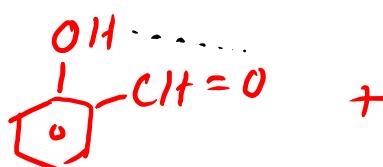
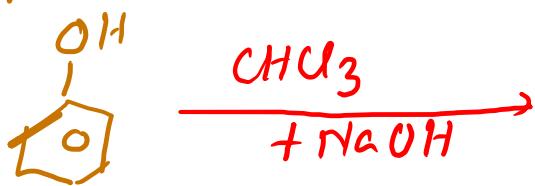


( $\alpha$ -naphthol.  
 $\beta$ -naphthol. : ) Reimer Tiemann Reaktion: [not applicable PhOH, PhOH- derivative]  
 In this reaction  $-\text{CH}=\text{O}$  or  $-\text{CO}_2\text{H}$  group is introduced in Phenol ring.



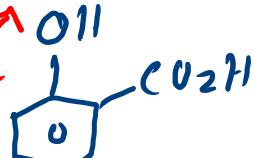
(major pdt)

Salicylaldehyde.

b.pt less.

(steam volatile)

salicylic acid



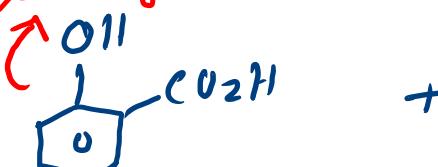
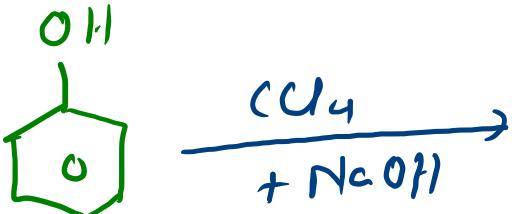
(major pdt)

(b.pt less)

(steam volatile)

(minor pdt)

p-hydroxybenzaldehyde  
 b.pt more.

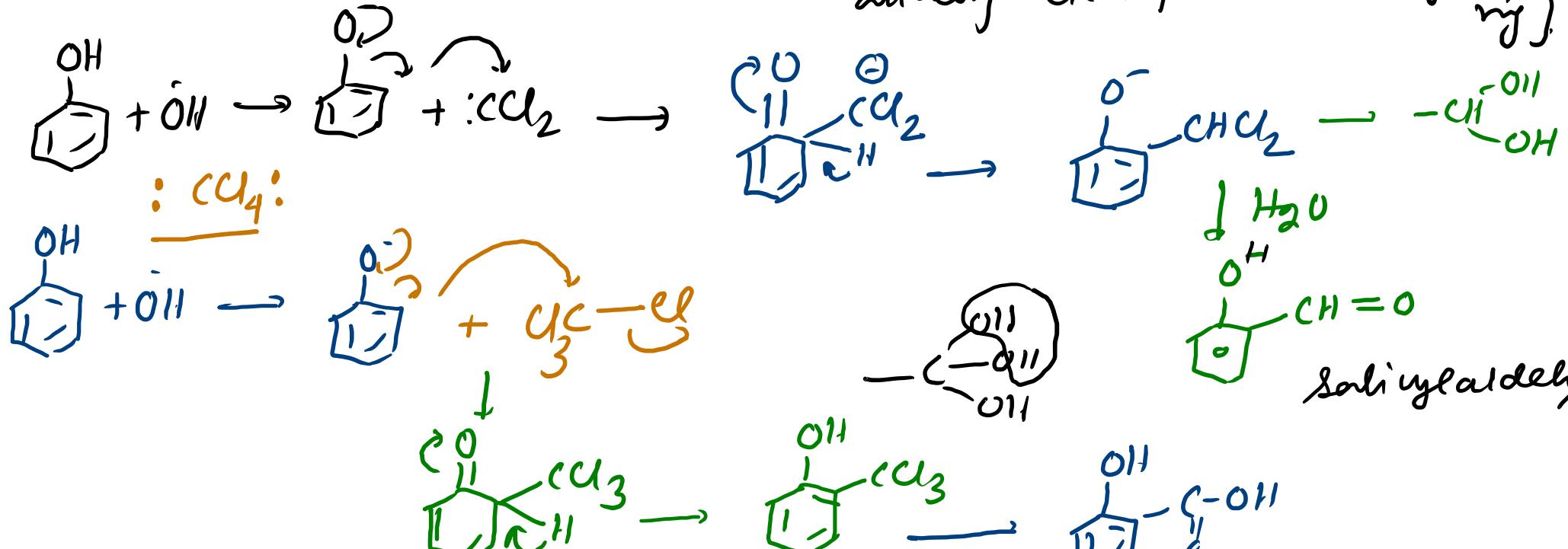


(minor pdt)

p-hydroxybenzoic acid.

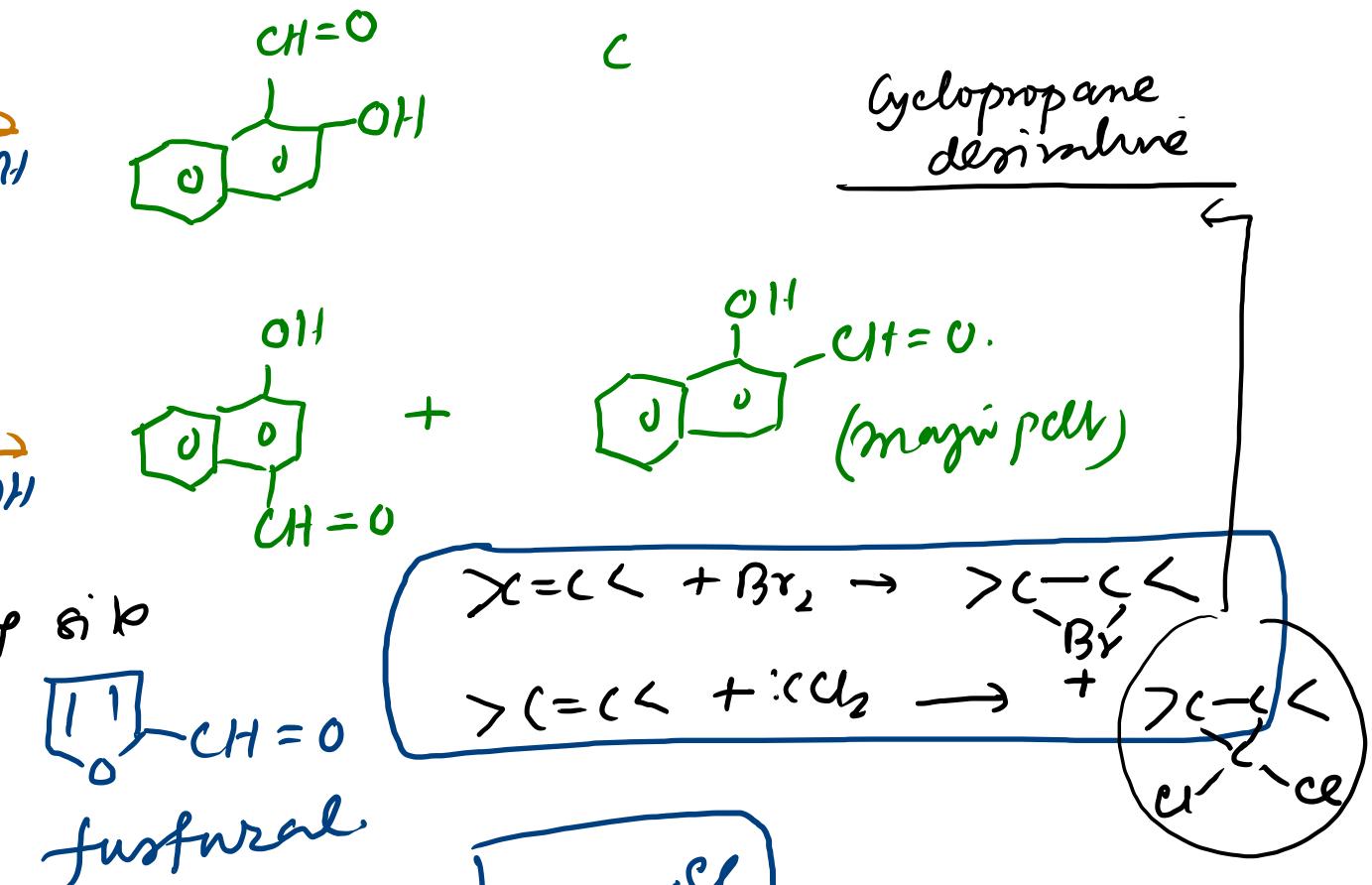
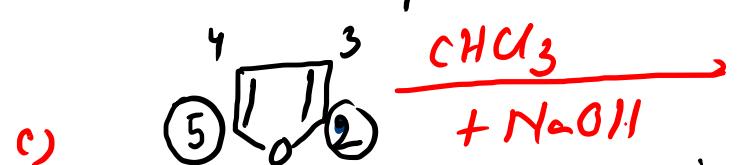
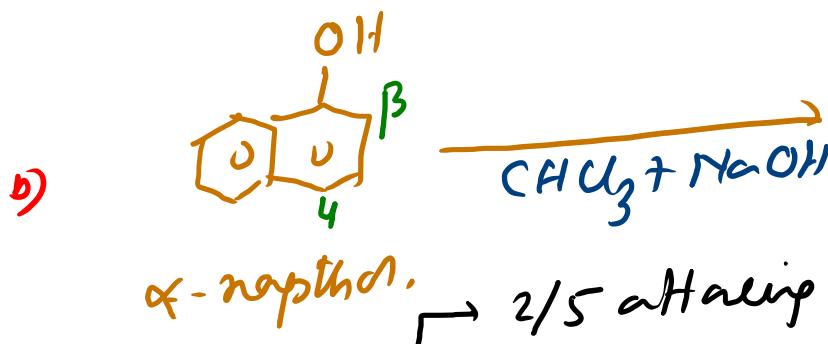
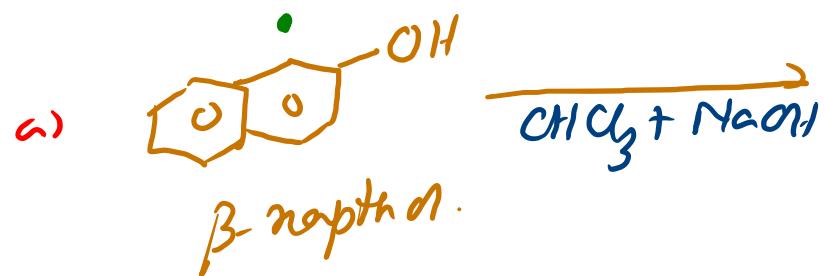


$\text{Cl}^{\ominus} + :\text{CCl}_2$  (dichlorocarbene) reacting electrophile. [reacts with allyl groups very easily].

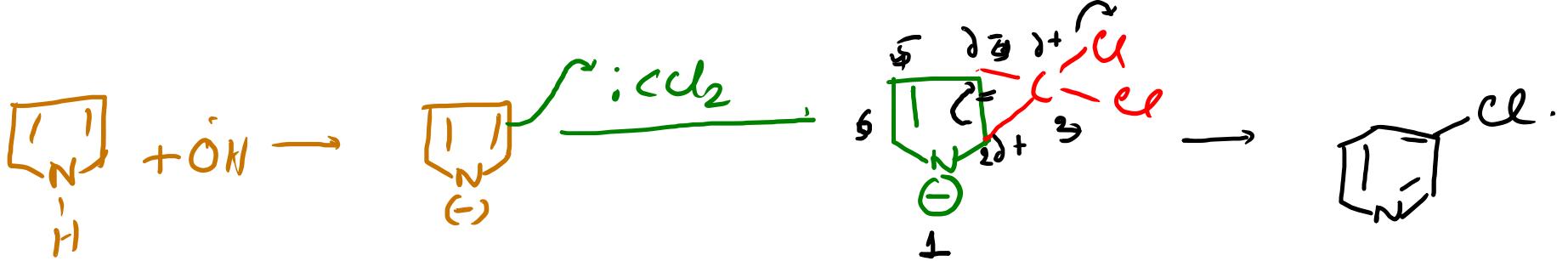


salicylaldehyde.

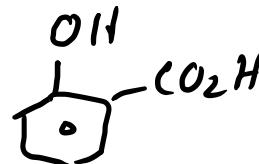
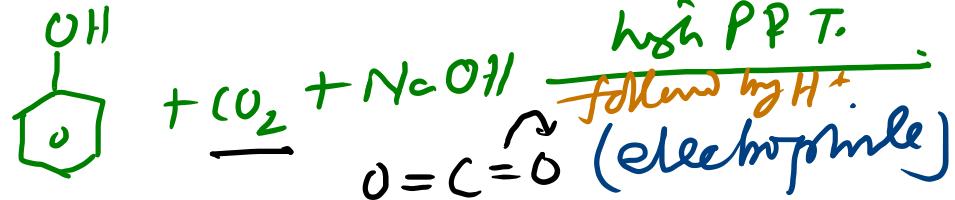
salicylic acid ✓



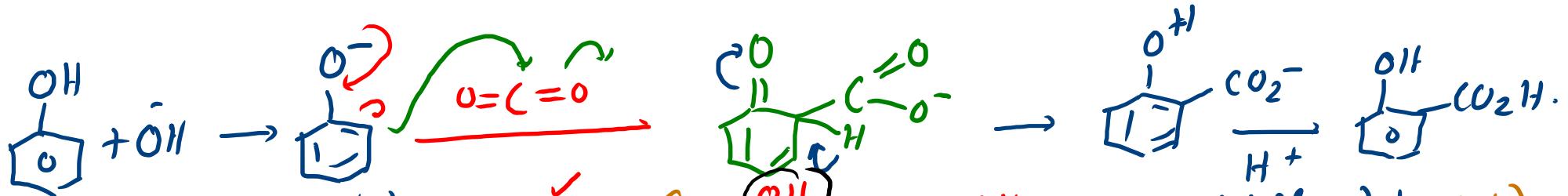
explain with mechanism.



: Kolbe Reaction:



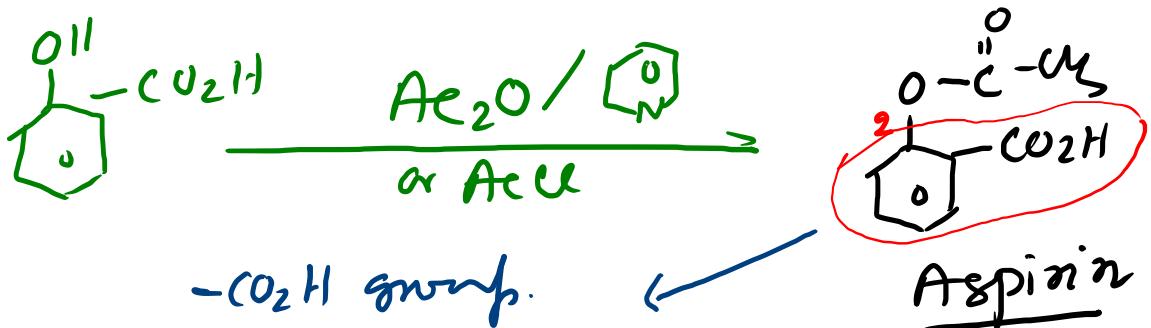
Salicylic acid monopropyl ester.



Salicylic acid.

Methyl salicylate.  
(Oil of winter green)

Salol } (frothy smell)



IUPAC: 2-Eth酰基苯甲酸  
 or  
 Acetoxy benzoic acid

+  $\text{NaHCO}_3$  test.

(Non narcotic analgesic)

$\text{CO}_2$  T: effervescence  $\text{CO}_2$  evolved.

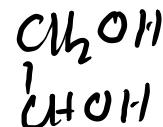
---

: Chemistry in everyday life: (Main topic)

- i) Soap & detergents.
  - ii) Artificial sweetner & preservatives.
  - iii) Medicinal drugs.
  - iv) DNA & RNA (Nucleic Acid)
  - v) Vitamins
  - vi) Protein & Enzyme.
- }
- most.

: soap: [Sodium salt of long chain fatty acid]  
K<sup>+</sup>

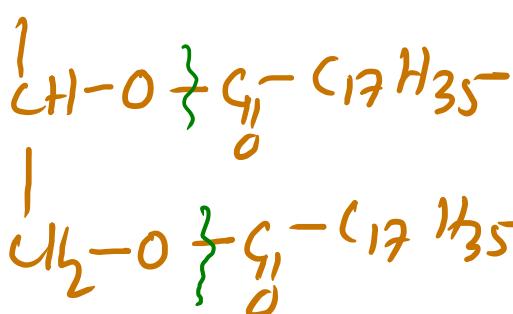
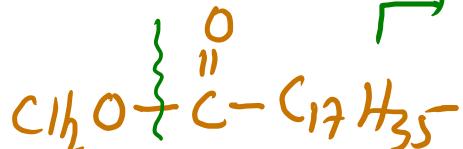
: Preparation:



(glycerol)



fats (oils, ghee)



(glyceryl stearate)  
ester of stearic acid

boiled

with  
NaOH

/ KOH

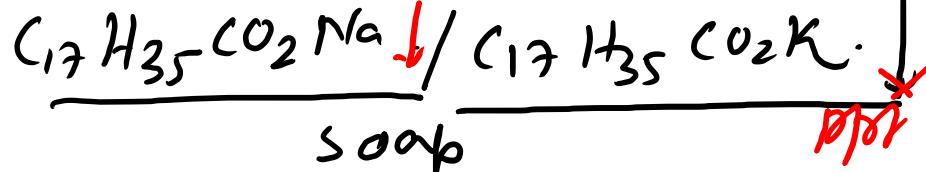
ester

hydrolysis

(saponification).

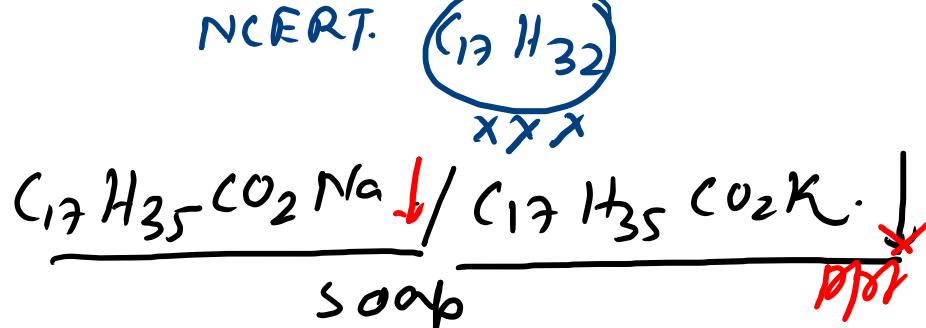
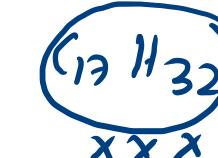


+



bipdt

NCERT.

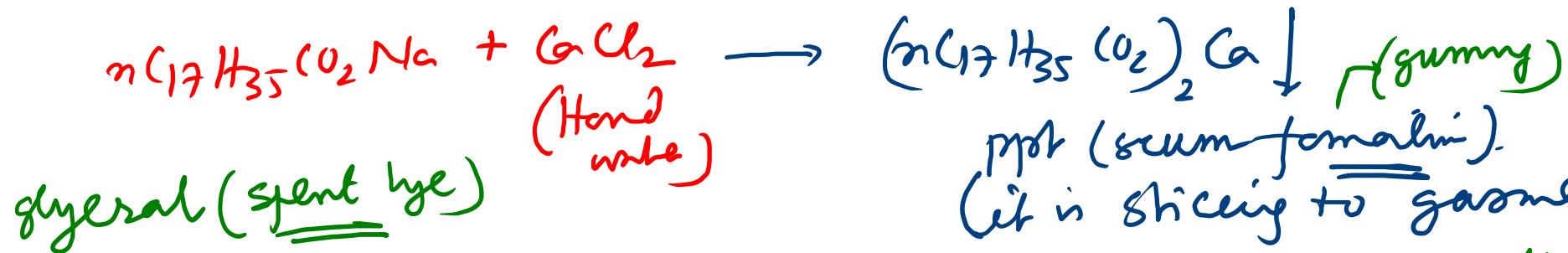


L<sub>1</sub> is separated by distillation  
under reduced pressure  
or  
vacuum distillation.

n-C<sub>17</sub>H<sub>35</sub>CO<sub>2</sub>H : Stearic acid.

n-C<sub>15</sub>H<sub>31</sub>CO<sub>2</sub>H : Palmitic acid

n-C<sub>17</sub>H<sub>33</sub>CO<sub>2</sub>H : Oleic acid



Soft / Hard / hot / cold. : Detergent can be used.

useg misops.  
=> Pumice stone  
(abrasive)  
[grains)

CATIONIC      ANIONIC

A  
N  
I  
O  
N  
I  
C

$\Rightarrow$  Lauryl alcohol  $\text{CH}_3-(\text{CH}_2)_{10}-\text{CH}_2\text{OH}$  +  $\text{HO}-\overset{\text{O}}{\underset{\text{O}}{\text{S}}}-\text{OH} \rightarrow$  (granules)

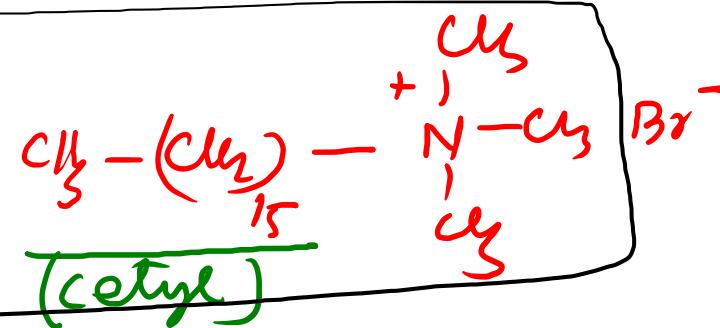
$\Rightarrow$  dodecyl       $\text{CH}_3-(\text{CH}_2)_{10}-\text{CH}_2-\text{O}-\overset{\text{O}}{\underset{\text{O}}{\text{S}}}-\text{OH} \xrightarrow{\text{NaOH}}$  Sodium salt of lauryl hydrogen sulphate.

$\text{H}_3^+-\text{C}_6\text{H}_4-\text{CH}_2-$  +  $\text{HO}-\overset{\text{O}}{\underset{\text{O}}{\text{S}}}-\text{OH} \xrightarrow{\text{NaOH}}$   $\Rightarrow$  glycerol. is used to prevent mold growth.

$\text{S}\text{O}_3^{\text{2-}} \text{Na}^-$       Dodecyl benzene sulfonate ( $\text{Na}^+$  salt).

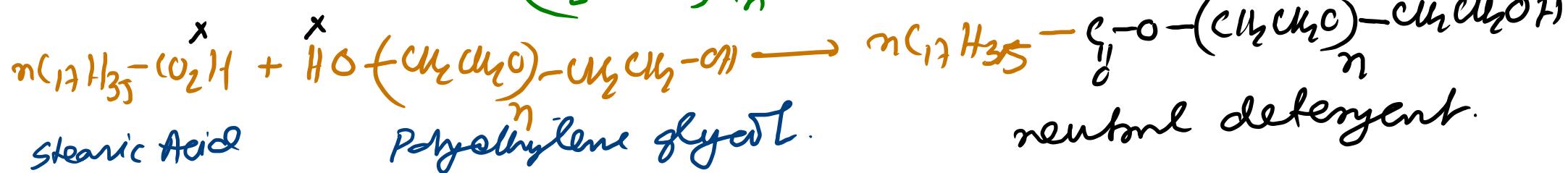
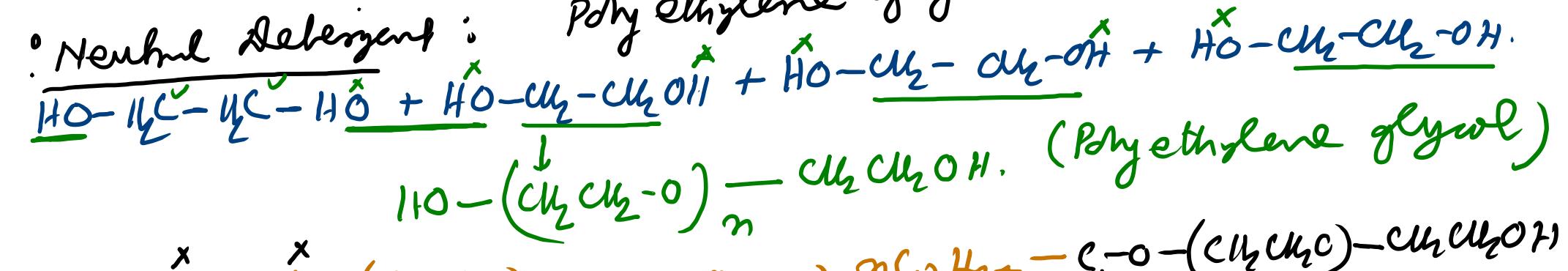
## Cationic detergent

Cationic part (any part)  
is responsible for  
detergent action



Cetyl trimethyl ammonium bromide.

Neutral Detergent : Poly ethylene glycol:



ANIONIC

Lauryl  
Sodium }  
Soyl }  
=) Toothpaste

CATIONIC

CETYL  
=) HAIR CONDITIONER

NEUTRAL

Propylene glycol.  
Cleansing actv (dish washing)  
Stearic Acid.

its use is limited at high temp. : Artificial Sweetner: (no calorific value)  
(w.r.t Cane sugar)

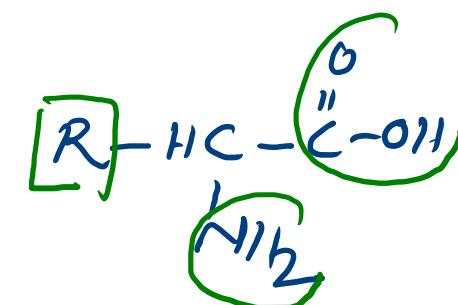
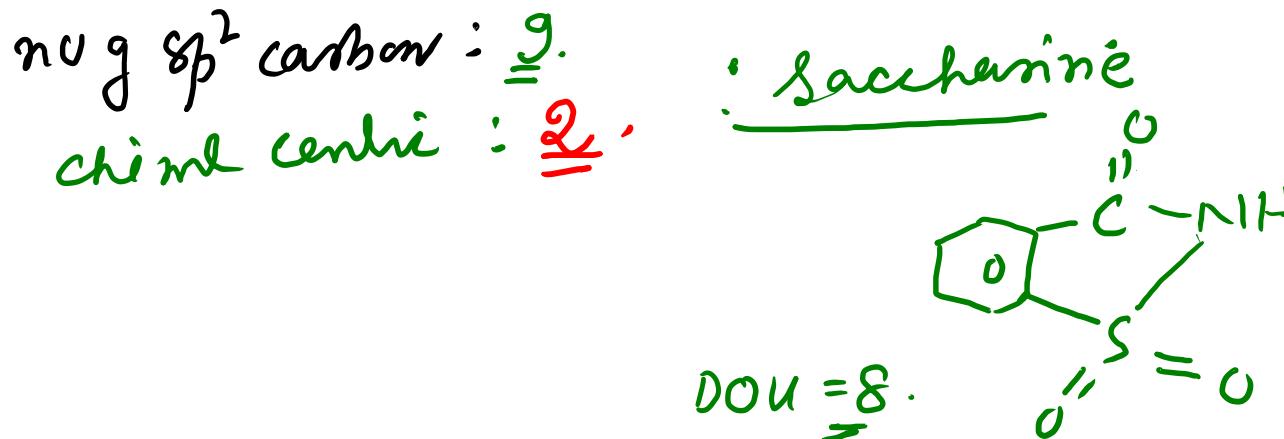
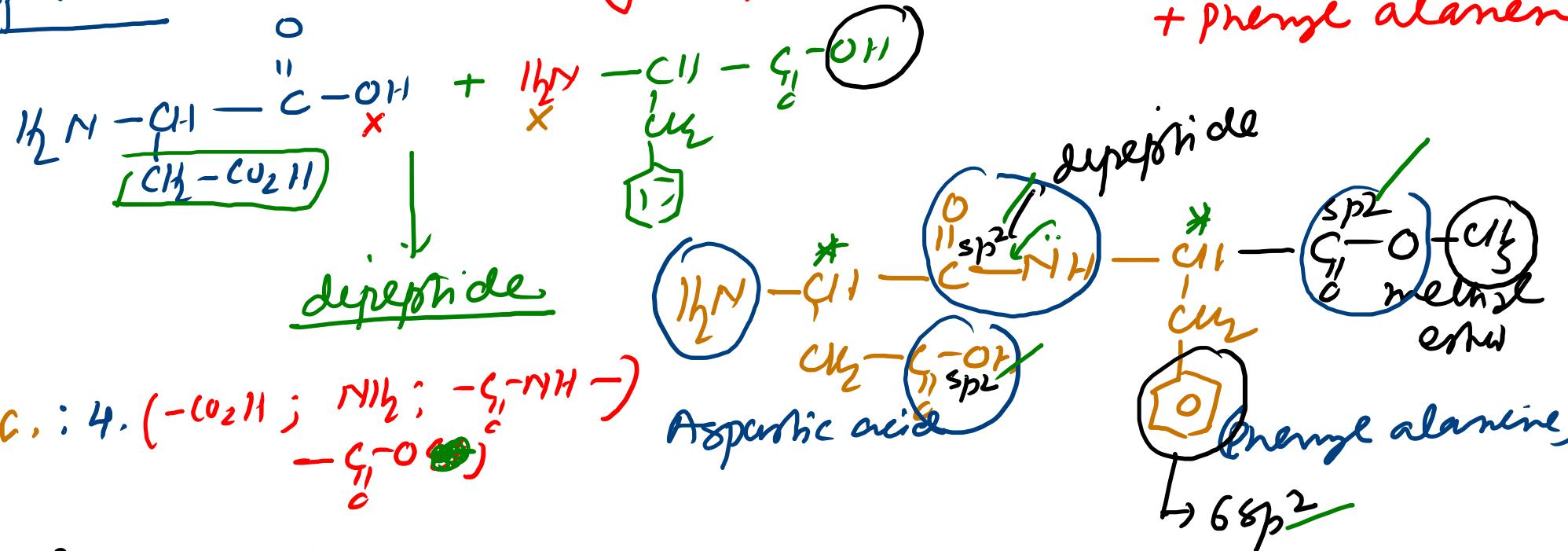
=) Aspartame. } 100 (is unstable at high cooking temp)

=) Saccharine. } 550. : Smelting all:

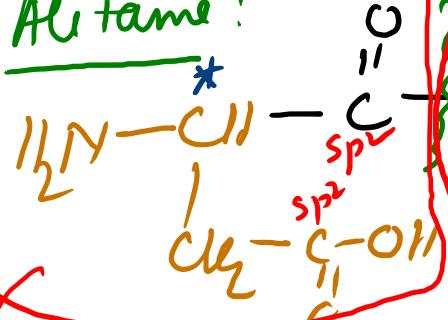
=) Sucrose } 600

=) Alitame 2000. [stable at high temp] Potential sweetner.

: Aspartame: methyl ester of <sup>di</sup>peptide having aspartic acid + phenylalanine



: Alitame :



Aspartic  
Acid.

Alanine.

no. of chiral  
centres : 2.

no. of diff. F.C. (4)



no. of sp<sup>2</sup> carbon : 3

Trichlorodinitrile of sucrose

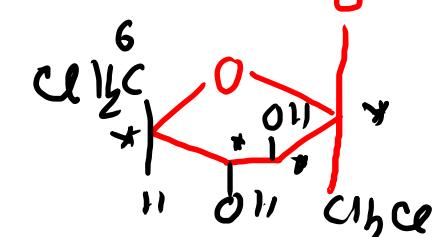
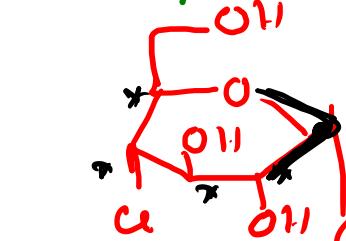
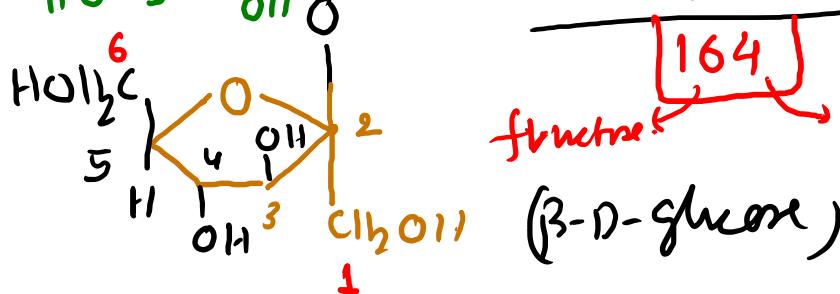


$\alpha$ -D-glucose +  $\beta$ -D-fructose



+ 3 Cl.

fructose glucose.



Total  
chiral  
Centres = 9.