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19/11/2021/03

CHM102

General Chemistry II

Assignment

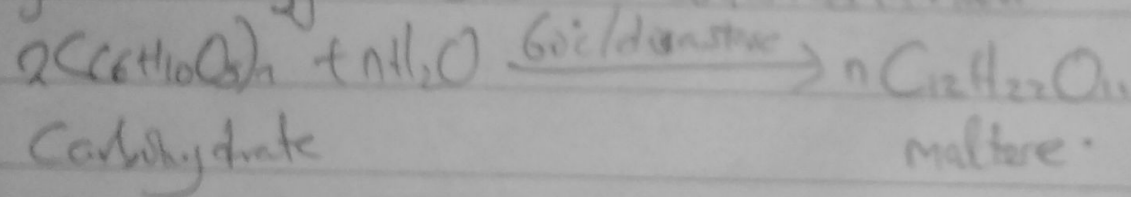
① Based on the number of hydrogen atoms attached to the carbon atoms containing the hydroxyl group ^{atom} & the number of hydrogens attached to the carbon atom bearing the hydroxyl group are three or two, it is called primary alcohol, if it's one, it is called secondary alcohol and if no hydrogen ~~atom~~ is attached to the carbon atom, it is called tertiary alcohol.
Examples: methanol, propan-2-ol and dimethylpropan-2-ol.

② Based on the number of hydroxyl groups they possess. Monohydric alcohols possess one hydroxyl group, dihydric alcohols or ^{glycol} possess two hydroxyl groups and while trihydric alcohols or ~~trihydric~~ triols have three hydroxyl groups present in the structure of the alcohol.
Examples are propanol, ethane-1,2-diol, propane-1,2,3-triol.

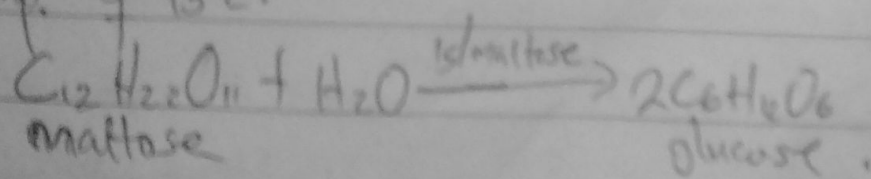
③ Lower alcohols with up to three carbon atoms in their molecules are soluble in water because the lower alcohols can form hydrogen bonds with water molecules. The water solubility of alcohols

decreases with increasing relative molecular mass. 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.

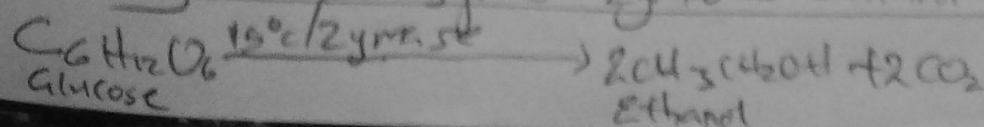
③ Carbohydrates such as starch are major group of natural compounds that can be made to yield ethanol by the biological process of fermentation. The biological catalyst, enzymes found in yeast break down the carbohydrate molecules in ethanol to give a yield of 95%. The starch containing materials on warming with malt ^{to} for specific period of time are converted into maltose by the enzyme diastase contained in malt.

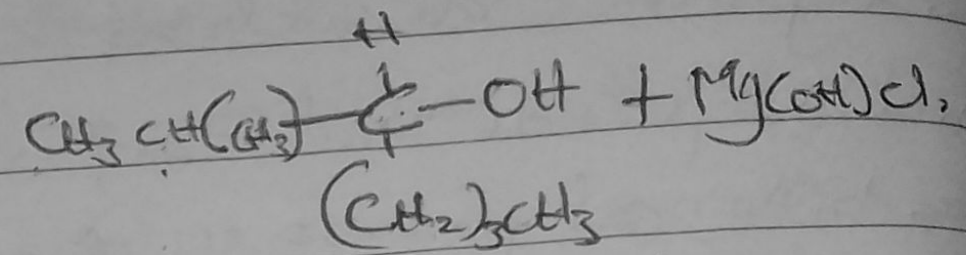
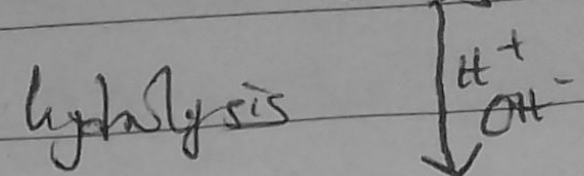
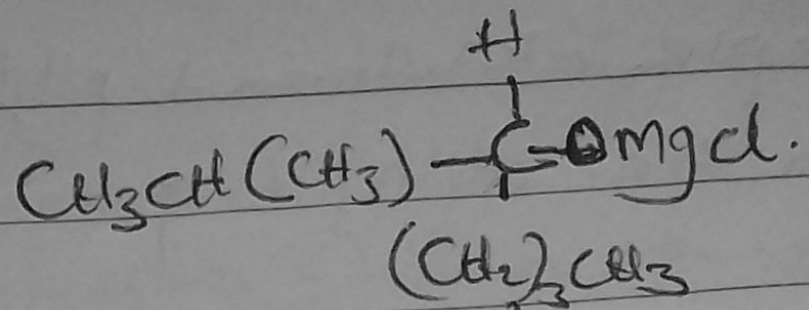
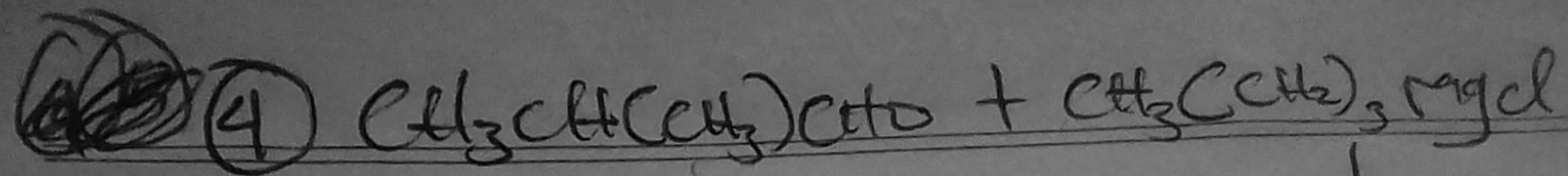


The maltose is broken down into glucose on addition of yeast which contains the enzyme maltase and at a temp. of 15°C.

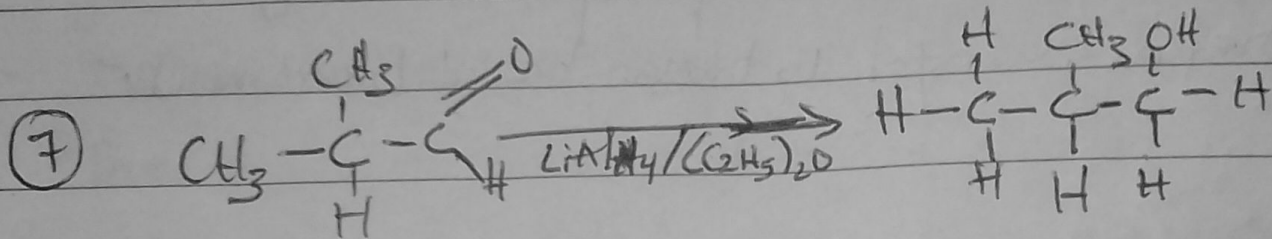


The glucose at constant temp of 15°C is then converted into alcohol by the enzyme zymase contained in yeast.

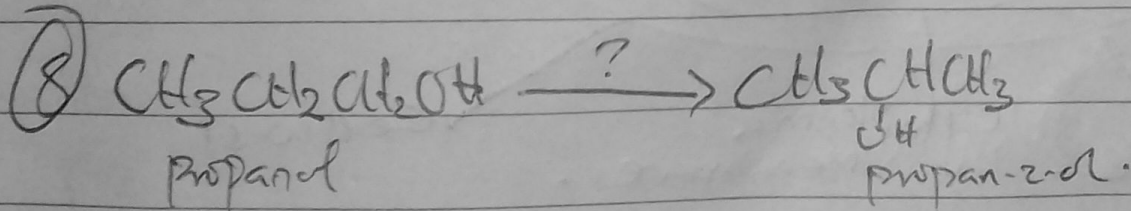
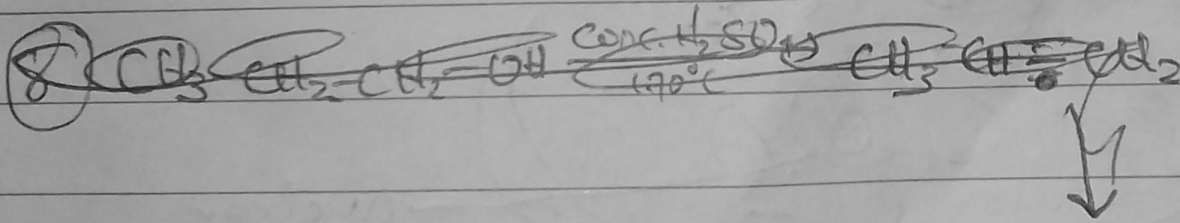




(2-methyl heptan-3-ol)



2-methylpropanol



Dehydrate propanol by using conc. H_2SO_4 ,

