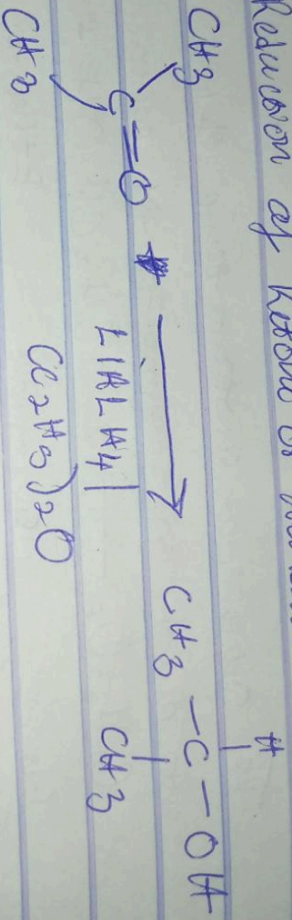
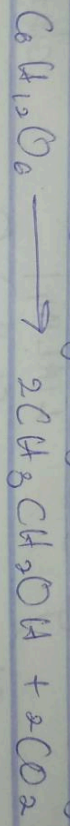


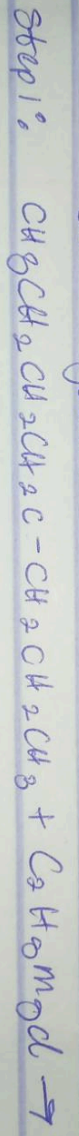
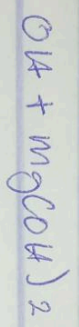
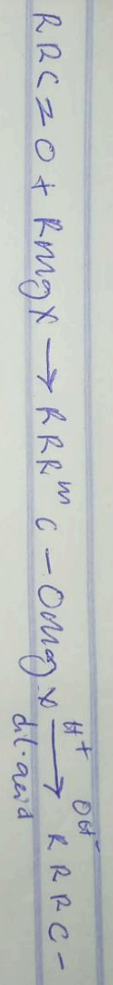
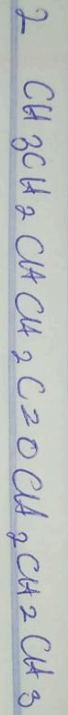
Reduction of ketone or Alkyl ketone



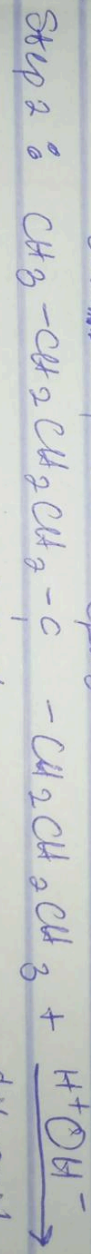
The glucose at constant temp of 15°C is converted into alcohol by enzyme zymase contained in yeast.



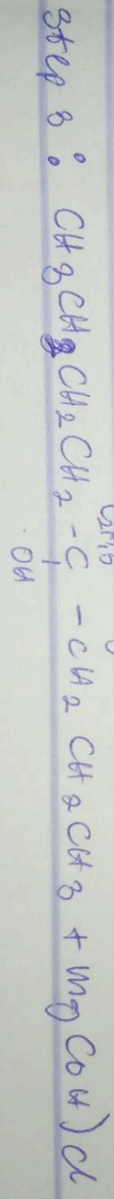
Glucose 15% | zymase Ethanol



Octane - 4th one C_2H_5

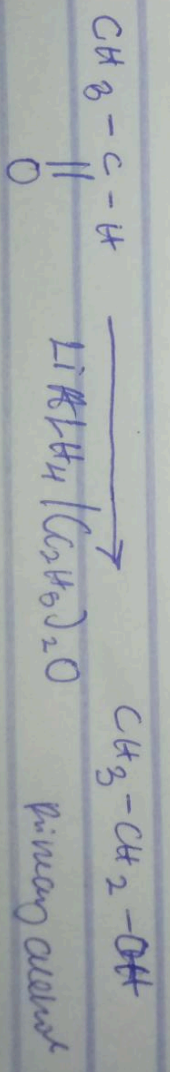


C_2H_5 $OMgCl$



2nd tert-butyl octan - 4th - OH

4 Reduction of Aldehyde or Alkaneol

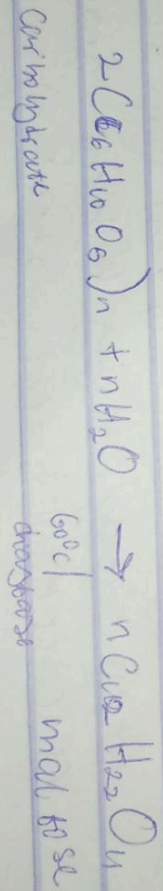


(i) Triols or trihydric alcohols have three hydroxyl groups present in the structure of the alcohol e.g.

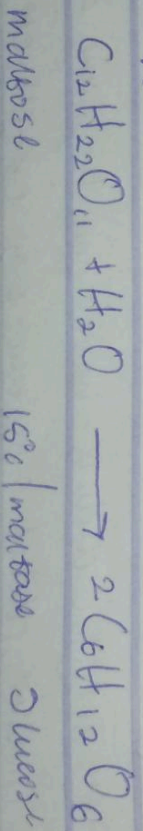
$$\text{C}_2\text{H}_4(\text{OH})_2 \text{ or } \text{C}_3\text{H}_8(\text{OH})_3 \text{ or } \text{C}_4\text{H}_{10}(\text{OH})_4$$

3 Industrial Manufacture of Ethanol
Carbohydrates such as starch can be used to

yield ethanol through fermentation. The microorganism carrying the enzymes found in yeast breaks down the carbohydrate molecule in ethanol to give a yield of 96%. The carbohydrates are cooked with malt at 60°C for a specific time and are converted into maltose by the diastase in the malt.



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



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Answers

1 classification of Alkanols / Alcohols

(A) They can be classified based on the number of hydrogen atoms attached to the hydroxyl group.

example

(i) Primary alcohol: they have two or three hydrogen atoms attached to the hydroxyl group. e.g. CH_3OH - methanol (C°)

(ii) Secondary alcohol: they have only one hydrogen atom attached to the hydroxyl group. e.g. $\text{CH}_3\text{CH}(\text{OH})\text{CH}_3$ - propan-2-ol (C°).

(B) They can be classified based on the number of hydroxyl groups they possess.

(i) Monohydric alcohols have one hydroxyl group present in their alcohol structure e.g. $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ - propanol