



NAME: IRE-EGBUONU MARQUELIOUS CHIDEDO  
 MATRIC NO: 19/SCIO9/CO3 [MR. JONATHAN SOHNSON]  
 DEPT: INDUSTRIAL CHEMISTRY  
 LEVEL: 1001 04/04/2020

The glucose is then converted into ethanol by the enzyme zymase (also contained in yeast) at a temperature of 15°C

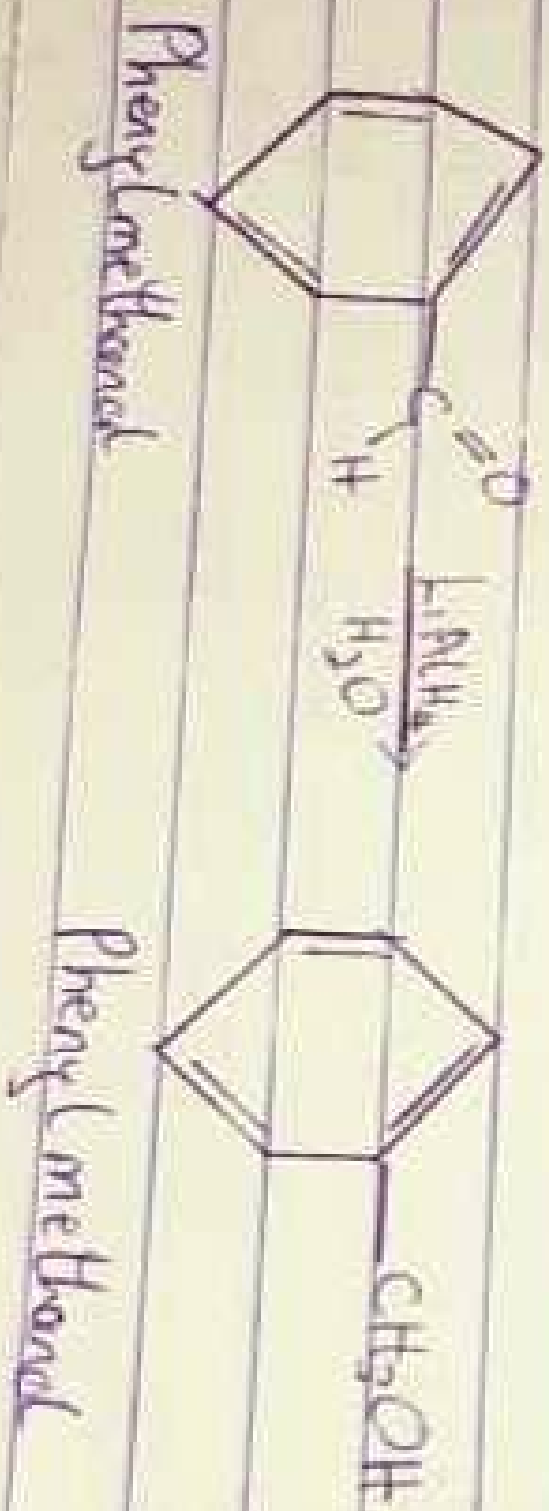


Glucose

Ethanol

4. Reduction of Alkanal: Alkanal (Aldehyde) can be reduced to primary alcohols by reaction with hydrogen in the presence of a platinum or nickel catalyst or with aluminium isopropoxide or with complex metal hydride such as lithium tetrahydridoaluminate (III)  $[LiAlH_4]$  or sodium tetrahydroborate (III)  $[NaBH_4]$

Examples:



REDUCTION OF ALKANONE: Alkanone (ketone) are reduced to secondary alcohols by reaction with hydrogen in the presence of a platinum or nickel catalyst or with aluminium isopropoxide or with complex metal hydride such as lithium tetrahydridoaluminate (III)  $[LiAlH_4]$  or sodium tetrahydroborate (III)  $[NaBH_4]$

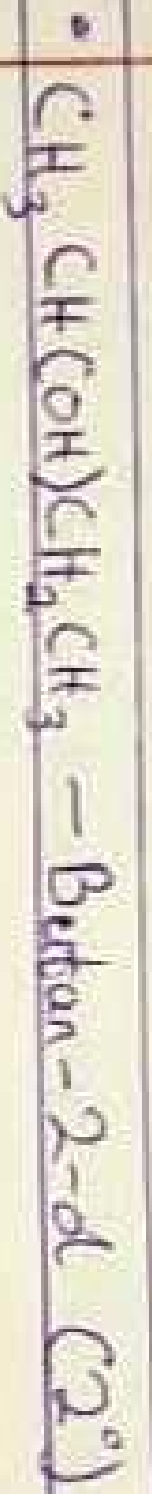
PG3

NAME: IKE-EGBUONU MARVELLOUS CHINWELU  
 MATRNO: 19/SCIO9/003 [MR. JORDAN JOHNSON]  
 DEPT: INDUSTRIAL CHEMISTRY  
 LEVEL: 1001 DATE: 04/04/2020

1. Classification of Alcohols:

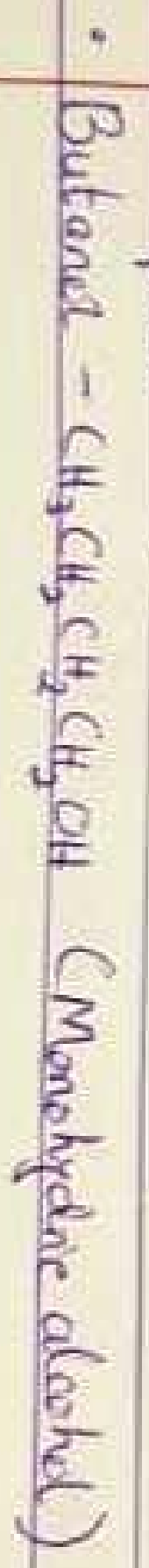
a) Alcohols can be best classified based on the number of hydrogen atoms which are attached to the carbon atom containing the hydroxyl group. If there are two or three hydrogen atoms attached to the carbon atom bearing the hydroxyl group, it is called a primary alcohol. If it is one hydrogen atom, it is called a secondary alcohol (2°). If no hydrogen atom is attached, it is called a tertiary alcohol (3°).

Examples:



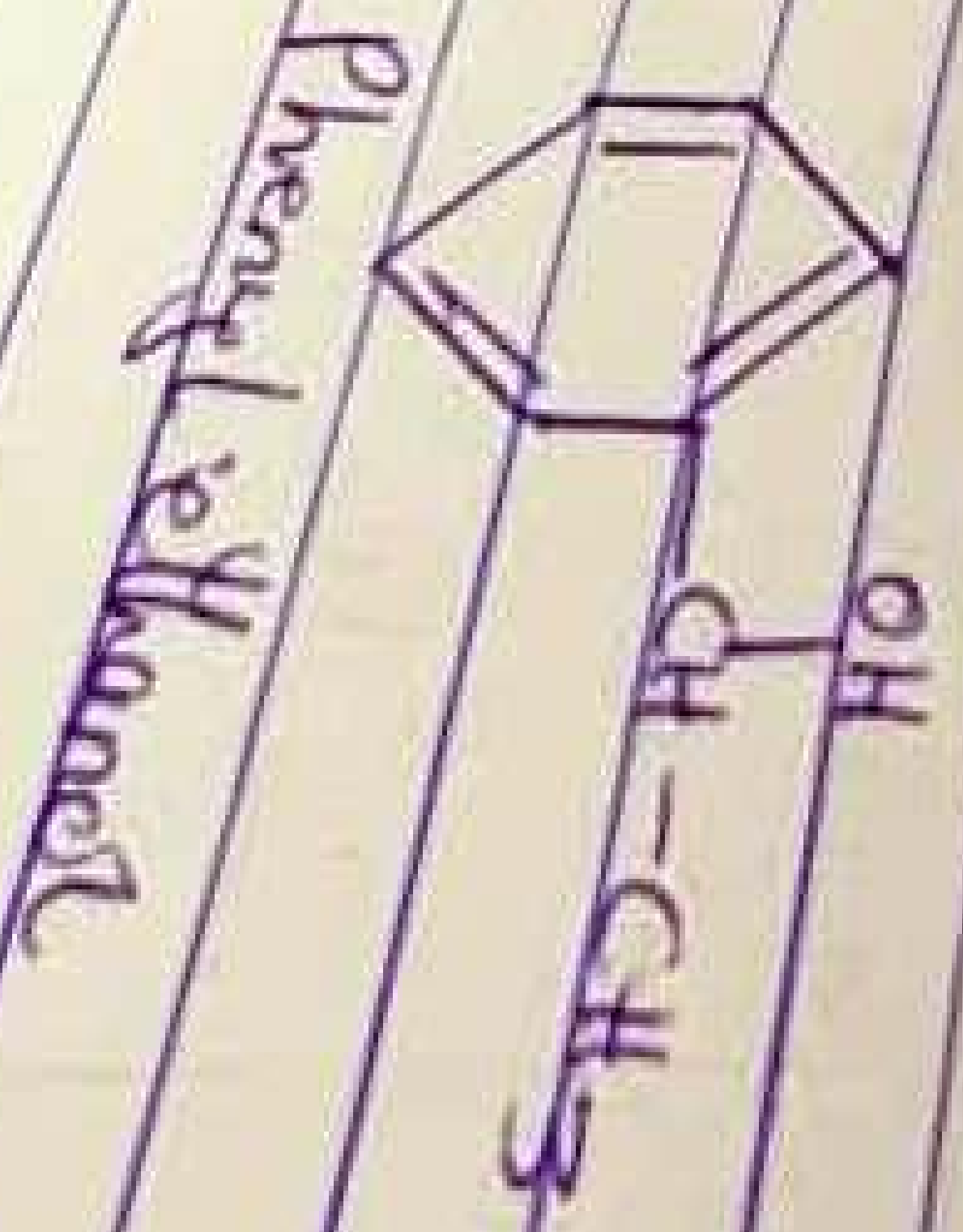
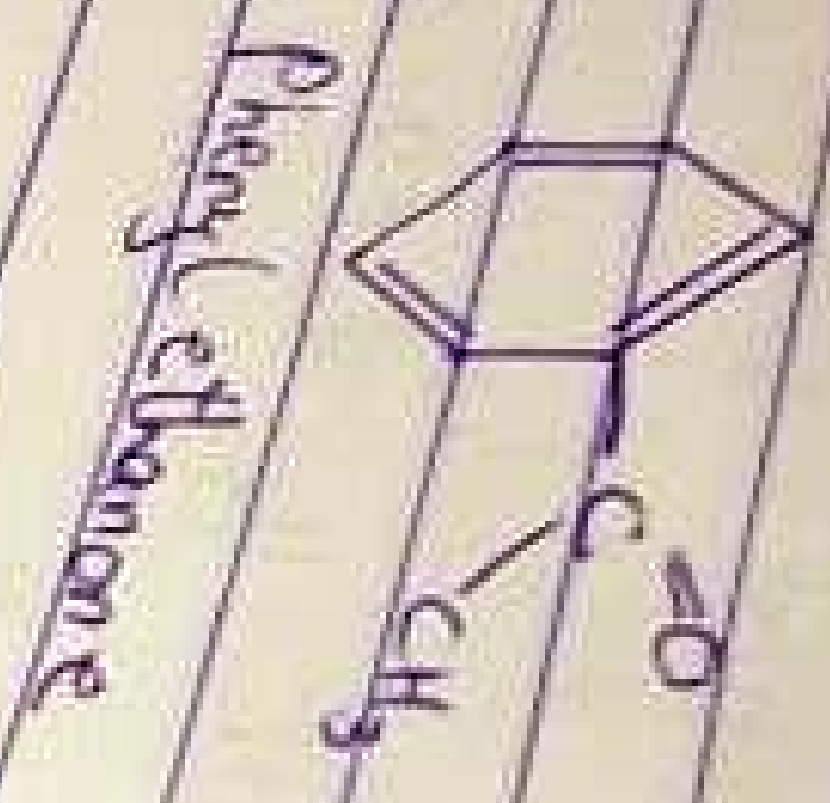
b) Alcohols can also be classified based on the number of hydroxyl group they possess. Alcohols with one hydroxyl group present are known as Monohydric alcohols. Alcohols that have two hydroxyl groups present in their alcohol structures are called Dihydric alcohols (Glycols). Trihydric alcohols or triols have three hydroxyl groups present in the alcohol structure. Polyhydric alcohols or polyols have more than three hydroxyl groups.

Examples:



NAME: KE-EGBUWANU MARVELLOUS CHINDELO  
MTRIC NO: 19/SC109/003 [MR. SOMA THAM SOHNSON]  
DEPT: INDUSTRIAL CHEMISTRY  
LEVEL: 1001 04/04/2020

Example:



PG 11