

Name: LSE - EJAKPOVI UYOYOGHENE

MATRIC NO: 19/MH501/159

COURSE CODE: CHM 102 ASSIGNMENT

DEPARTMENT: MBBS (100 Level).

1. The two major classification of alkanols include:

i. It is based on the number of hydrogen atoms attached to the  $-OH$  functional group. i.e. when two or ~~more~~<sup>three</sup> hydrogen atoms are attached to an  $-OH$  group, it is a primary alcohol, and when only one hydrogen is attached to an  $-OH$  group, it is a secondary alcohol, and when no hydrogen atom is attached to the  $-OH$  functional group, it is a tertiary alcohol.

Examples:

(a)  $CH_3CH_2OH$  ( $1^\circ$ : primary alcohol).  
Ethanol

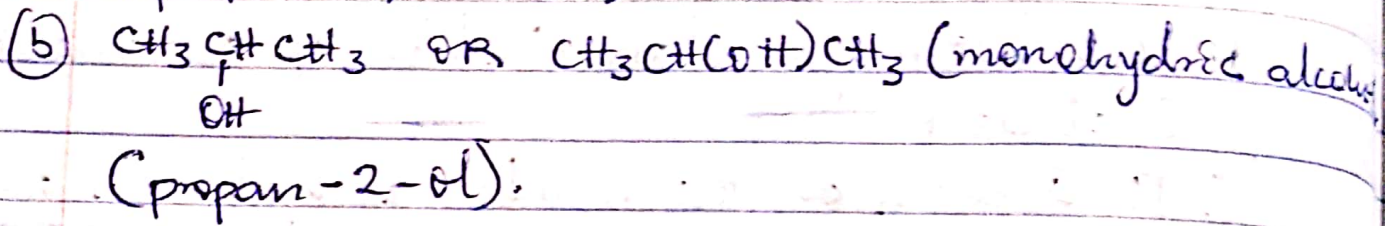
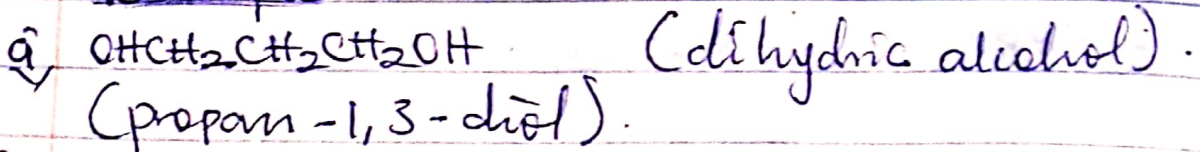
(b)  $(CH_3)_3COH$  (Tertiary alcohol).  
Butanol.

ii. It is based on the number of  $-OH$  functional group. i.e. if 2  $-OH$  groups are present, it is known as a dihydric alcohol, diol or a glycol, if 3  $-OH$  groups are present, it is known as a trihydric alcohol or triol. 1  $-OH$ , is called a monohydric alcohol. More than 3  $-OH$

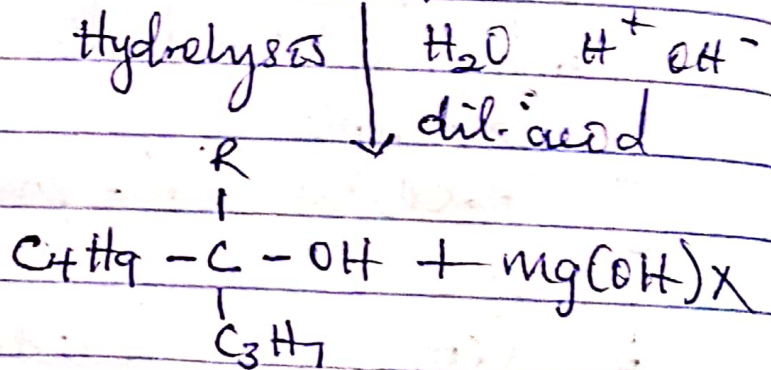
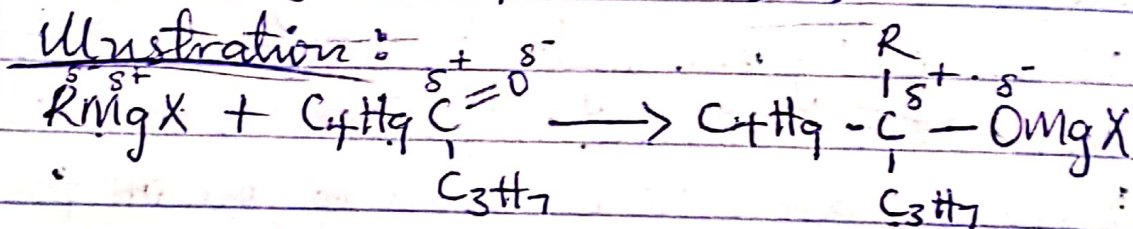


group, is known as a polyhydric alcohol or polyol.

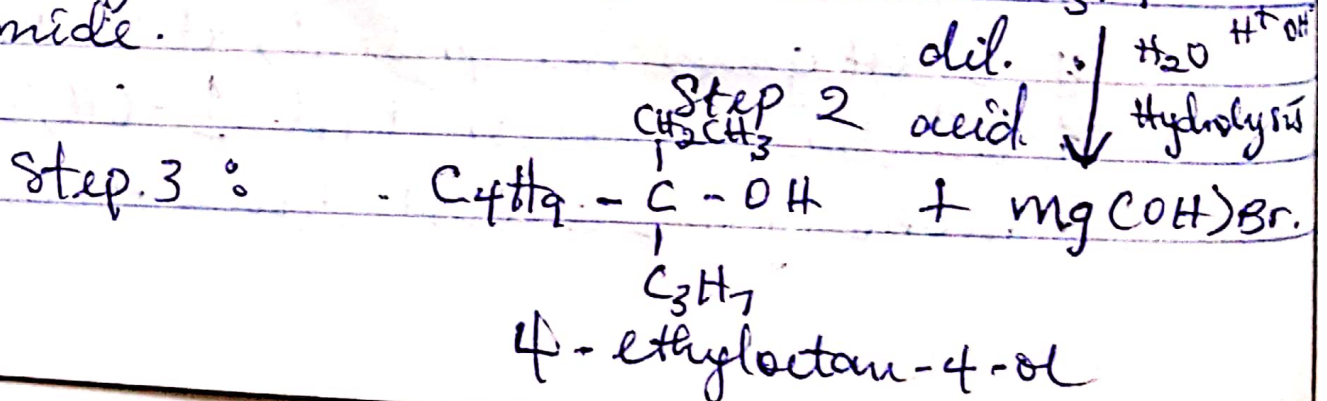
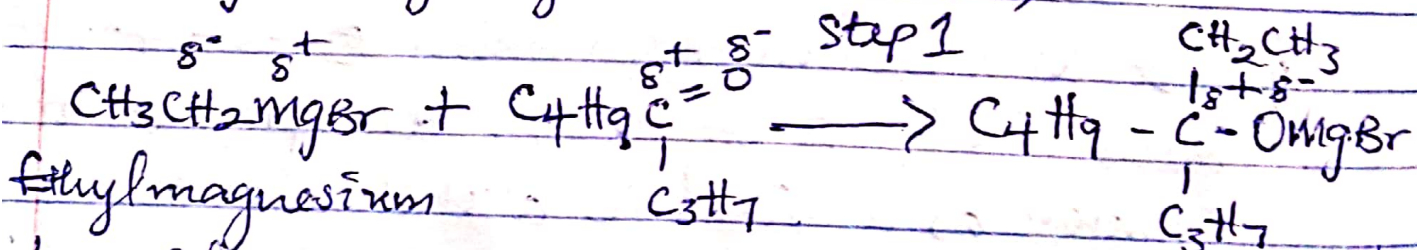
Examples:



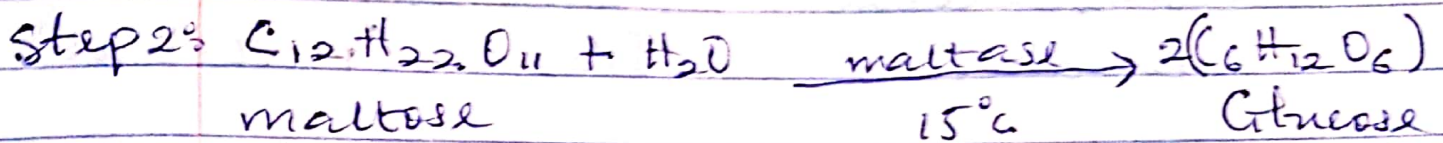
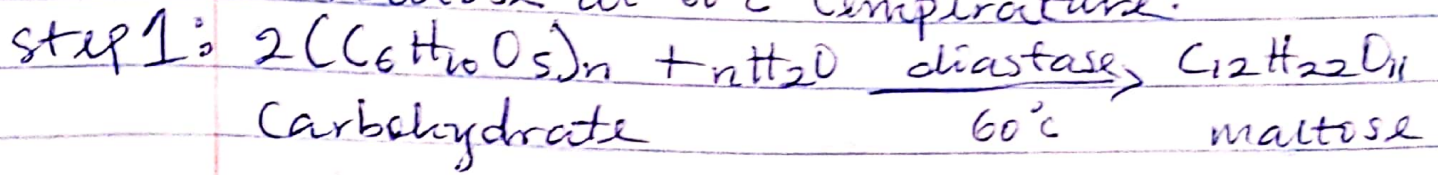
2) A named grignard reagent with  $\text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_2\text{CH}_3$ . ( $\text{C}_4\text{H}_9\text{C}=\text{O}\text{C}_3\text{H}_7$ ).



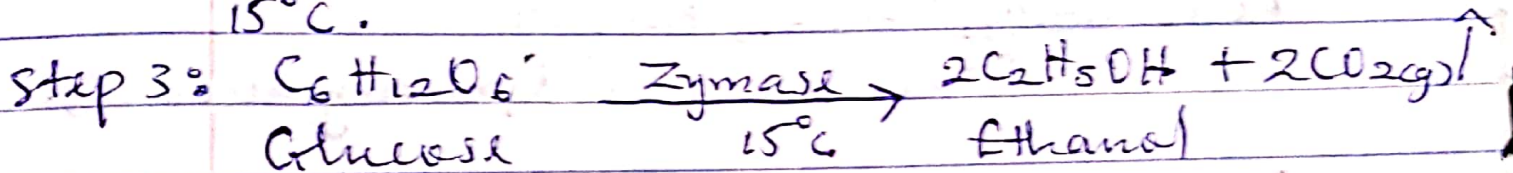
Using ethylmagnesium bromide,



(3) Using diastase, an enzyme gotten from malt, is used to break down carbohydrate (starch) to maltose at 60°C temperature.



maltase, is used to break down maltose, using water into glucose, at a temperature of 15°C.

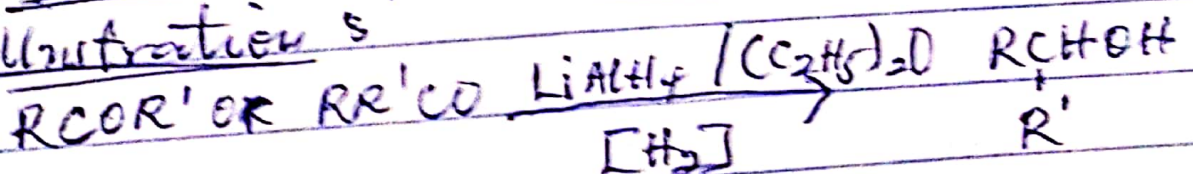


Zymase, is used to break down glucose into ethanol and carbon (iv) oxide gas at a temperature of 15°C.

(4) Reduction of Alkaneone (Ketone), the product formed is Secondary alcohol, while the reduction of alkaneal (aldehyde) is primary alcohol.

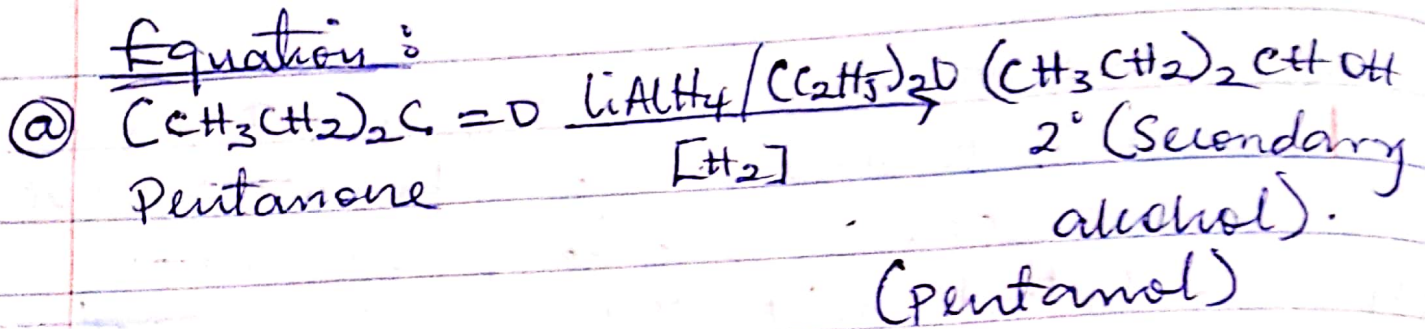
i. Reduction of alkaneone.

Illustration's

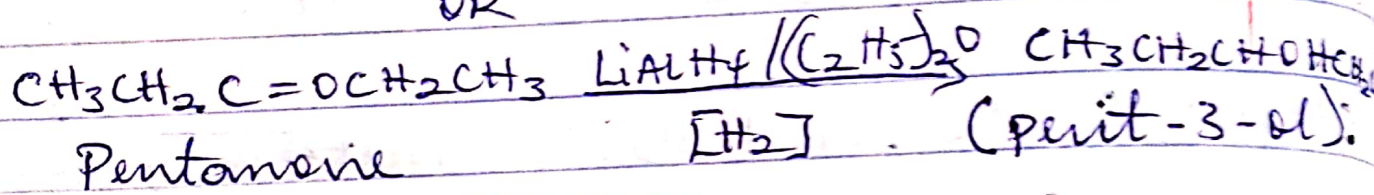




Equation:

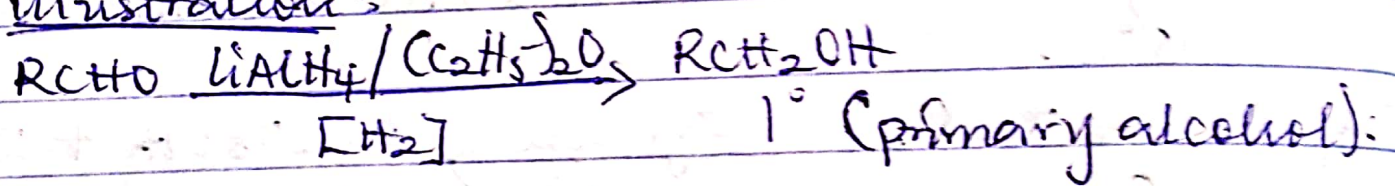


OR



(ii) Reduction of alkanal:

Illustration:



Equation:

