Name; Ariole Jennifer Kesiena

Dept:MBBS

Matrix no:19/MHS01/100

1) Alcohols are one of the most important molecules in organic chemistry. Alcohols are important in organic chemistry because they can be converted to and from many other types of compounds. Alcohols are differentiated based upon the presence of hydroxyl group attached. The location of this hydroxyl group as well will change the physical and chemical properties of any alcohol.There are three types of alcohol. Alcohols are classified as
a)primary: Primary alcohols are those alcohols where the carbon atom of the hydroxyl group(OH) is attached to only one single alkyl group. Some of the examples of these primary alcohols include Methanol (, propanol, ethanol, etc.
b) secondary : Secondary alcohols are those where the carbon atom of the hydroxyl group is attached to two alkyl groups on either side. The two alkyl groups present may be either structurally identical or even different. Some of the examples of secondary alcohols are butan-2-ol,propan-2-ol,etc.
c)tertiary alcohols: Tertiary alcohols are those which feature hydroxyl group attached to the carbon atom which is connected to 3- alkyl groups. The physical properties of these alcohols mainly depend on their structure.examples are 2methylpropan-2-0l,2methylbutan-2-ol,etc.

2) This is due to the combined strength of so many hydrogen bonds forming between oxygen atoms of one alcohol molecule and the hydroxy H atoms of another. The longer the carbon chain in an alcohol is, the lower the solubility in polar solvents and the higher the solubility in nonpolar solvents.

3)Step 1:Involves breaking if carbohydrates to disaccharides.
(Carbohydrate)2(C6H10O5)n+nH2O __Diastase(malt)__60°__nC12H22O11(maltose)
Step2:Breaking of disaccharide to monosaccharide with yeast found in maltase
(Maltose)C12H22O11+H2O—maltase(yeast) 15°c ---2C6H12O6(glucose)

Step3: Conversion of glucose to ethanol with the aid of zymase which is found in yeast
(Glucose)C6H12O6 ---Zymase(yeast)15°c----(ethanol)2CH3CH2OH(L)+2Co2(g)
4)

7) 2-methylpropanal—NaBH4---2-methylpropanol

8) propan 1 ol + con. H2SO4 ------> propene + H2O
then
propene + H2O ------> propan 2ol

To convert propan-1-ol to propan-2-ol

Concentrated sulfuric acid
Water

Process involved:

Dehydration of propan-1-ol to propene.
Hydrolysis of propene to propan-2-ol
Steps:

1. Dehydration of propan-1-ol to propene.

When propan-1-ol is treated with concentrated sulfuric acid the phenomenon called dehydration occurs due to which a water molecule from propan-1-ol gets eliminated.
Due to this propan-1-ol gets converted into propene. The reaction involved is as follows:

2. Hydrolysis of propene to propan-2-ol

Propene can be hydrolyzed to propan-2-ol in accordance with mechanism called as Markownikoffs addition.
It states that when an unsymmetrical reagent the negative part of the reagent gets attached itself to the carbon atom of the alkene which has less number of hydrogen atoms.
In this case, the unsymmetrical reagent used in which is composed of and part.
Due to hydrolysis of water, the negative part attaches itself to the propene and thus convert it as propan-2-ol.
The reaction involved is as follows:
CH3-CH=CH2--H2O-CH3-CH2-OH-CH3.