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1a It is based on the number of the hydrogen atom attached to the carbon atom bearing the hydroxyl group. If the number of hydrogen atom attached to the carbon atom bearing the hydroxyl group is two/three, it is called a PRIMARY ALCOHOL (1°). If it is one it is called a SECONDARY ALCOHOL (2°), and if no hydrogen atom is attached to the carbon-bearing the OH group it's called TERTIARY ALCOHOL (3°)

Examples: CH_3OH -methanol (1°), $\text{CH}_3\text{CH}(\text{OH})\text{CH}_3$ -propan-2-ol (2°)

b It is based on the number of hydroxyl group they possess.

* Monohydic alcohol - has one OH group present in the alcohol structure

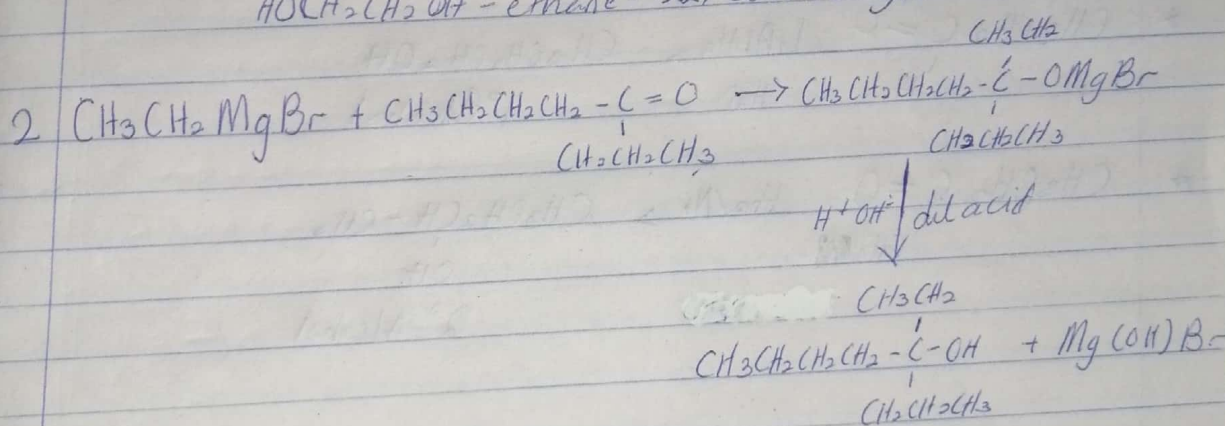
* Dihydic alcohol / glycol - has two OH group present in the alcohol structure

* Trihydic Alcohol / triols - has three OH groups present in the alcohol structure

* Polyhydic alcohols (polyol) - has more than three hydroxyl group

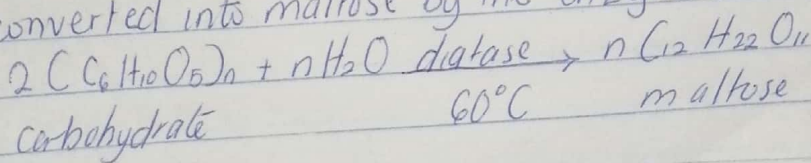
Examples: $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ - propanol (Monohydic alcohol)

$\text{HOCH}_2\text{CH}_2\text{OH}$ - ethane-1,2-diol (Dihydic alcohol)

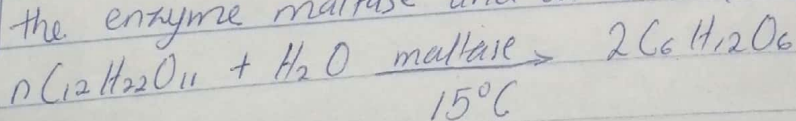


3 Production of ethanol

i The starch containing materials include molasses, potatoes, rice etc and on warming with malt to 60°C for a specific period, is converted into maltose by the enzyme diastase in malt.



ii Maltose is then converted into glucose using yeast which contain the enzyme maltase and at a temperature of 15°C

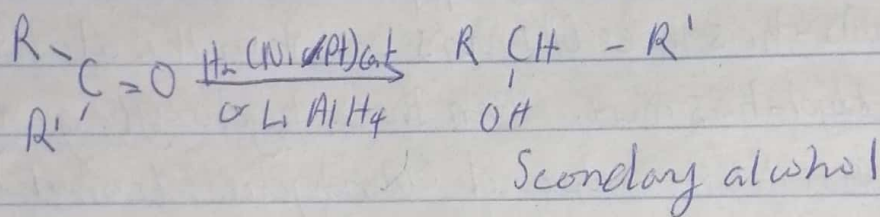
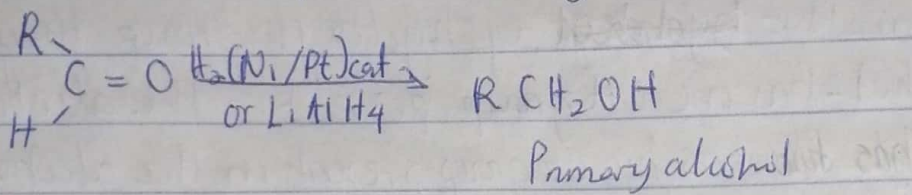


The glucose at a constant temperature of 15°C is converted to

ethanol by the enzyme zymase contained also in yeast

$$C_6H_{12}O_6 \xrightarrow[15^\circ C]{\text{Zymase}} 2 C_2H_5OH + 2CO_2$$

4 Aldehydes (alkanals) and Ketones (alkanone) are reduced to primary and secondary alcohols respectively by reaction with hydrogen in the presence of a platinum or nickel catalyst or aluminium isopropoxide or with complex metal hydride such as $LiAlH_4$



Specific examples

