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DEPARTMENT: MEDICINE AND SURGERY

1. Two Classification of Alcohols
2. This is based on the number of hydrogen atoms attached to the carbon containing the hydroxyl group e.g primary alcohol, tertiary alcohol.
3. This is based on the number of hydroxyl groups they possess e.g monohydric alcohol, polyhydric alcohol.
4. Solubility in water: Lower alcohols with up to three carbon atoms in their molecules are soluble in water because these lower alcohols can form hydrogen bond with water molecules. The water solubility of alcohols decreases with increasing relative molecular mass.

Solubility in organic solvents: all monohydric alcohols are soluble in organic solvents. The solubility of simple alcohols and polyhydric alcohols is largely due to their ability to form hydrogen bonds with water molecules.

1. Carbohydrates such as starch are major group of natural compounds that can be made to yield ethanol by the biological process of fermentation. The biological catalysts, enzymes found in yeast break down the carbohydrate molecules to ethanol to give a yield of 95%. The starch containing materials include molasses, potatoes, cereals, rice and on warming with malt to 60oC for a specific period of time are converted into maltose by the enzyme diastase contained in the malt.

2(C6H10O5)n + nH2O 2C12H22O11

Carbohydrates 600c/diastase maltose

The maltose is broken down into glucose on addition of yeast which contains the enzymes maltase and at a temperature of 150C.

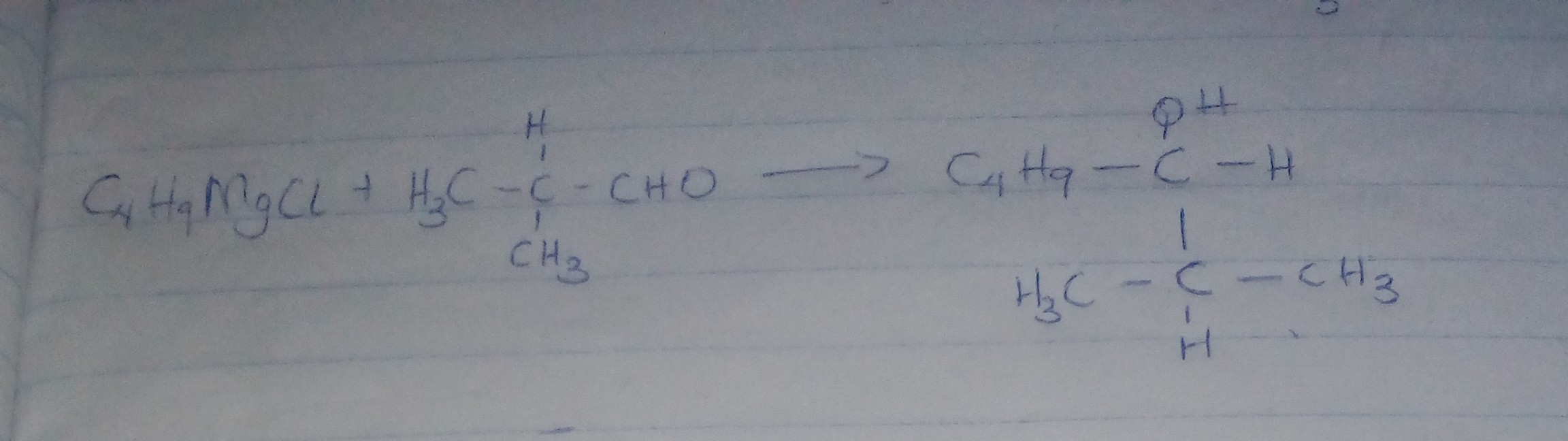
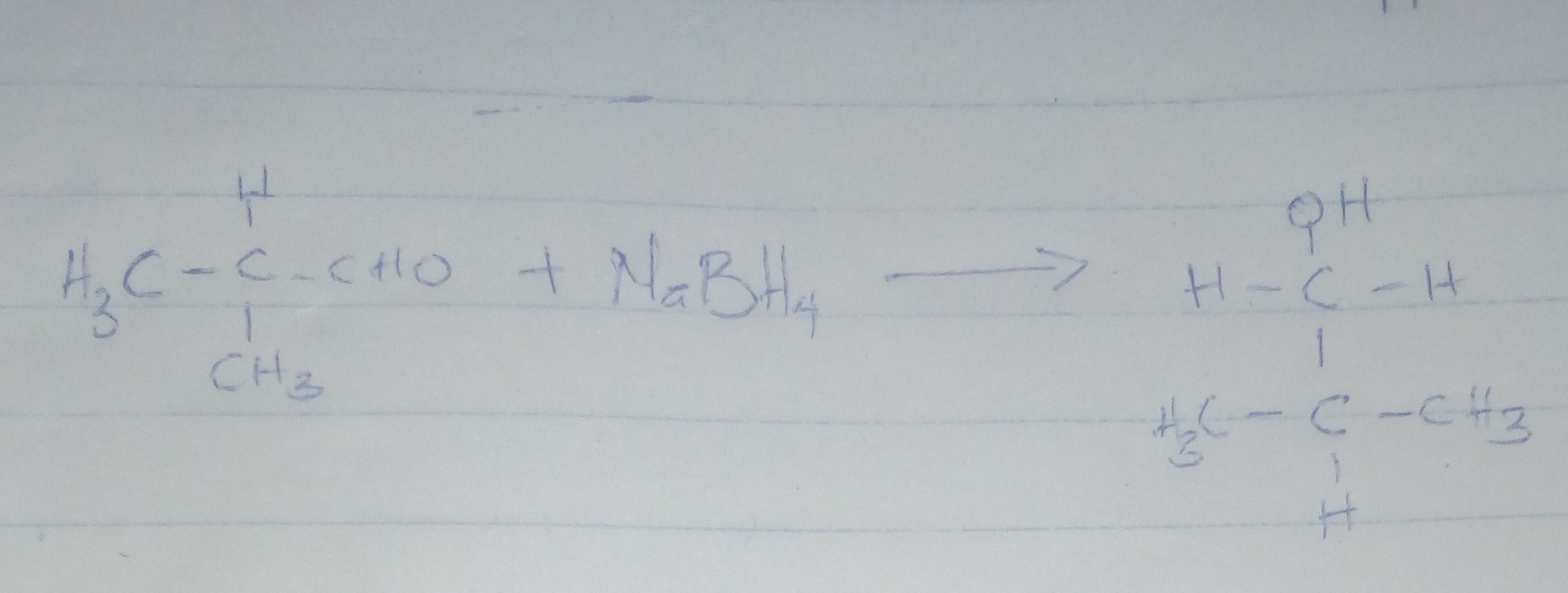
C12H22O11 + H2O 2C6H12O6

Maltose 150C/ maltase Glucose

The Glucose at constant temperature of 150C is then converted to alcohol by the enzyme, zymase contained also in yeast.

C6H12O6 2CH3CH2OH +2CO2

Glucose 150C/ zymase Ethanol

1. 
2. 
3. 