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19/606104/052 Eled/Eled Engineering CHM 102

1) Based on the number of hydrogen atoms attached to the carbon atom containing the -OH group: If two or three hydrogen atoms are connected to the -OH containing carbon, (e.g. CH_3OH) and $\text{CH}_3\text{CH}_2\text{OH}$) it is a primary alcohol (1°). If it has one hydrogen atom, it is a secondary alcohol (2°) (e.g. $\text{CH}_3\text{CH}(\text{OH})\text{CH}_3$). while if it has no hydrogen atom connected to it, it is a tertiary alcohol (3°) (e.g. $(\text{CH}_3)_3\text{C}-\text{OH}$)

ii) Based on the number of OH groups they possess.

Monohydric (e.g. $\text{CH}_3(\text{CH}_2\text{OH})$) have one OH group.

Dihydric or Glycols (e.g. $\text{CH}_3\text{CH}(\text{OH})\text{CH}_2\text{OH}$) have two OH groups

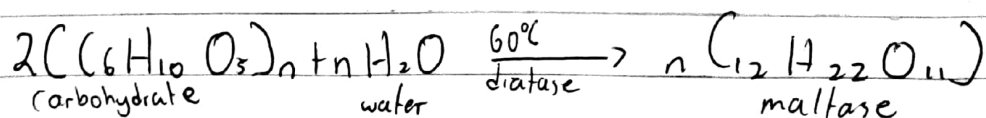
Trihydric or Triols (e.g. $\text{CH}_2\text{OH}(\text{CH}(\text{OH}))_2$) have three OH groups

Polyols (e.g. $\text{CH}(\text{OH})_2\text{CH}(\text{OH})\text{CH}(\text{OH})_2$) have more than three OH groups

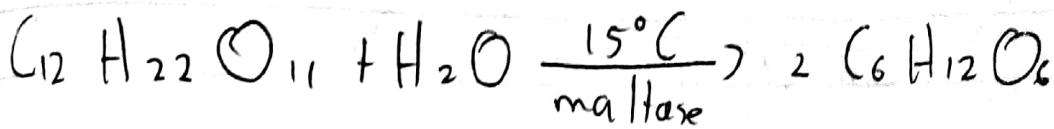
2 Solubility of Alcohols: lower alcohols with up to three carbon atoms in their molecules are soluble in water because these lower alcohols can form hydrogen bonds with water. Higher ones can't form H-bonds so they don't dissolve, but they generally dissolve in organic solvents

3 ~~Starch~~ Production of ethanol

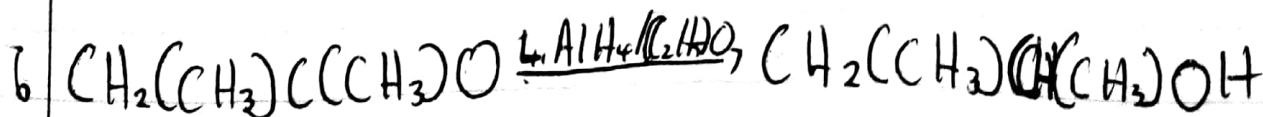
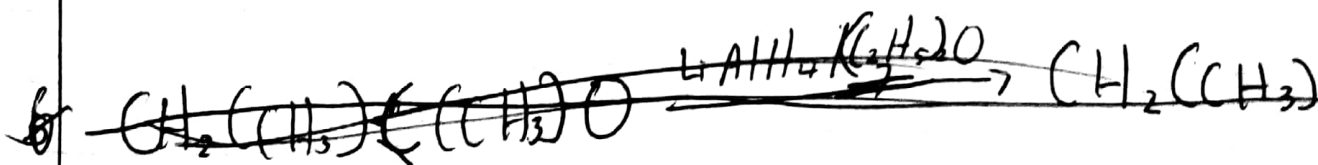
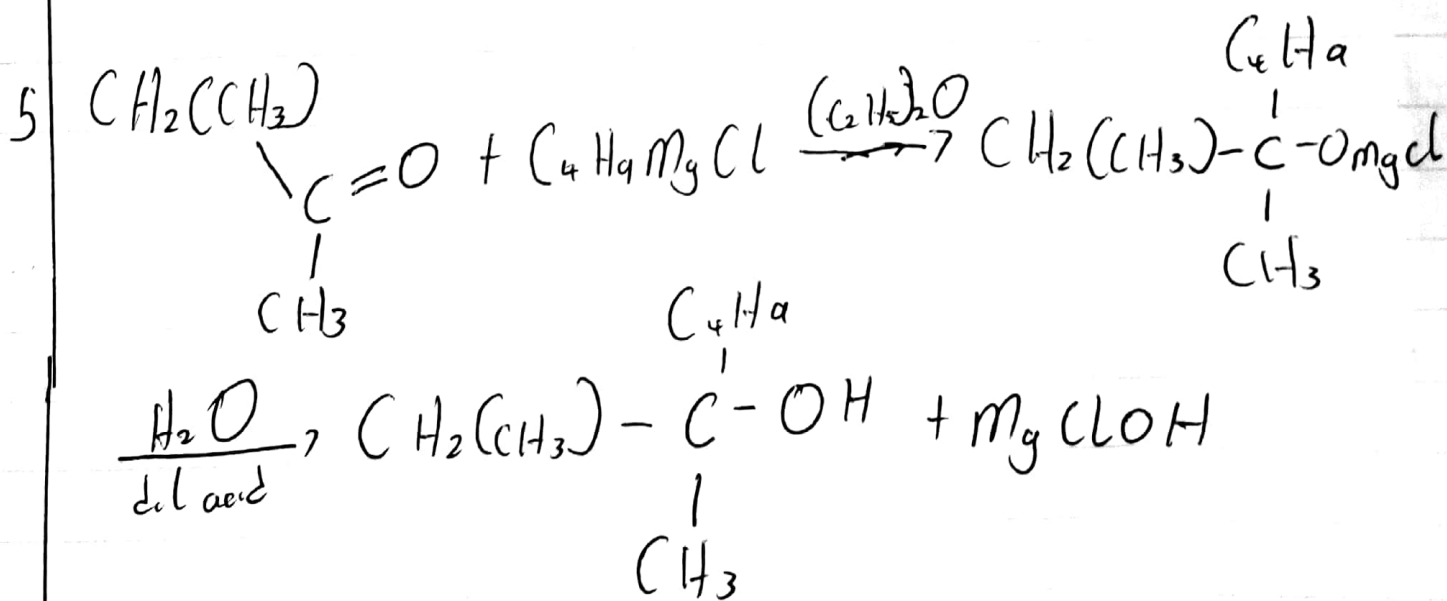
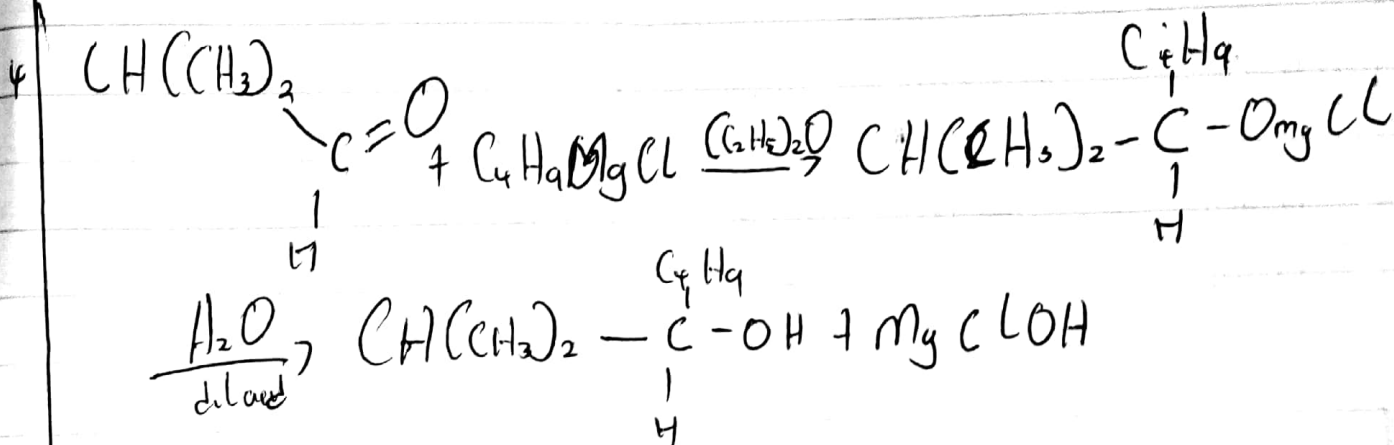
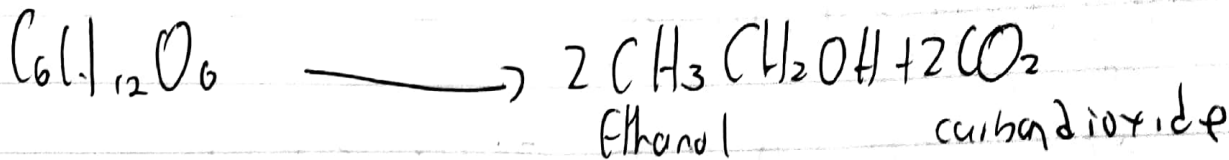
Starch containing materials ~~include~~ and on warming will melt at 60°C for a period are converted to maltose by action of the diastase enzyme



On addition of yeast which contains maltase, at a temperature of 15°C , Maltose is broken down to form glucose.



Glucose at a constant temperature of $15^\circ C$ is converted into alcohol by addition of Zymase in yeast





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

