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DEPARTMENT:- NURSING

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1 (i) The classification is based on the number of hydrogen atoms that is attached to the carbon atom containing the hydroxyl group. And if hydrogen atoms numbers attached to the carbon atom bearing the hydroxyl group are three or two, it is primary alcohol ( $1^\circ$ ), if it is one hydrogen atom is called secondary alcohol ( $2^\circ$ ) and if there is no hydrogen atoms tertiary alcohol ( $3^\circ$ ). Examples:-  $(\text{CH}_3)_3\text{C}-\text{OH}$  2-methylpropan-2-ol ( $3^\circ$ ),  $\text{CH}_3\text{CH}_2\text{OH}$  Ethanol ( $1^\circ$ )

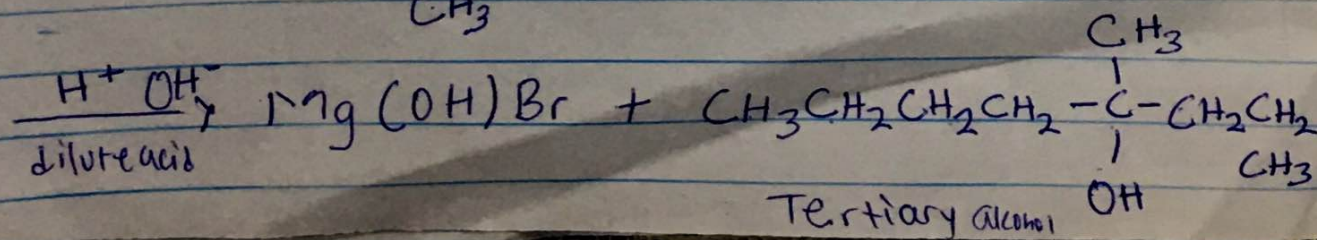
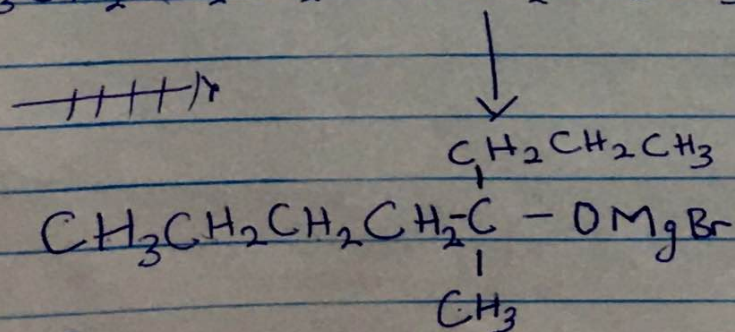
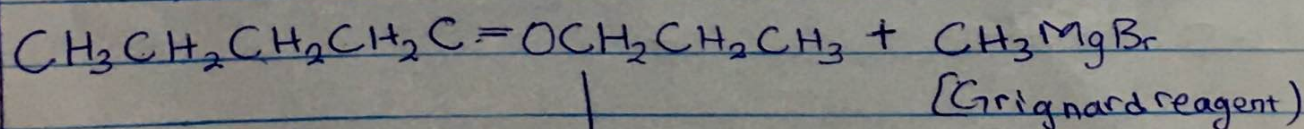
ii Another classification based on number of hydroxyl groups they possess. If it is one hydroxyl group it is monohydric alcohol, if it is two hydroxyl group it is dihydric alcohol or glycol, if it is three hydroxyl group it is trihydric or triols.

Examples:

\*  $\text{CH}_3\text{CH}(\text{OH})\text{CH}_2\text{CH}(\text{OH})\text{CH}_2\text{CH}_3$  Hexane-2,4-diol (Dihydric alcohol)

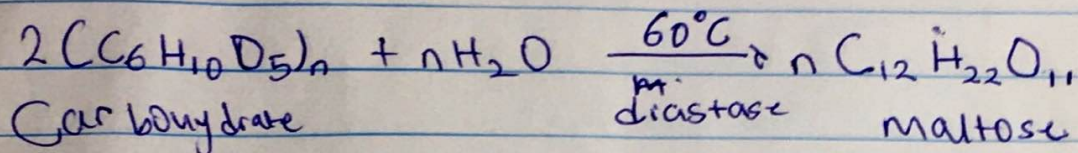
\*  $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$  Propanol (monohydric alcohol)

2. In the Grignard synthesis of Alcohol.

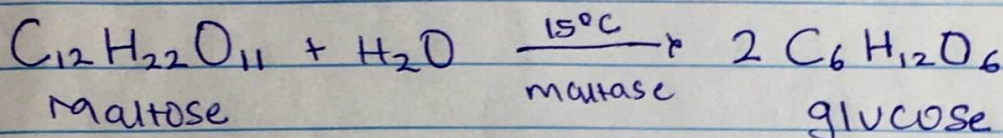


### 3. Industrial preparation of ethanol.

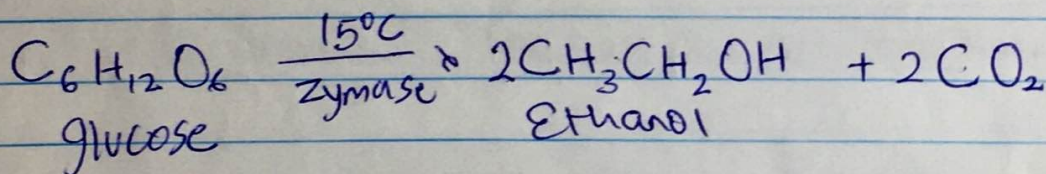
Carbohydrates is made to yield ethanol on warming with malt to  $60^{\circ}\text{C}$  to be converted to maltose by the enzymes diastase



The maltose is broken down into glucose on addition of yeast which contains enzymes maltase at a temperature of  $15^{\circ}\text{C}$



The glucose at constant temperature of  $15^{\circ}\text{C}$  it is converted to ethanol by an enzyme zymase contained also in yeast.



### 4. The product of Alkane and Alkane on reduction.

