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Matric no: 19/MATHS02/007

Dept.: Nursing

Course: CHM. 102 [General Chemistry I]

Assignments

① Classification of alcohols

(i) Based on the number of hydrogen atoms attached to the carbon atom containing the hydroxyl group it is divided into primary, secondary, tertiary alcohols. Example CH_3OH - Methanol.

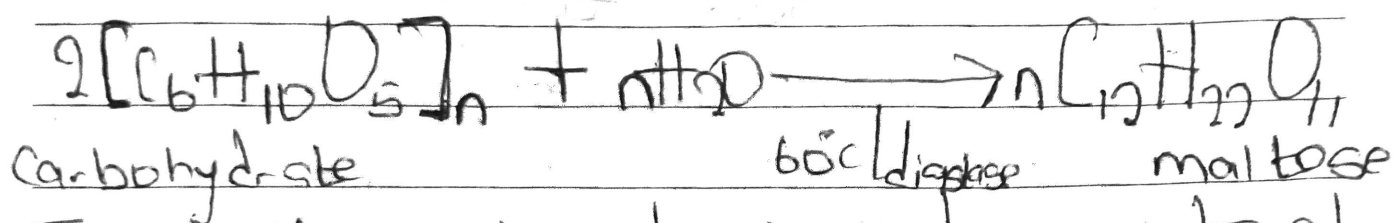
(ii) Based on the number of hydroxyl groups they possess. Divided into monohydric, dihydric, trihydric, polyhydric. Examples $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ Propanol.

② Solubility of alcohols in water
Lower alcohols with up to three carbon atoms in their molecules are soluble in water because these lower alcohols can form hydrogen bond with

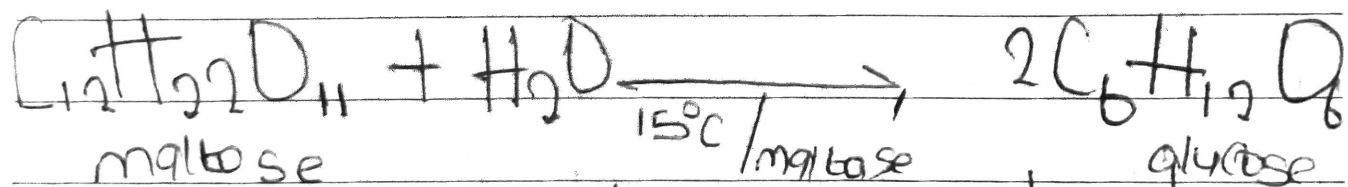
molecules.

- Solubility of alcohols in organic solvent : All monohydric alcohols are soluble in organic solvents.

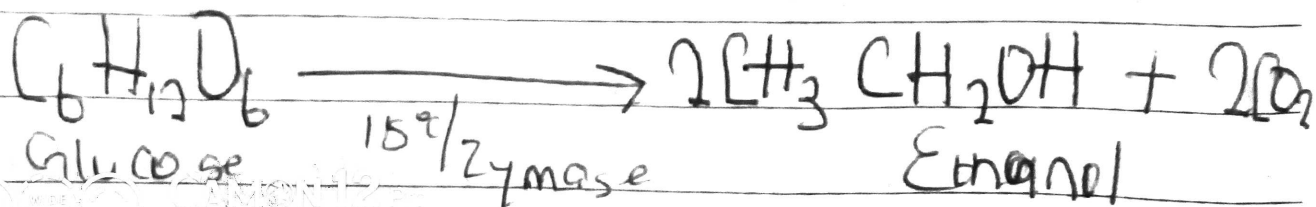
③ Industrial Preparations of Ethanol



The maltose is broken down into glucose on addition of yeast which contains the enzyme maltase and at a temperature of 15°C

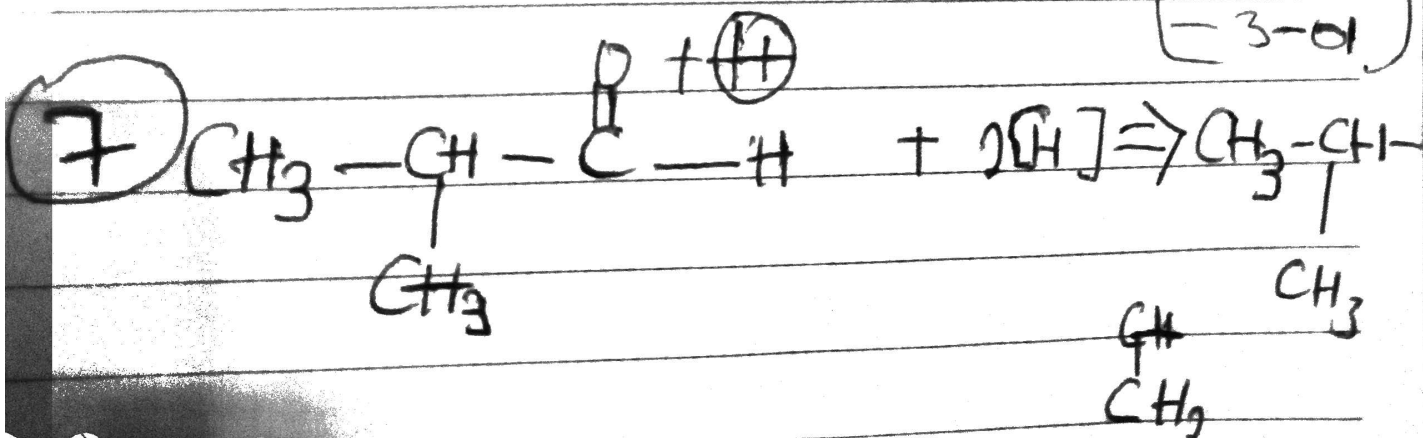
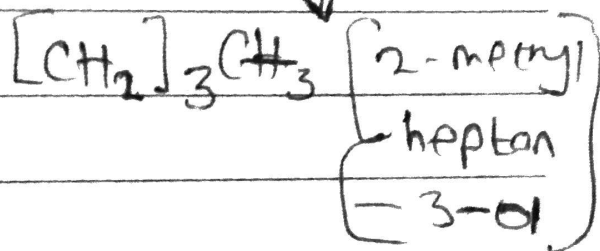
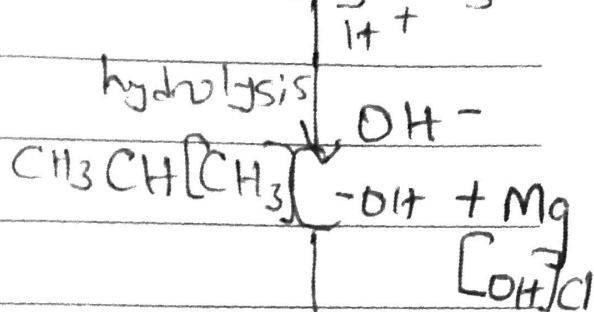
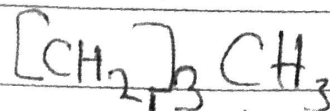
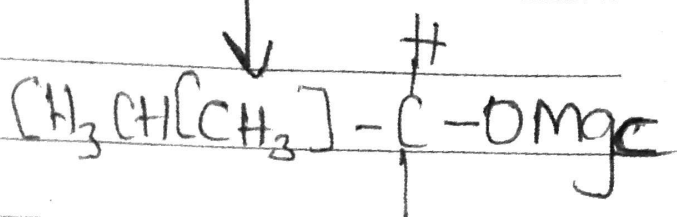
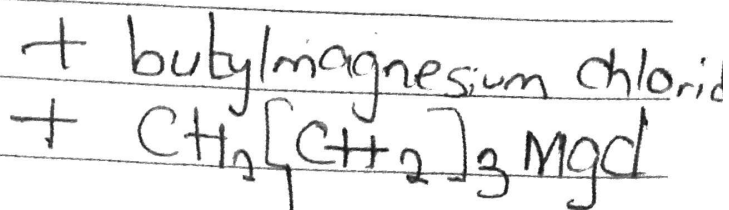
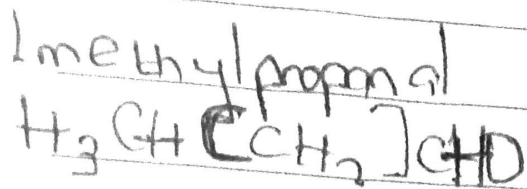


The glucose at constant temperature of 15°C is then converted into alcohol by the enzyme Zymase contained also in yeast.



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④ Reaction between 2-methyl propanal and butylmagnesium chloride



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② Conversion of Primary alcohols to Secondary alcohols:

Propan-1-ol — Primary alcohol to
Propan-2-ol — Secondary alcohol

$\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ — $\text{CH}_3\text{CHOHCH}_3$
Propan-1-ol Propan-2-ol

