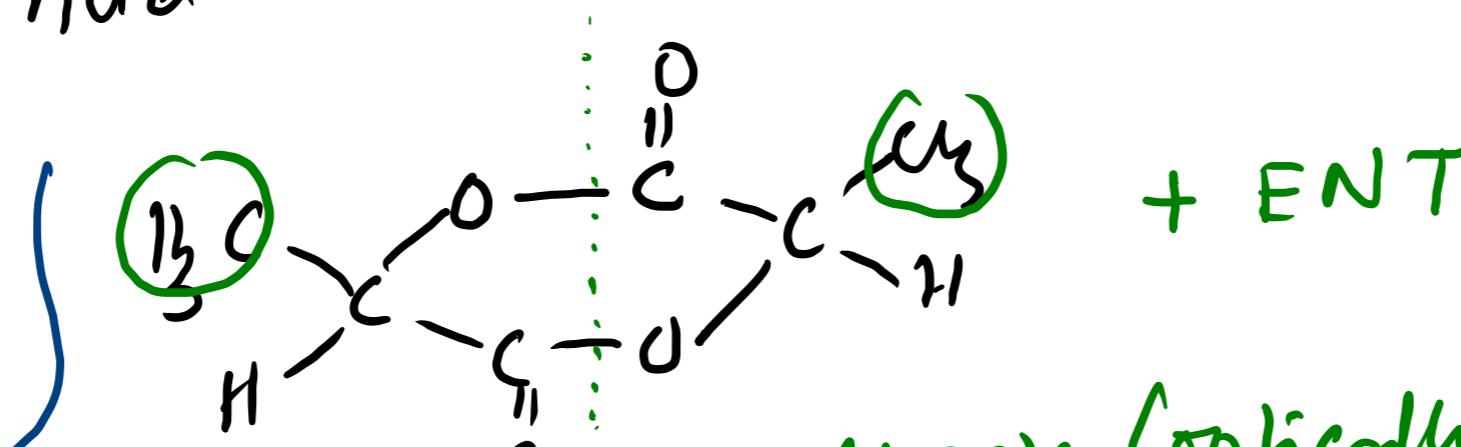




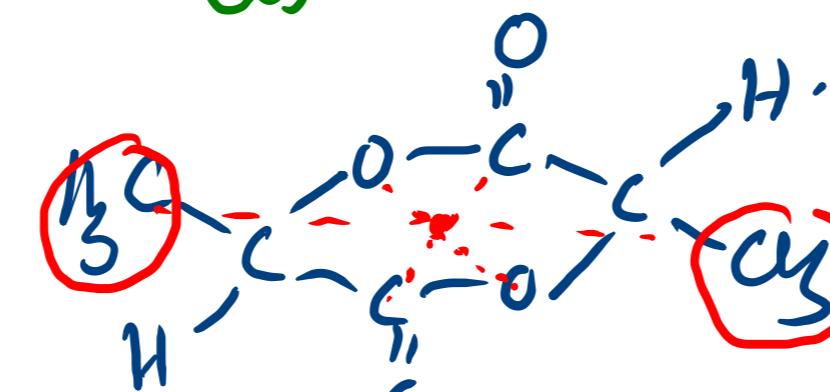
Total organic products = 3

Optically active (cis)

Optically inactive (trans)



Cyclic diester (optically active)
cis.



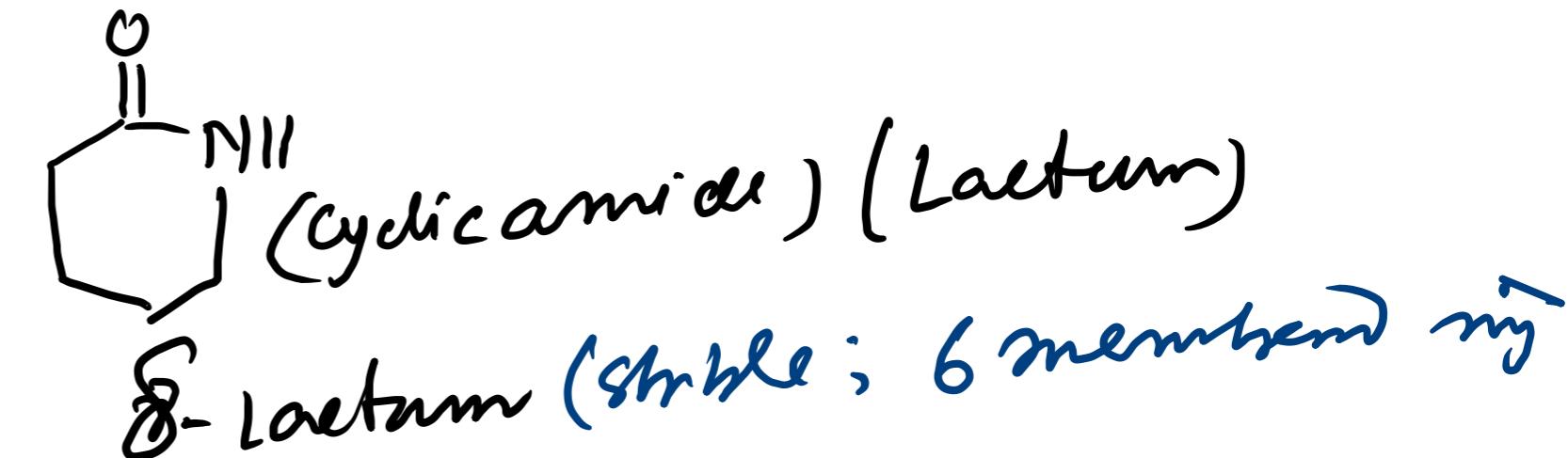
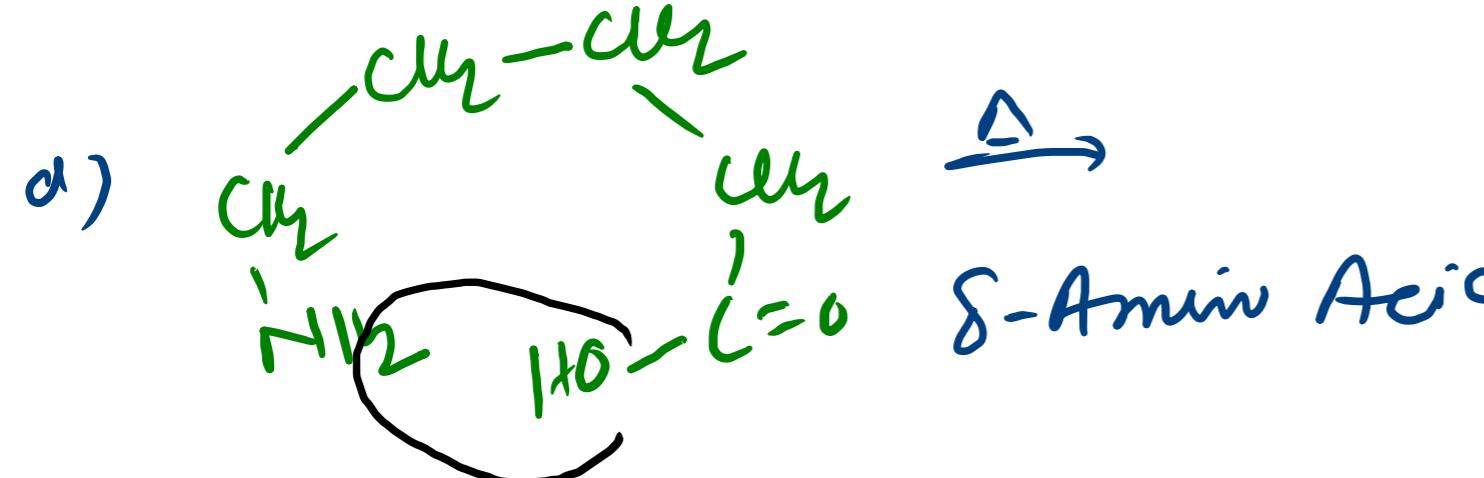
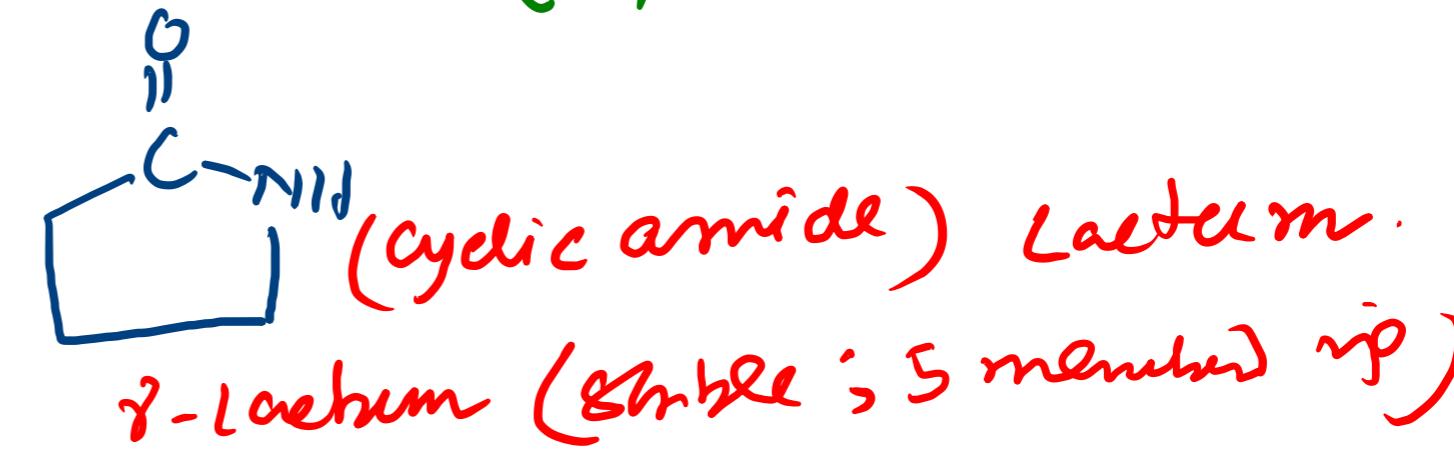
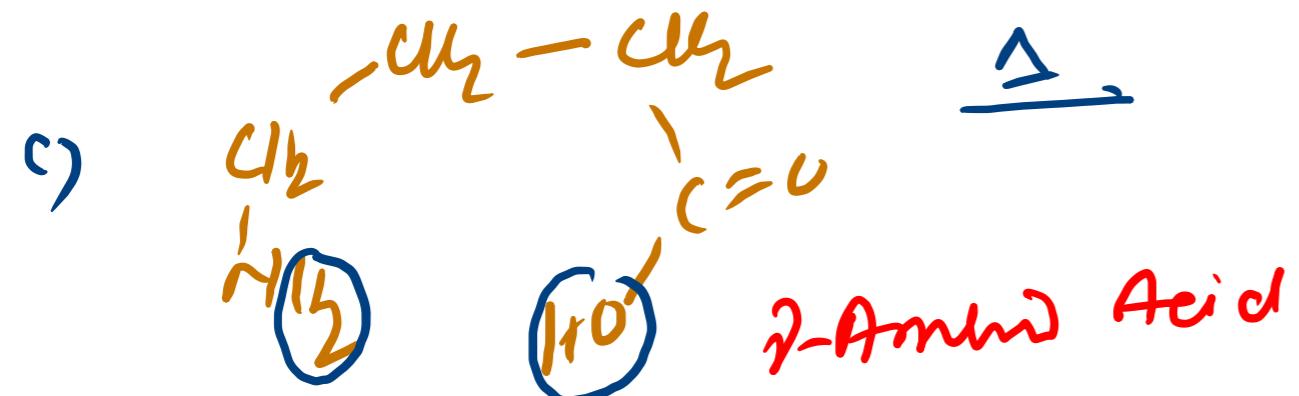
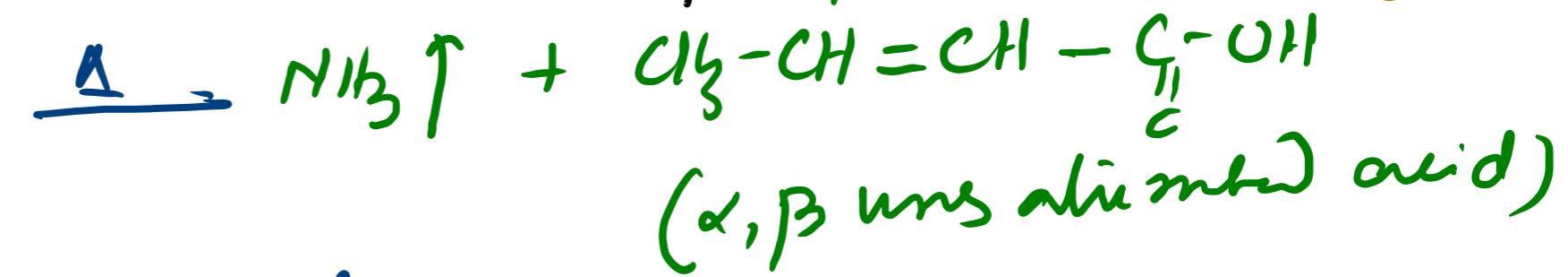
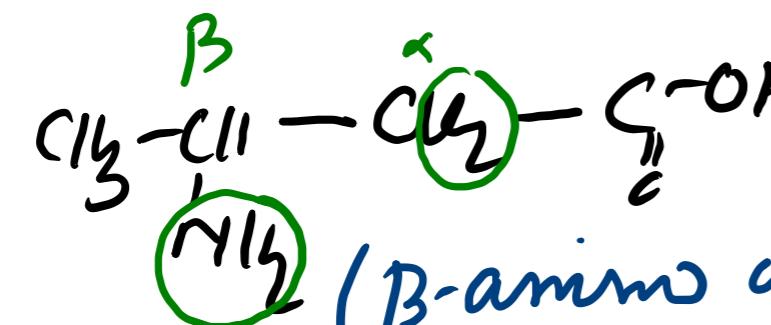
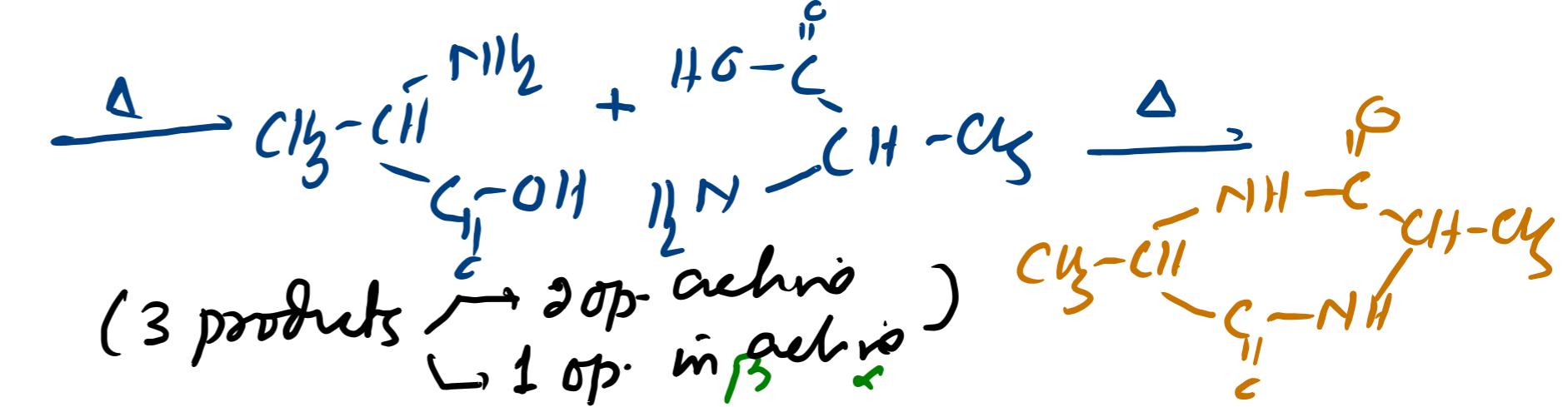
Cyclic diester (trans isomer)
Optically inactive / (cos present)

Amino

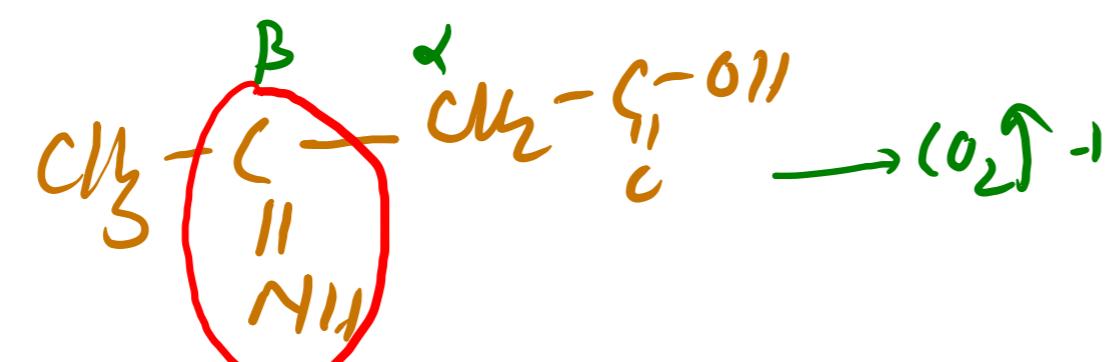
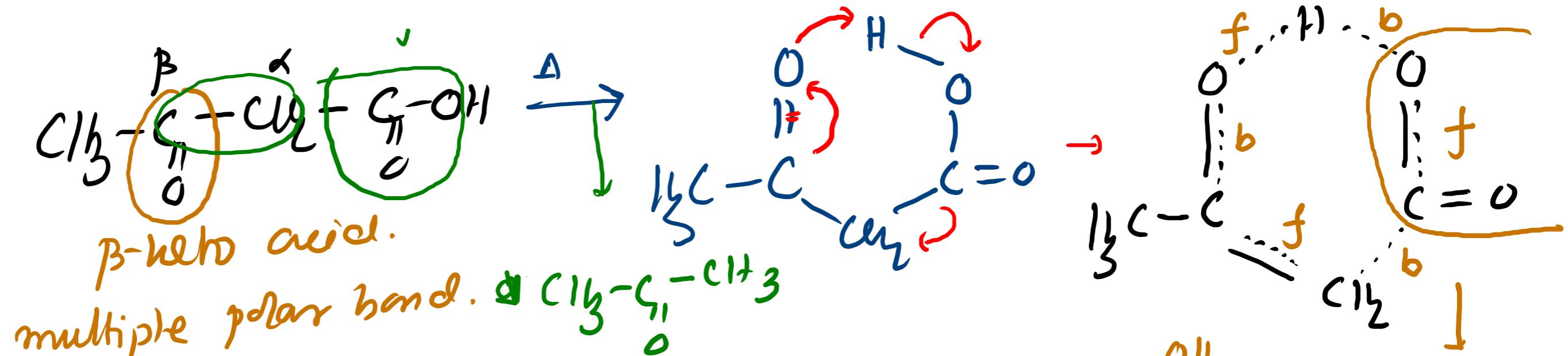
Acid



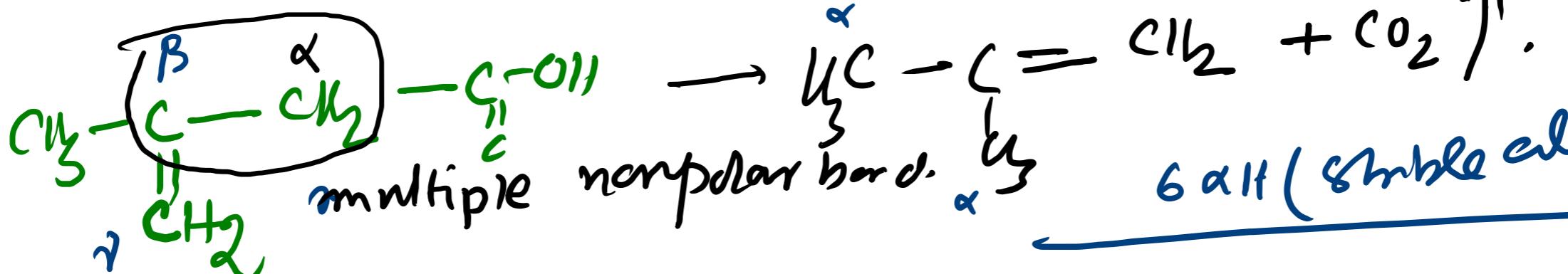
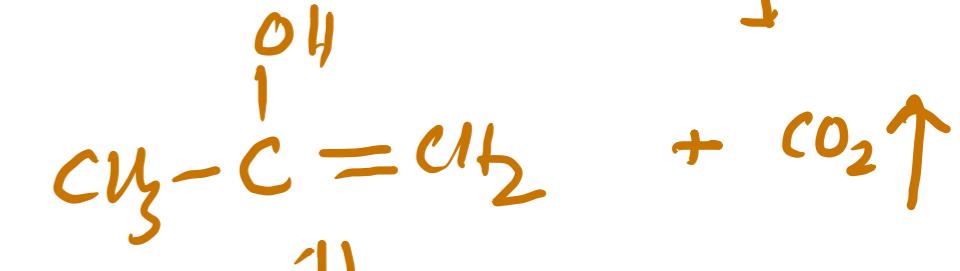
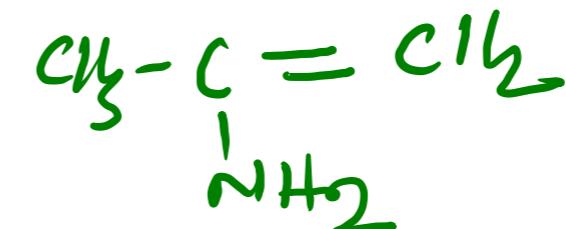
(Alanine) NH_2 (α -amino acid)



D E C A R B O X I L A T I O N .

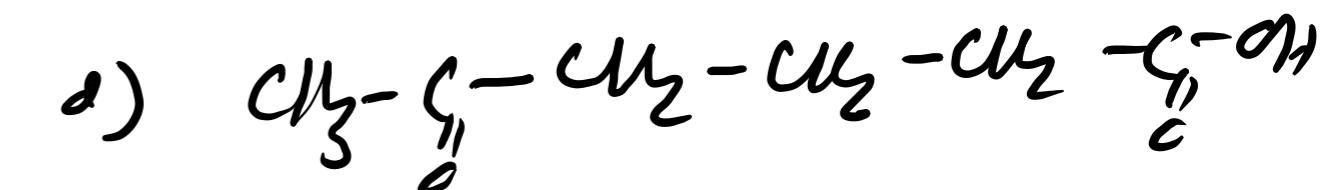
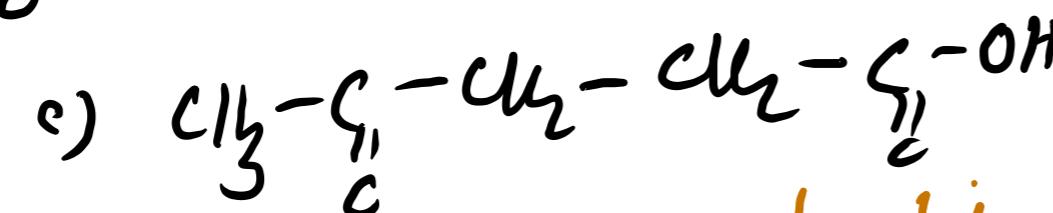
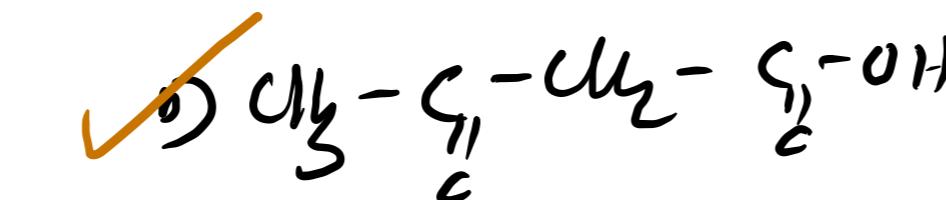
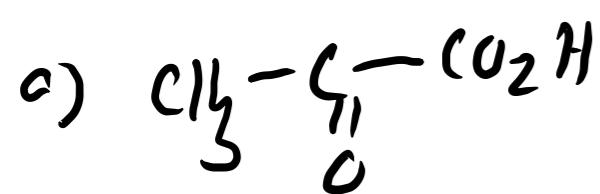


Bromine acid.
multiple polar bond.



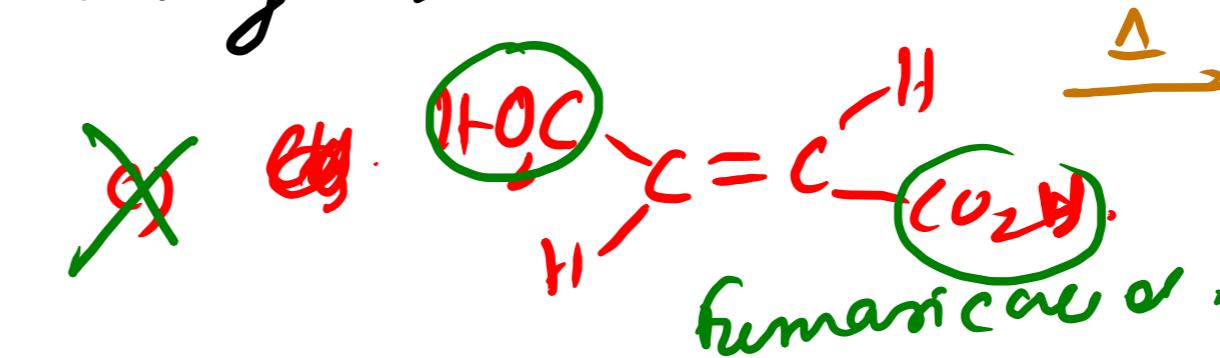
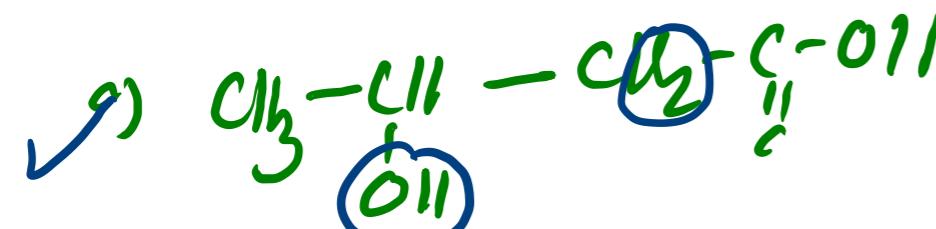
β - γ -unsaturated acid

Q(1). Which cpd undergoes decarb oxylati on heating most readily?

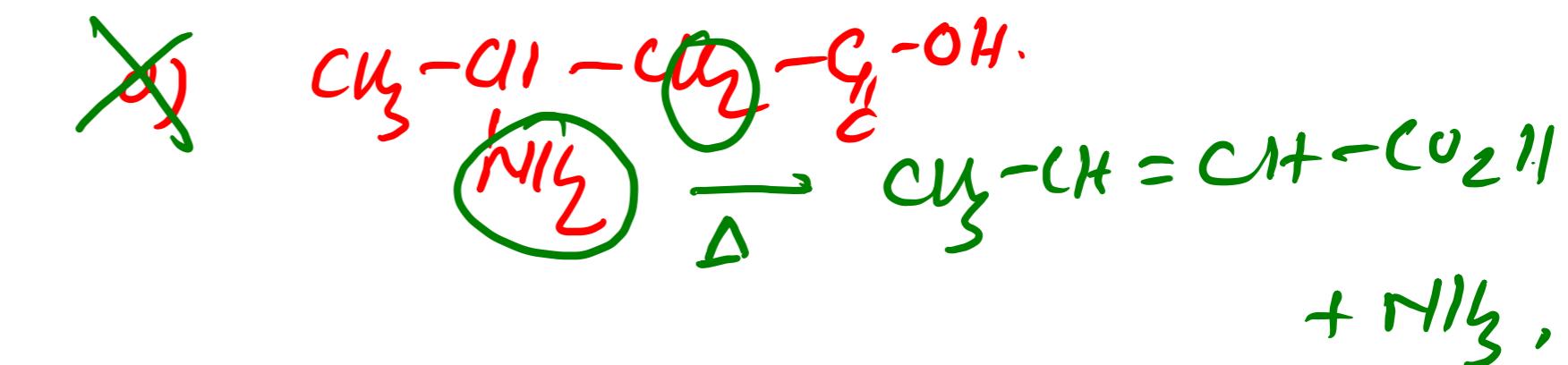
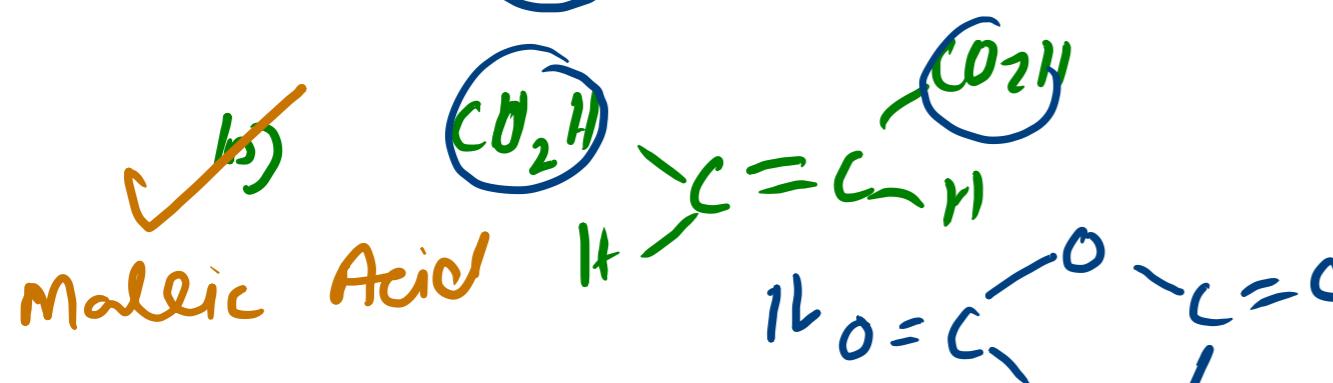


Ans: $\alpha/\beta/\delta$ keto acid on heating no CO_2 evolves.

Q(2) Which of the following undergo loss of H_2O on heating.

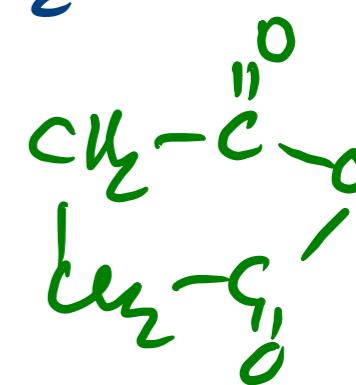
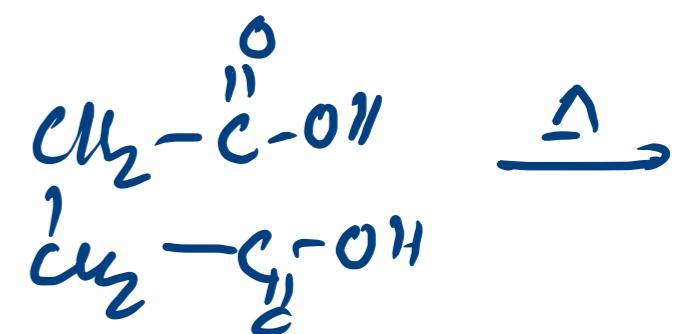
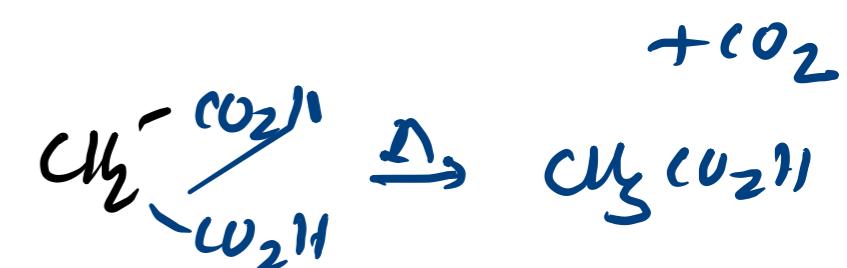
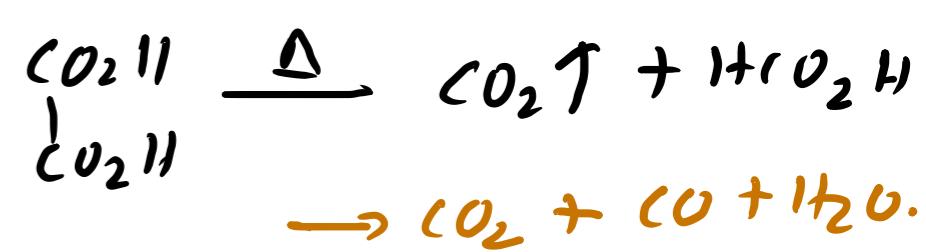


No H_2O loss
take place

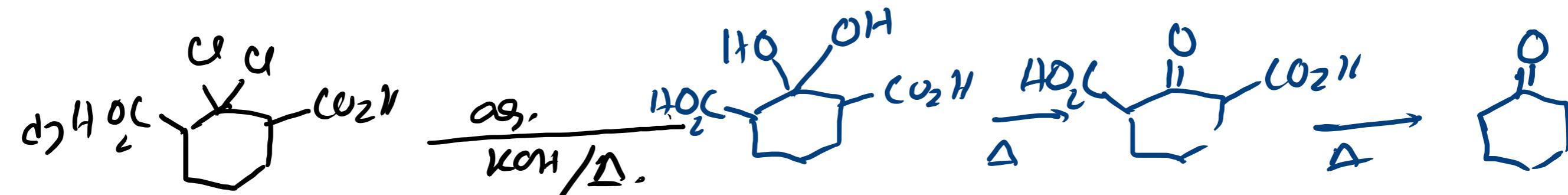
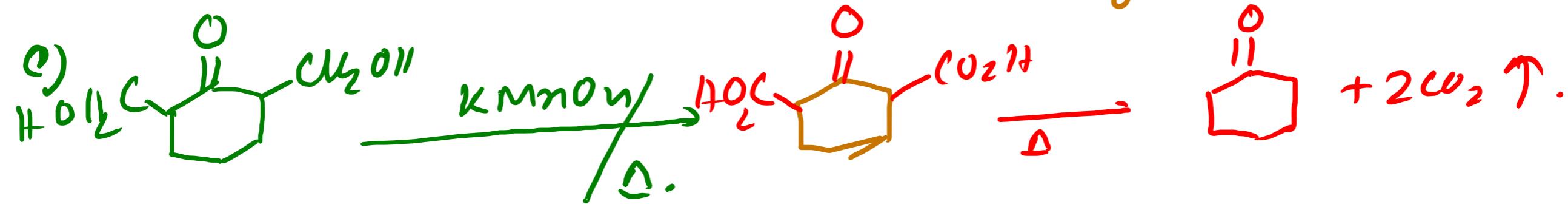
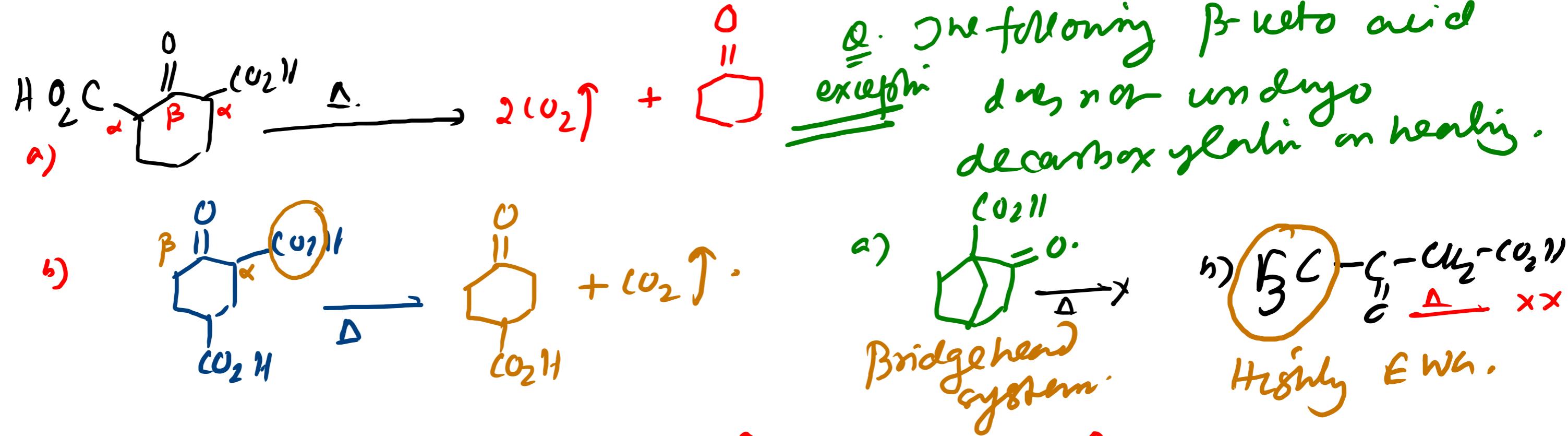


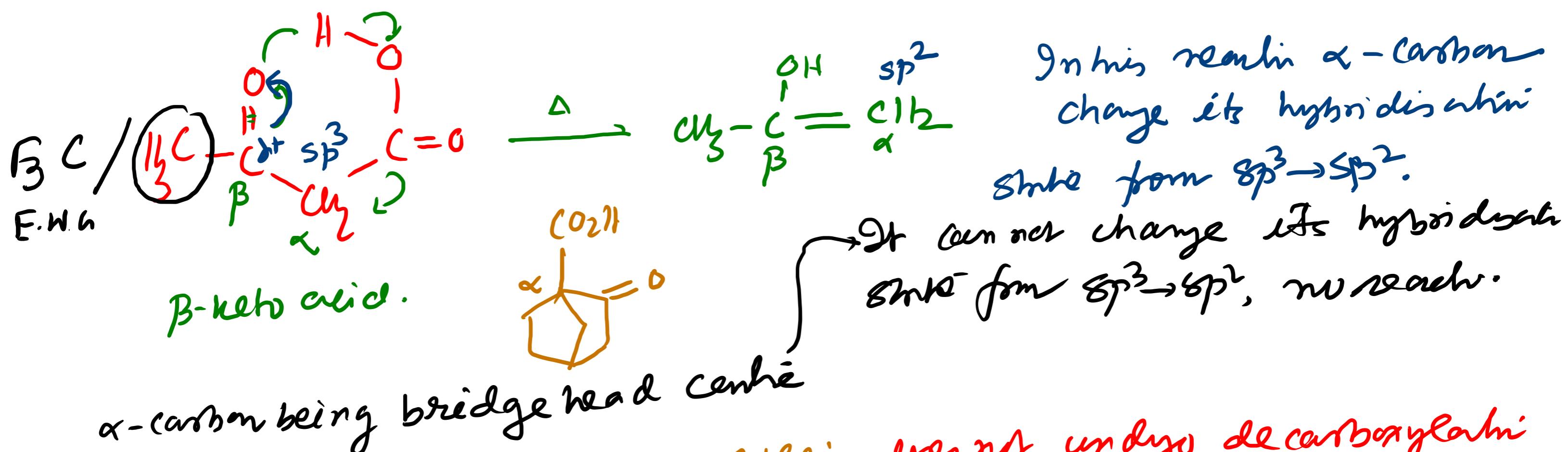
loss of maleic anhydride)

	H_2O	CO_2	CO	
Oxalic Acid (low temp)	✗	✓	✗	
Oxalic Acid (high temp)	✓	✓	✓	
Malonic Acid	✗	✓	✗	
	<u>Acetic acid.</u>			
Succinic Acid.	✓	✗	✗	
	<u>Succinic anhydride.</u>			
Glutaric Acid.	✓	✗	✗	
	<u>Glutaric anhydride</u>			
Adipic Acid	✓	✓		
Pimelic Acid.				
Suberic Acid	✓	✓		
Azelain Acid -	→	Linear Polymeric anh		

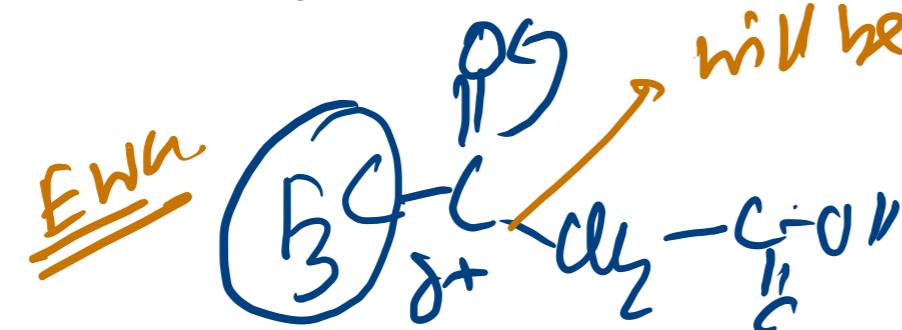


Azelain Acid - } → Linear Polymeric anhydride. $(-H_2O)$ dehydri





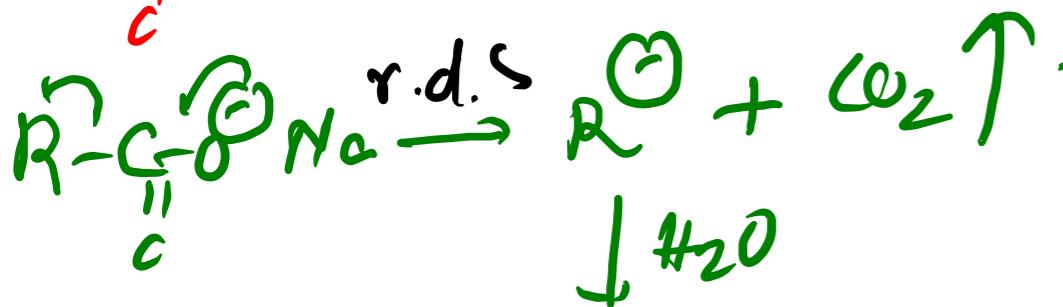
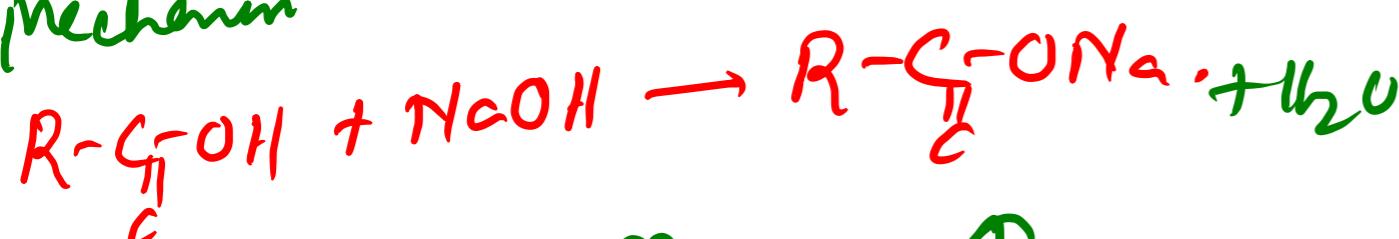
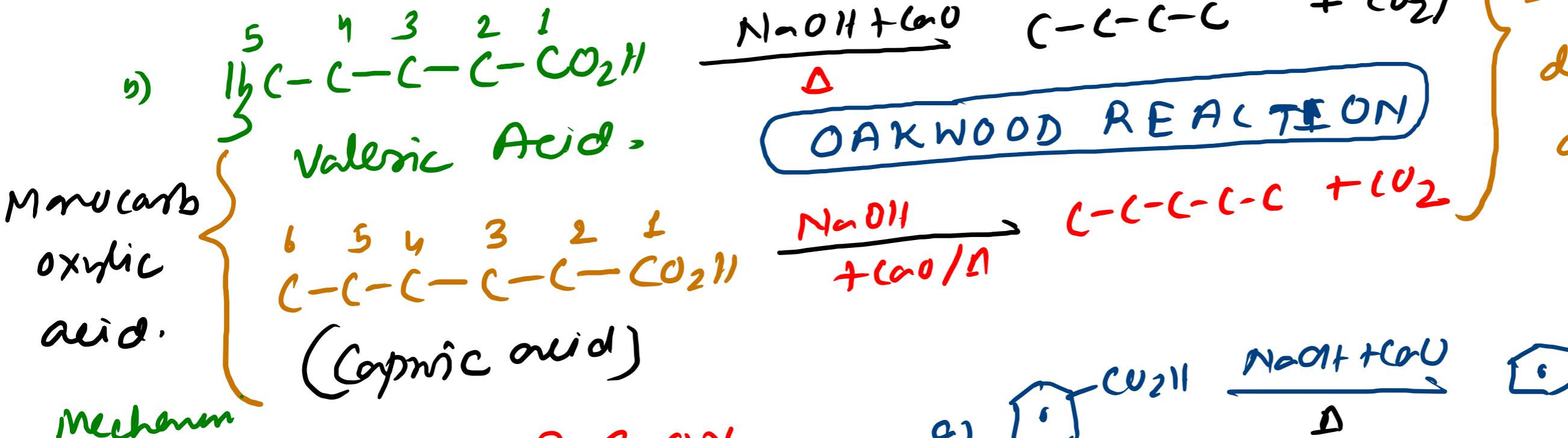
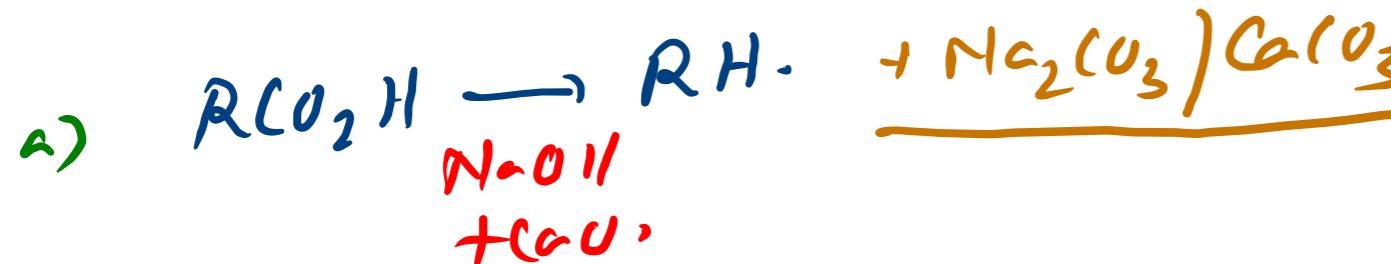
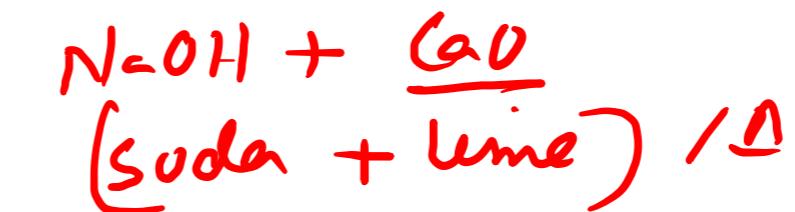
α -carbon being bridgehead centre



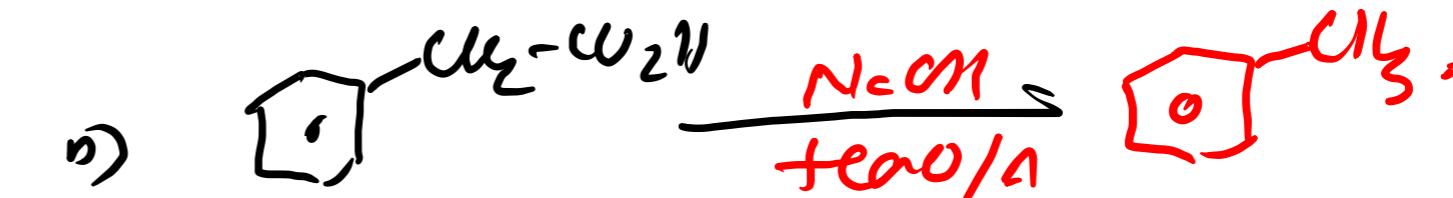
- i) OMSAAPS A
- ii) Hydroxy acid
- iii) Acetic Acid

- iv) β -keto / β -imino / β - γ unsaturated acids
Phthalic acid.
- v) Maleic Acid, fumaric Acid, mellitic acid.

: Heavy effect with reagent:



$\text{R}-\text{H}$ (alkane).



This reaction involves carbonation, so more stable
carbanion farther is the reaction.

Step down reaction.
decarboxylation.
alkane is formed as
product.

