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MECHAPRODUS ENGINEERING

19 / EN905 / 02-0

CHM 102 Assignment

All alcohols can be classified based on

→ The number of the hydroxyl (OH^-) group present. Here they are classified into

Monohydric, Trihydric and Dihydric classes.

E.g.s are Ethanol (Monohydric), Prop-1,2, diol (Dihydric), Hexane-1,2,3-triol (Trihydric)

→ The number of hydrogen atoms attached to the carbon atom containing the hydroxyl group.

Alcohols here can be classified as primary, secondary and tertiary alcohols. E.g.s are Methanol (1°), Propan-2-ol (2°), 2-methylpropan-2-ol (3°)

Solubility: lower alcohols are soluble in water because these lower alcohols can form hydrogen bond with water molecules. All monohydric alcohols are soluble in organic solvents. The water solubility of alcohols decreases with increasing relative molecular mass.

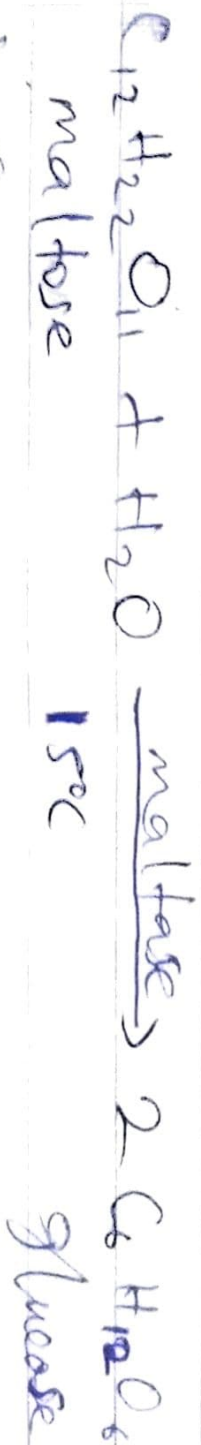
3 Industrial manufacture of ethanol

→ Starch containing materials i.e. carbohydrates are warmed with malt to 60°C. Thus so long converts the starch to maltose by the enzyme diastase contained in the malt.

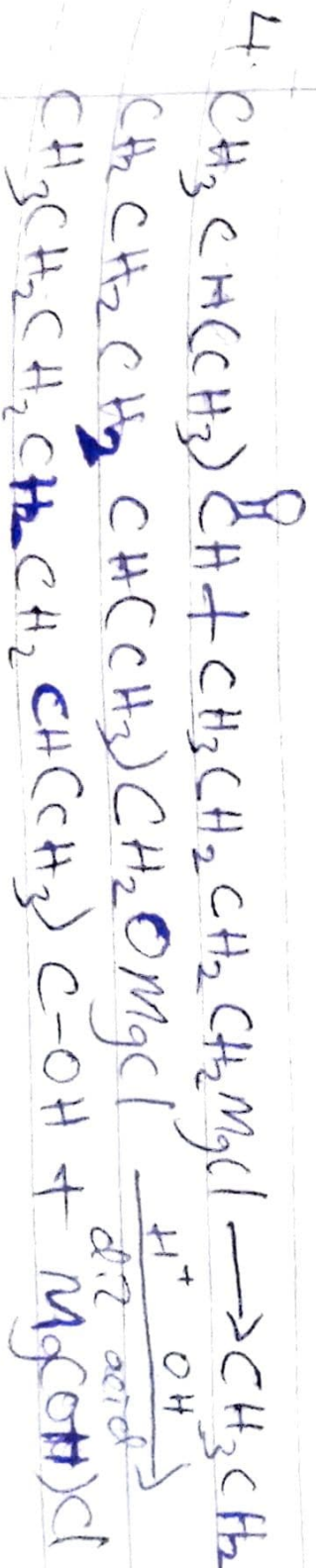
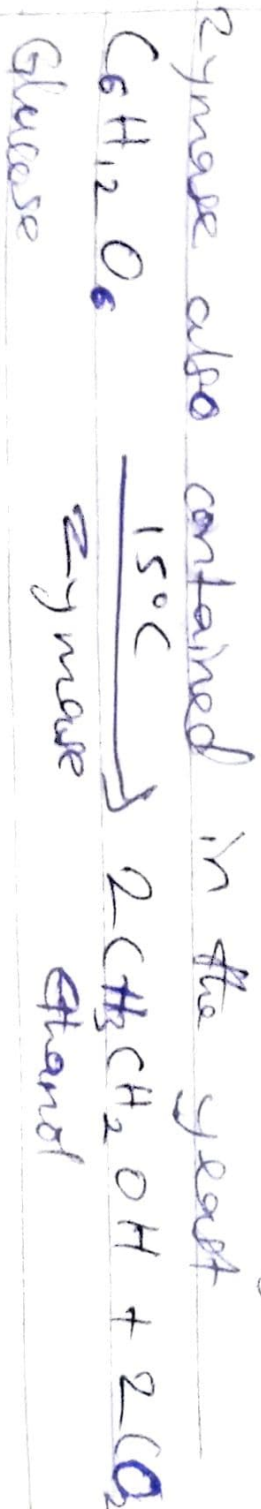
$$2(C_6H_{10}O_5)_n + nH_2O \xrightarrow[diastase]{60^\circ C} nC_{12}H_{22}O_{11}$$

Carbohydrate maltose

→ The maltose is broken down into glucose on addition of yeast which contains maltase at 15°C.



→ The glucose at constant temperature of 15°C is then converted into alcohol by the enzyme



5. $\begin{array}{c} \text{H} \\ | \\ \text{H}-\text{C}-\text{H} \\ | \\ \text{H} \end{array}$ 2-methyl propanone does not exist

6. 2-methyl propanone does not exist

