

Pg 1

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19/174501/086

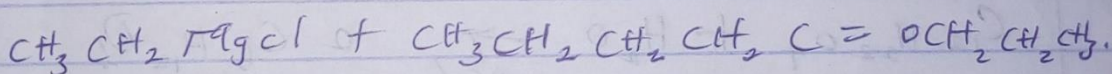
Matric No: 19/174501/086

Department: MBB5

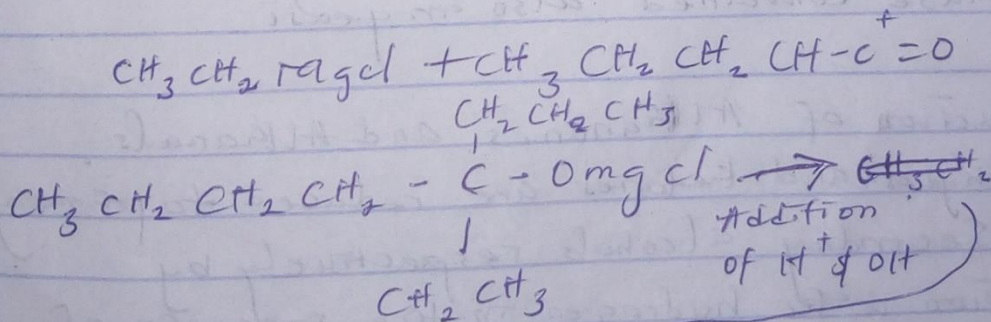
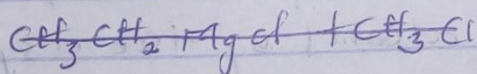
1 ~~Primary Alkano~~ Classifying alkanols is based on the number of hydrogen atom attached to the carbon carrying (OH) functional group.

In primary alcohol the hydroxyl group is attached to a primary (terminal) carbon atom in the molecule. It is characterized by $-\text{CH}_2\text{OH}$ examples are CH_3OH methanol, $\text{CH}_3\text{CH}_2\text{OH}$ Ethanol.

In secondary alcohol the OH group is on a secondary carbon atom. Characterized by $\text{CH}(\text{OH})$
 $\text{CH}_3\text{CH}(\text{OH})\text{CH}_3$ propan-2-ol
 $(\text{CH}_3)_2\text{C}-\text{OH}$ 2-methyl propan-2-ol.

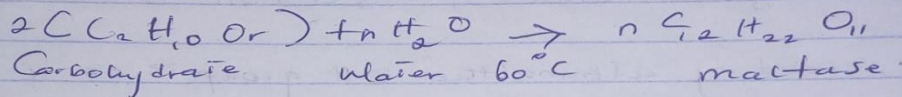


Magnesium
~~CH₃CH₂~~ dichloride.

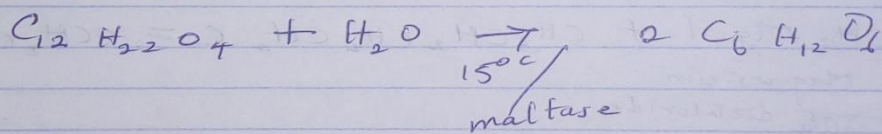


3 Industrial preparation of Ethanol:

Carbohydrate such as starch are major group of natural compounds that can be made to yield ethanol by the biological process of fermentation. The biological catalysis found in yeast break down the carbohydrate molecules into ethanol to give a yield of 95%. The starch containing materials include molasses, potatoes, cereals, rice and on warming with malt to 60°C for specific 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 and at a temperature of 15°C



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

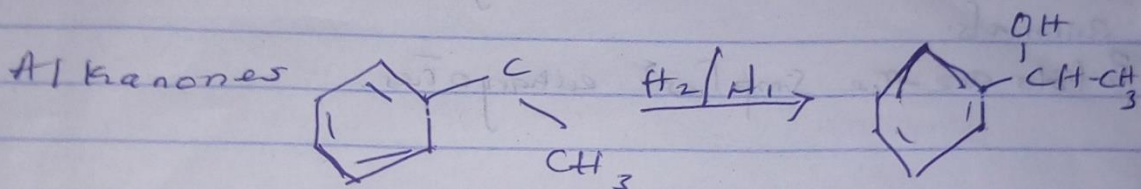
Reduction of Alkanones and Alkanals

Aldehydes and ketones are reduced to primary and secondary alcohols respectively by reaction with hydrogen in the presence of platinum or nickel catalyst or with aluminium isopropoxide ~~the reagent~~ or with complex metal hydride such as titanium tetra

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tetrahydroaluminate (III) LiAlH_4 or
Sodium tetrahydride borate (III) NaBH_4 .

Examples:



Alkanals

