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1. Alcohols can be classified into two main categories. They are:

(I) Based on number of OH group present in the compound. This is further divided into three:

(a) Monohydric - when one OH group is present.

An example is Ethanol: $\text{C}_2\text{H}_5\text{OH}$

(b) Dihydric - when two OH groups are present. It can also be called glycol. An example is Ethane-1,2-diol: $\text{C}_2\text{H}_4(\text{OH})_2$

(c) Trihydric - when three OH groups are present. An example is Propane-1,2,3-triol: $\text{C}_3\text{H}_8(\text{OH})_3$

(d) Polyhydric - when there are more than three OH groups present. An example is Heptane-2,3,4,5,6-pentanol: $\text{C}_7\text{H}_{14}(\text{OH})_5$

(II) Based on number of hydrogen atoms attached to the carbon carrying the OH functional group.

(a) Primary or 1° Alcohols - three or two hydrogen atoms are attached to the carbon carrying the OH functional group. An example is Methanol: CH_3OH

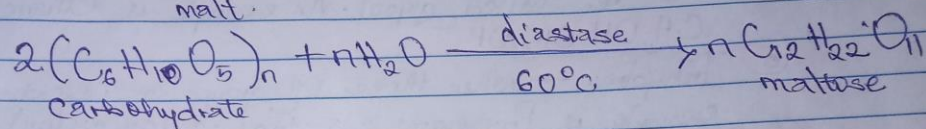
(b) Secondary or 2° Alcohol - one hydrogen atom is attached. An example is Propan-2-ol: $\text{C}_3\text{H}_8(\text{OH})_2$

(c) Tertiary or 3° Alcohol - no hydrogen atom is attached. An example is 2-Methylpropan-2-ol: $(\text{CH}_3)_3\text{C-OH}$

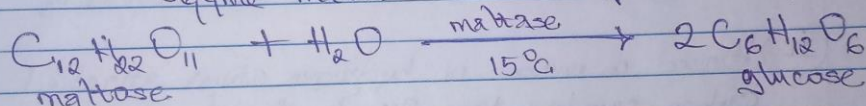
2. Solubility of Alcohols in water
however alcohols with up to three carbon atoms in their molecules are soluble in water

2. The water solubility of alcohols decreases with increasing relative molecular mass. Lower alcohols with up to three carbon atoms in their molecules are soluble in water because they can form hydrogen bonds with water. As the relative molecular mass of alcohols increase, their solubility in organic solvents increase.

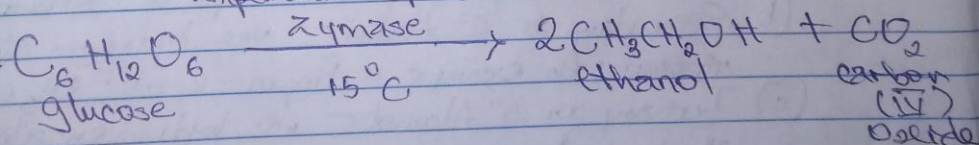
3. STEP I: A carbohydrate is warmed with malt to 60°C . for a specific period of time and is converted into maltose by the enzyme diastase contained in the malt.



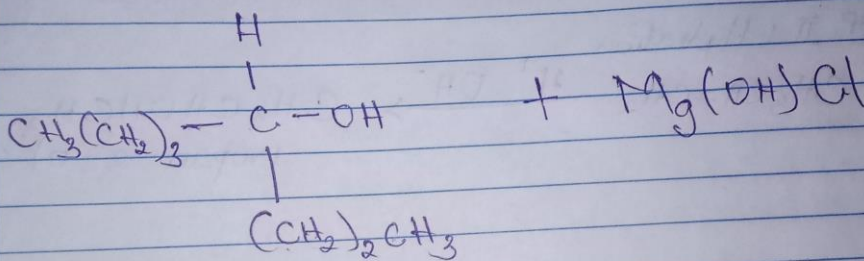
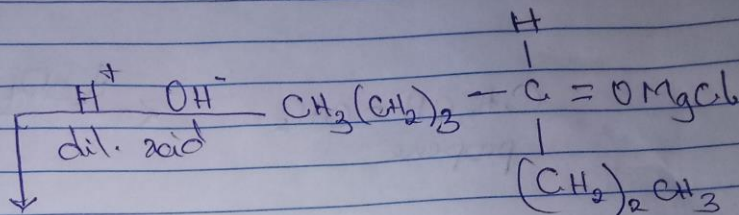
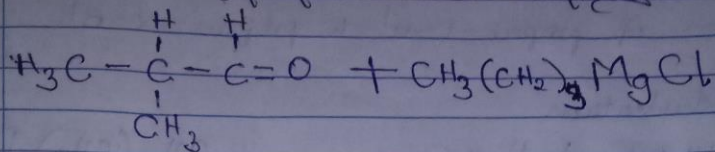
STEP II: The maltose is then broken into glucose on the addition of yeast which contains the enzyme maltase at a temperature of 15°C .



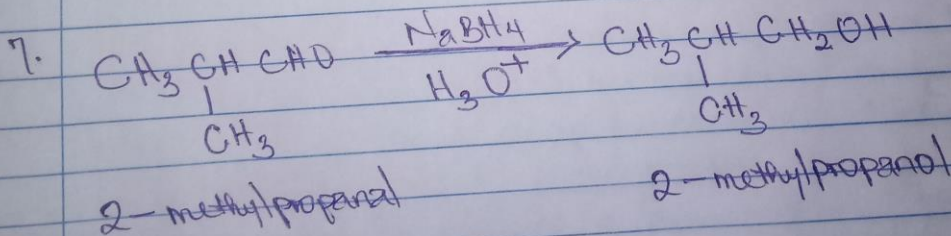
STEP III: The glucose is converted into ethanol by the enzyme zymase, found in yeast at a constant temperature of 15°C .



4. 2-methylpropanal and butylmagnesium chloride.



Octan-4-ol



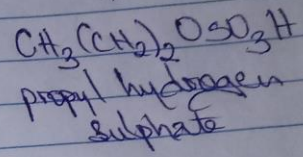
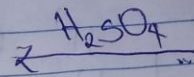
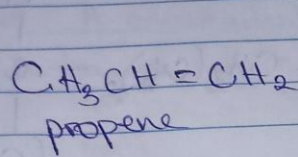
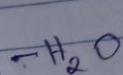
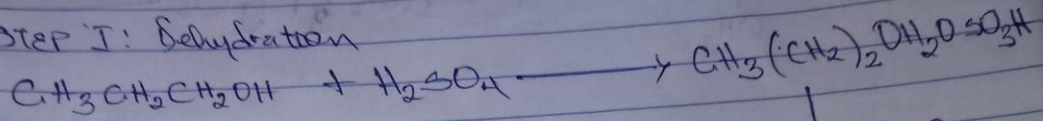
8. Convert propan-1-ol to propan-2-ol

STEP (1) Dehydration

convert primary alcohol +

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

STEP I: Dehydration



STEP II: Hydration

