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DEPARTMENT: Aeronautical Engineering

COURSE: CHEM 102

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1. Alcohols can be classified based on number of hydrogen atoms attached to the carbon atom containing the hydroxyl group:

a. Primary alcohols - methanol & ethanol

b. Secondary alcohols - propan-2-ol & butan-2-ol

c. Tertiary alcohols - 2-methyl propan-2-ol & 2-methyl butan-2-ol

Alcohols can also be classified based on the number of hydroxyl group they possess:

a. Monohydric alcohols - propanol & ethanol

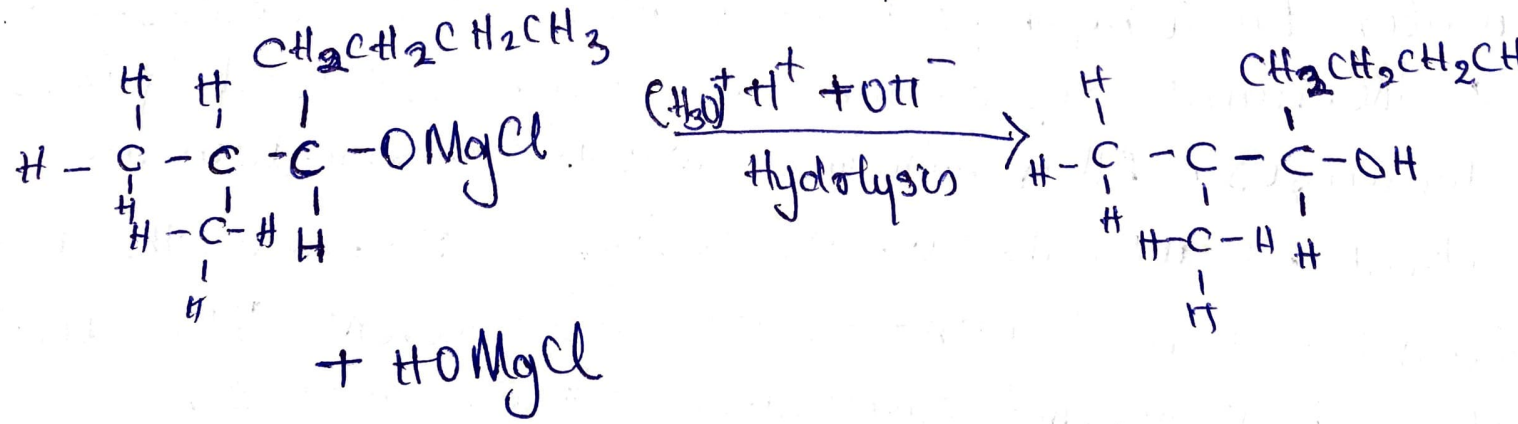
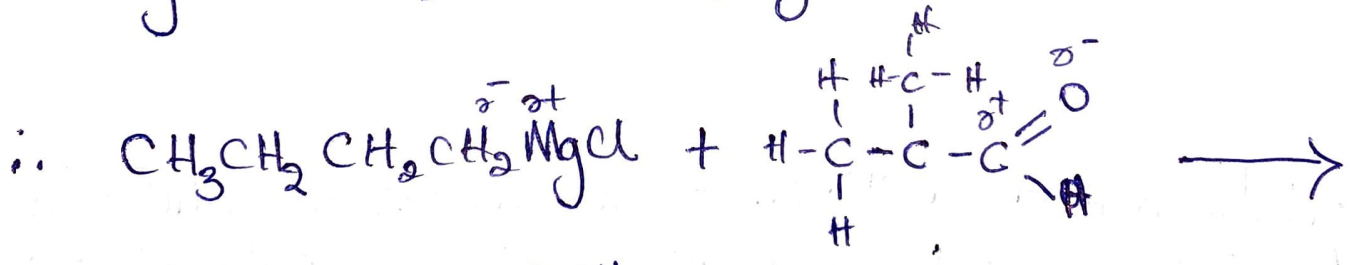
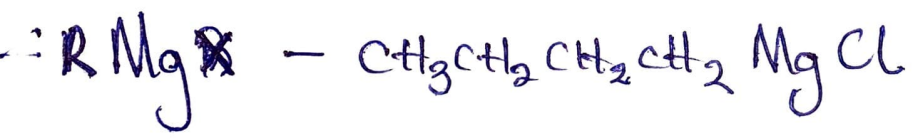
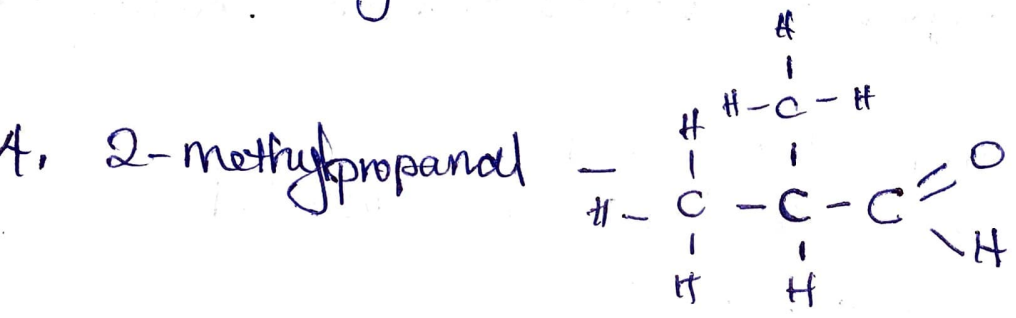
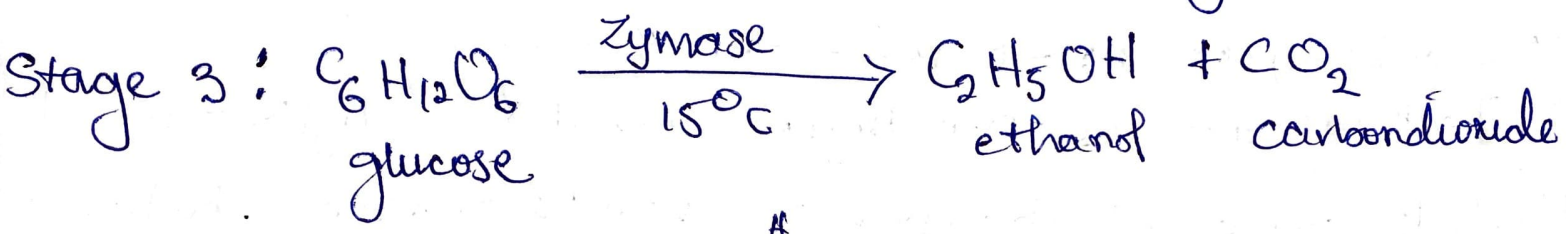
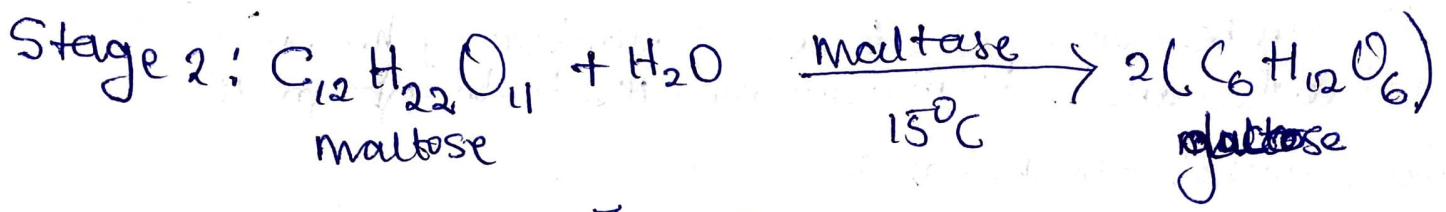
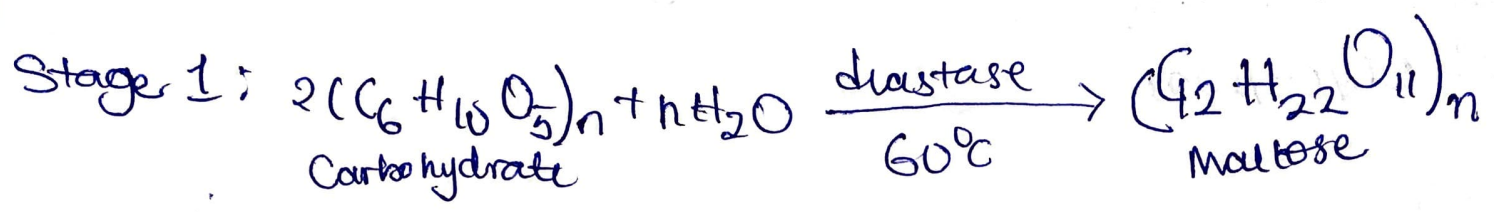
b. dihydric alcohols - ethane-1,2-diol & propane-1,2-diol

c. Trihydric alcohols - butane-1,2,3-triol

d. Polyhydric alcohols - Pentol

2. Lower alcohols with up to three carbon atoms are soluble in water due to hydrogen bonds with the water molecules. Although as the number of carbon atom increases, solubility in water decreases. All monohydric alcohols are soluble in organic solvents because the non-polar alkyl group enables the alcohol to interact with non-polar organic solvents like diethyl ether, benzene and many more organic solvents.

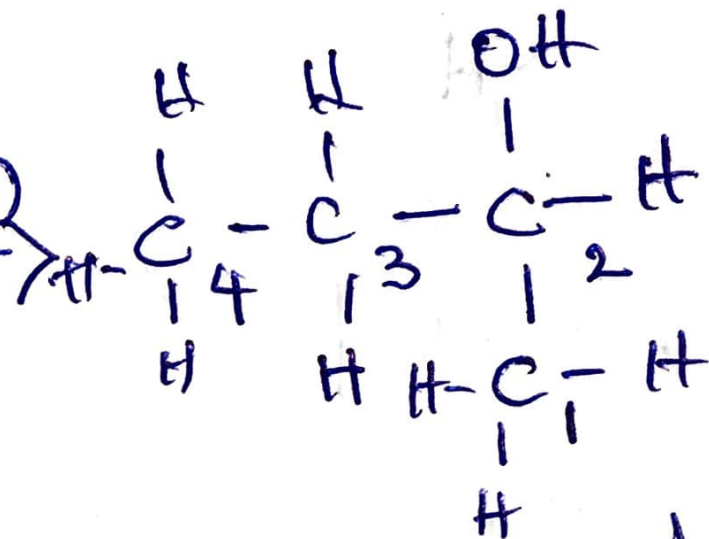
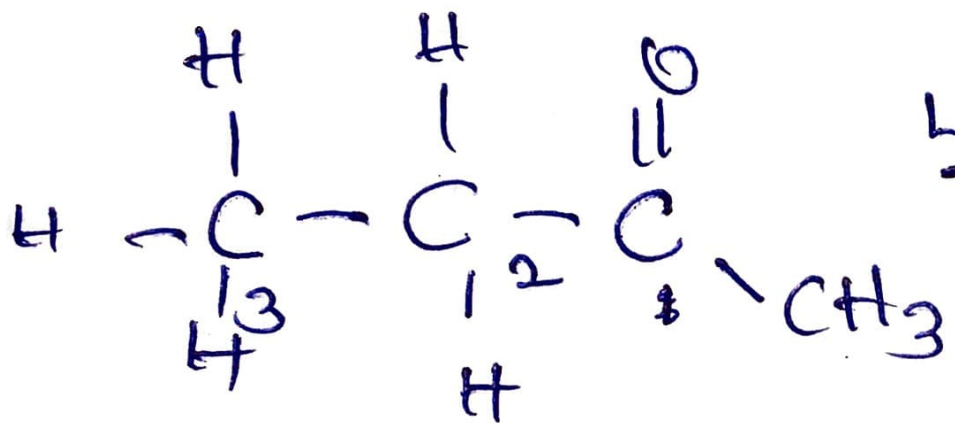
3. Carbohydrates such as maize, corn, wheat can produce ethanol when fermentation occurs but the carbohydrates has to be broken down into glucose first



Naming the alcohol

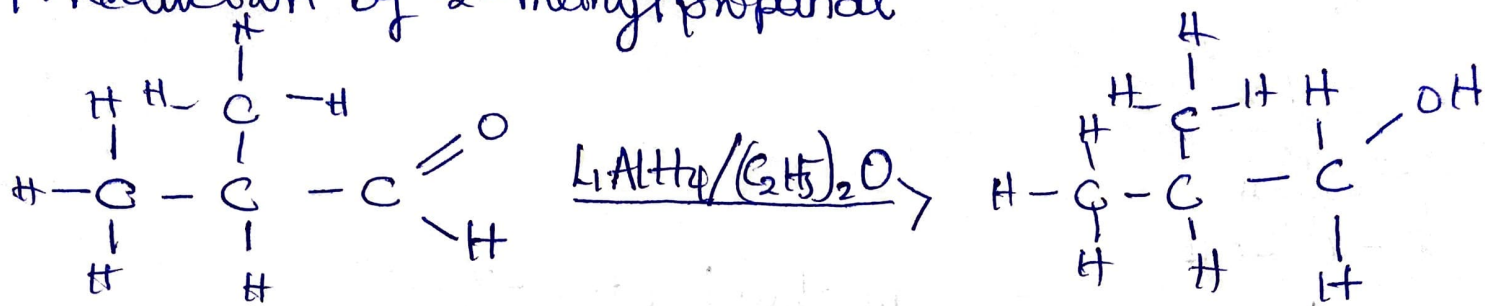
6. Reduction

methylpropanone

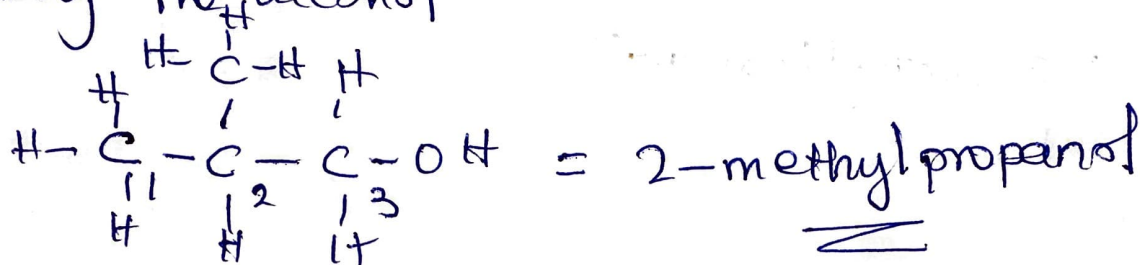


Butan-2-ol

7. Reduction of 2-methyl propanal

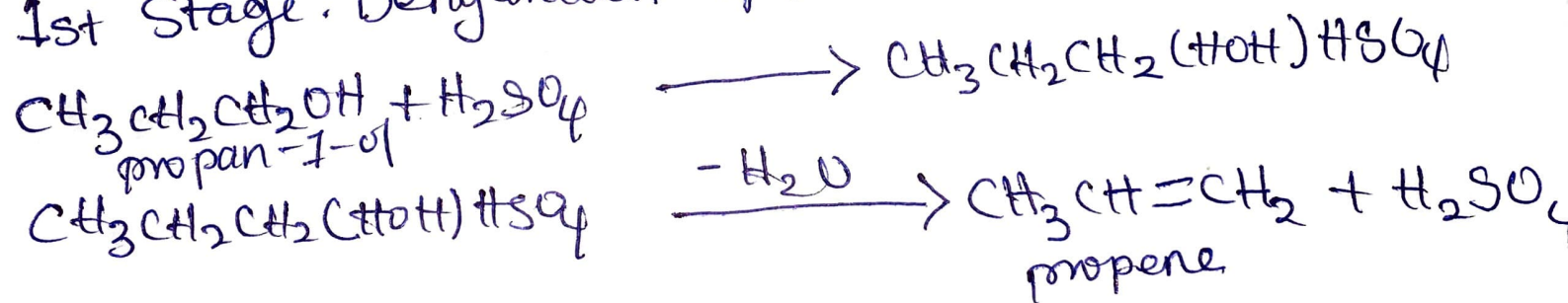


Naming the alcohol



8. Conversion of propan-1-ol to propan-2-ol

1st Stage: Dehydration of propan-1-ol using H_2SO_4



2nd Stage: Hydrolysis of propene using H_2SO_4

