

Date: 10th April, 2020

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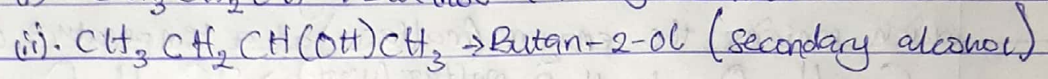
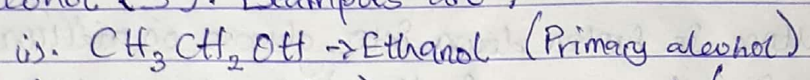
Department: Pharmacy

Matric No: 19/MHS 11/101

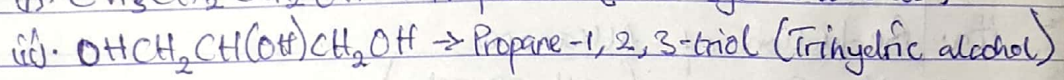
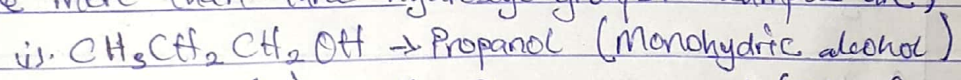
Course: CHTM 102

Assignment

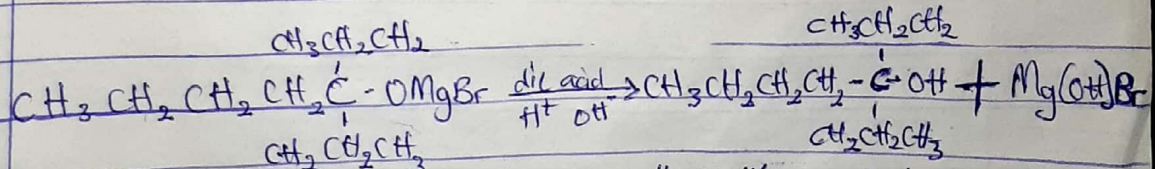
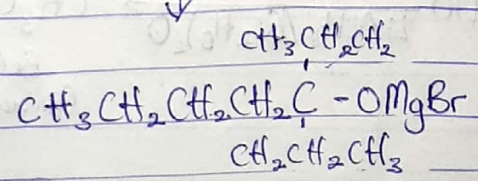
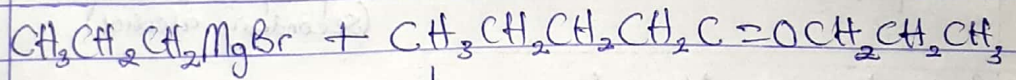
a. The first classification of Alcohols is based on the number of hydrogen atoms attached to the carbon atom containing the hydroxyl group. If the numbers of hydrogen atoms attached to the carbon atoms are three or two, it is a primary alcohol (1°). If it is one hydrogen atom, it is a secondary alcohol (2°) and if there are no hydrogen atom attached, it is a tertiary alcohol (3°). Examples are;



b. The second classification of Alcohols is based on the number of hydroxyl groups they possess. Monohydric alcohols have one hydroxyl group present, Dihydric alcohols (Glycols) have two hydroxyl groups present, Trihydric alcohols (Triols) have three hydroxyl groups present and Polyhydric alcohols (Polyols) have more than three hydroxyl groups. Examples are;



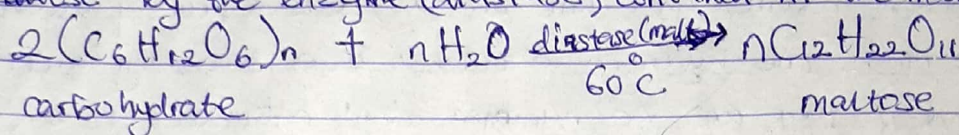
2. Using propyl magnesium bromide ($\text{CH}_3\text{CH}_2\text{CH}_2\text{MgBr}$) as grignard reagent



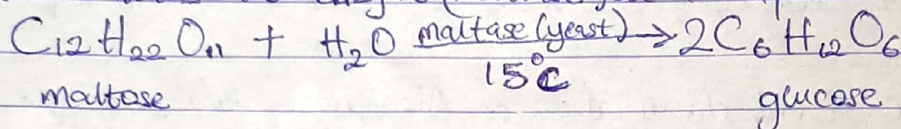
4-propyloctan-4-ol

Pg. ①

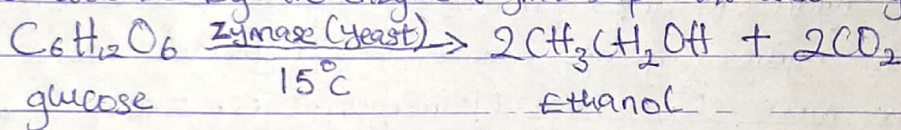
3. Carbohydrates such as starch are major group of natural compounds that can be made to yield ethanol by the biological process of fermentation. The enzymes found in yeast breakdown the carbohydrate molecules into ethanol to give a yield of 95%. The starch containing materials (rice, molasses etc) on warming with malt to 60°C for a period of time are converted into maltose by the enzyme (diastase) contained in the malt.



The maltose is broken down into glucose on addition of yeast which contains the enzyme (maltase) at a temperature of 15°C.

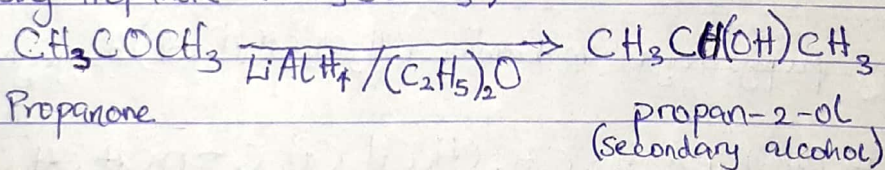


The glucose at constant temperature of 15°C is then converted into alcohol by the enzyme (zymase) present also in yeast.



4a. Reduction of Alkanone

Using Propanone (CH₃COCH₃)



(b) Reduction of Alkanal

Using Butanal (CH₃CH₂CH₂CHO)

