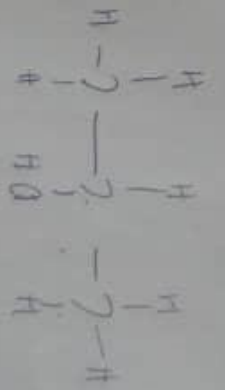


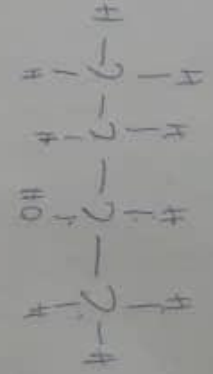
Secondary alcohols: In a secondary (2°) alcohol

The carbon atom with the -OH group attached is joined directly to two alkyl groups, which may be the same or different. Examples include,

Propan-2-ol

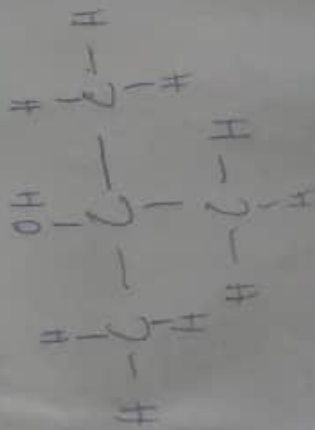


butan-2-ol

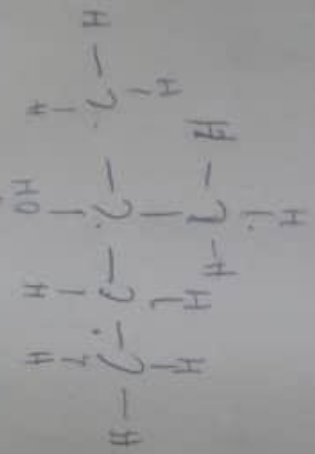


Tertiary alcohols: In a tertiary (3°) alcohol, the carbon atom holding the -OH group is attached directly to three alkyl groups which may be any combination of the same or different groups. Examples of tertiary alcohols are given below:

2-methylpropan-2-ol



2-methylbutan-2-ol

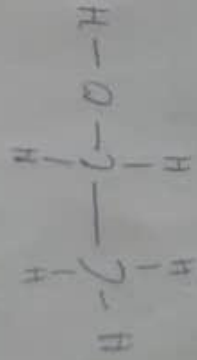


Question 1

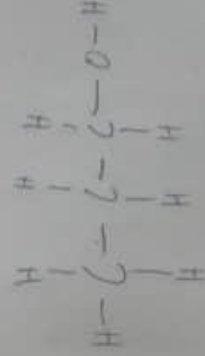
CLASSIFICATION OF ALCOHOLS

Based on position of -OH group

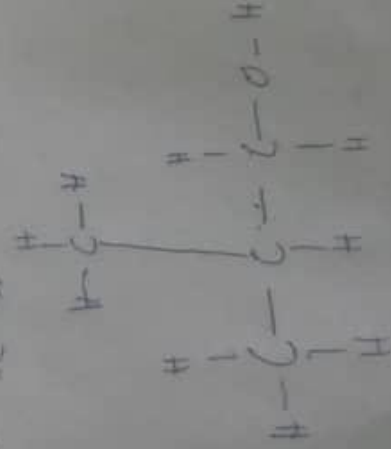
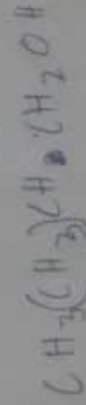
Primary alcohols - In primary (1°) alcohol, the carbon atom that carries the -OH group is only attached to one alkyl group. Some examples of primary alcohols are shown below.



ethanol



Propan-1-ol



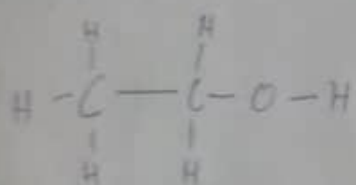
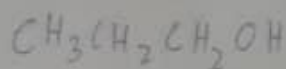
2-methylpropan-1-ol

Question 1

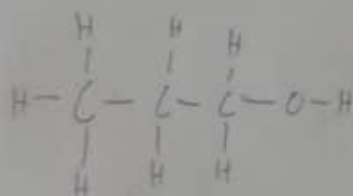
CLASSIFICATION OF Alkanols

Based on position of -OH group

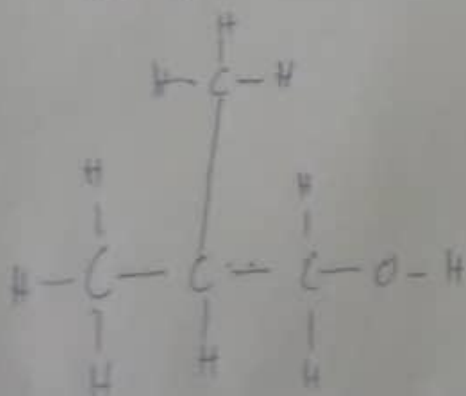
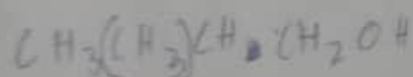
Primary alcohols - In primary (1°) alcohol, the carbon atom that carries the -OH group is only attached to one alkyl group. Some examples of primary alcohols are shown below.



ethanol



Propan-1-ol



2-methyl Propan-1-ol

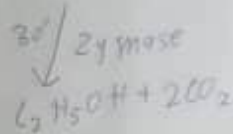
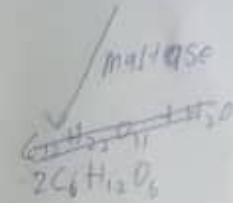
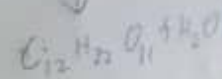
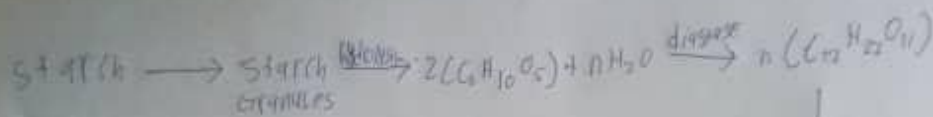
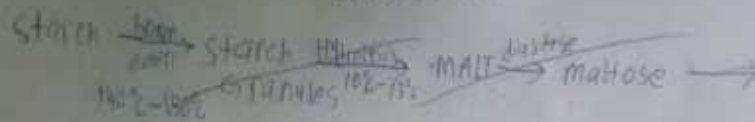
Yusuf Imran Hassan

Pharmacy

19/ MASH/151

CHM 101

Question 3



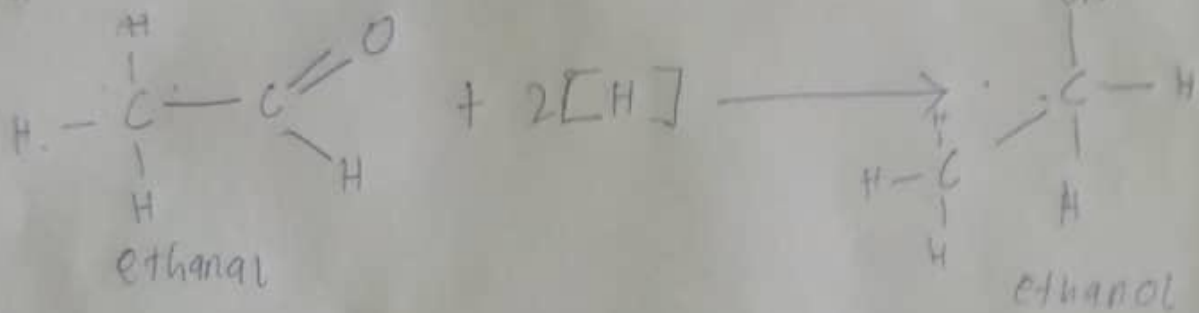
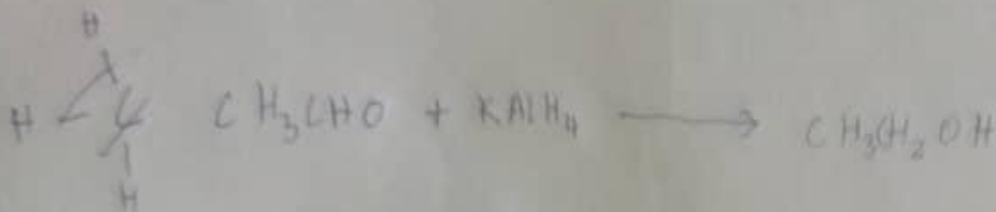
In the industrial preparation of ethanol through fermentation, first starch is ~~then~~ crushed into starch granules to speed up the fermentation process next it is hydrolysed at 10-13°C for a few days to give malt and then malt is acted upon by diastase to ~~that~~ maltose which is acted on by maltase to give glucose which is acted on by zymase to give ethanol and carbon dioxide. All enzymes are kept under 30°C for optimum results.

ETHANE

Question 4

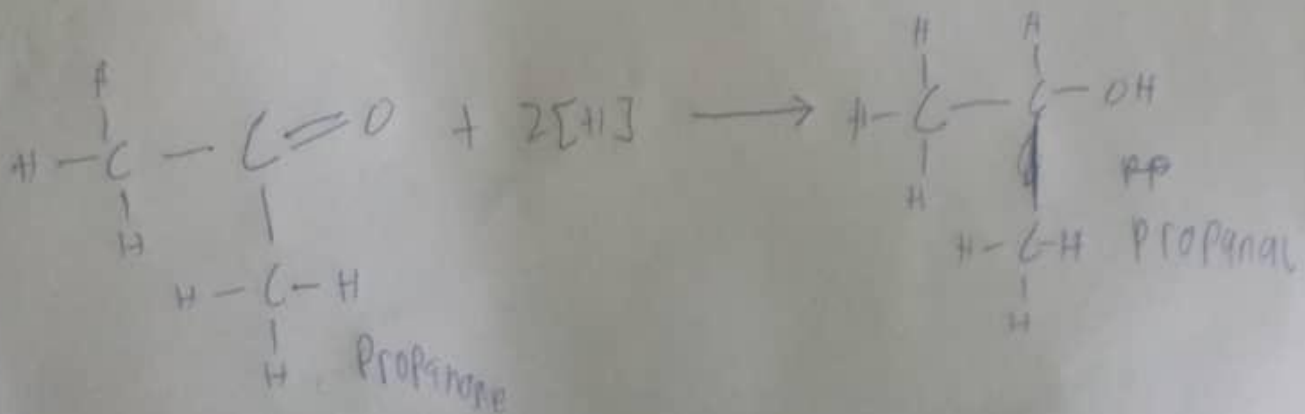
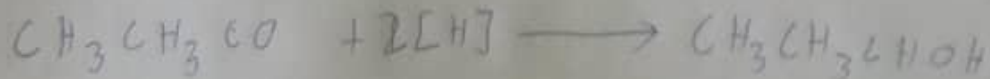
Alkanal

ethanal + potassiumtetrahydridoaluminate(III) \rightarrow ethanol



Alkanone

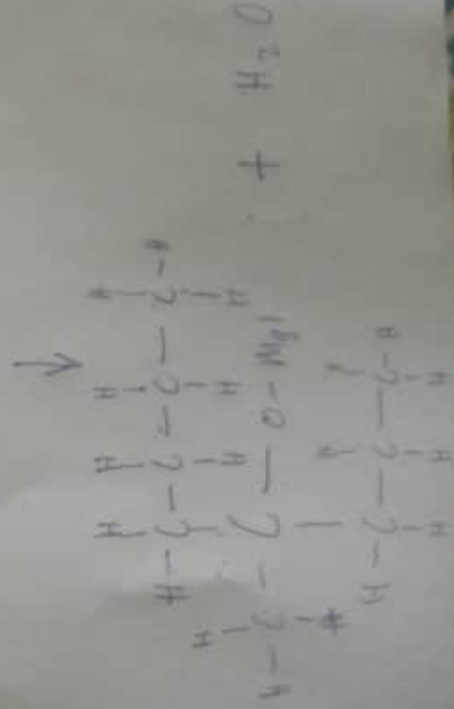
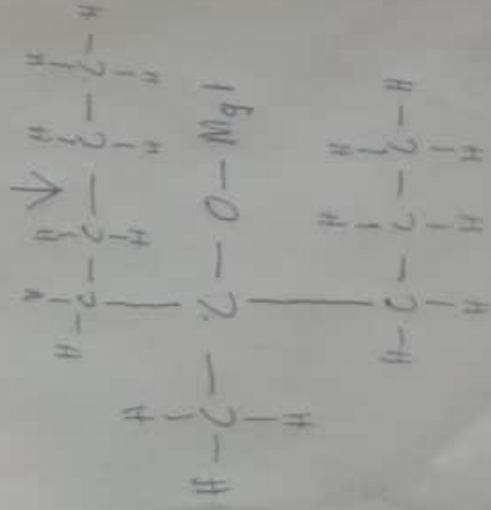
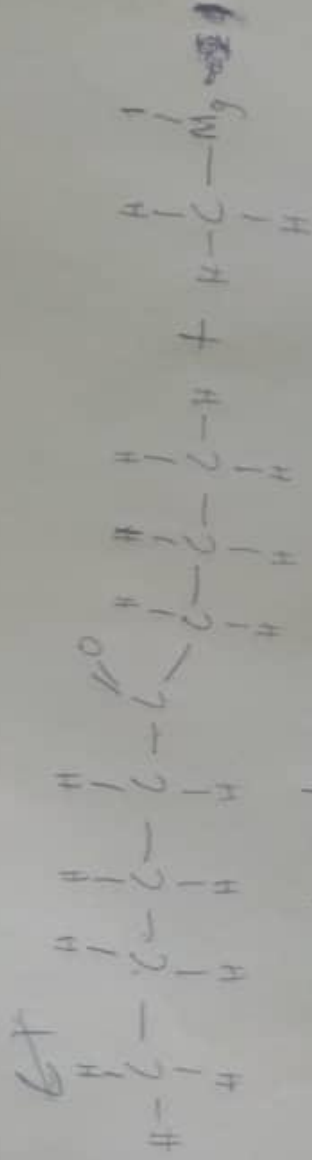
propanone + 2[H] \rightarrow propanal



QUESTION 2



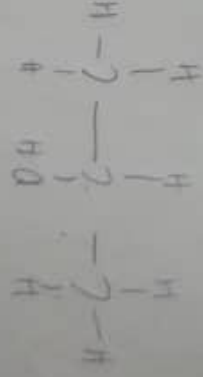
methyl magnesium iodide



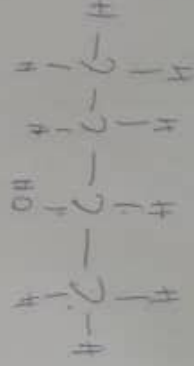
Secondary alcohols: In a secondary (2°) alcohol

The carbon atom with the -OH group attached is joined directly to two alkyl groups, which may be the same or different. Examples include,

Propan-2-ol

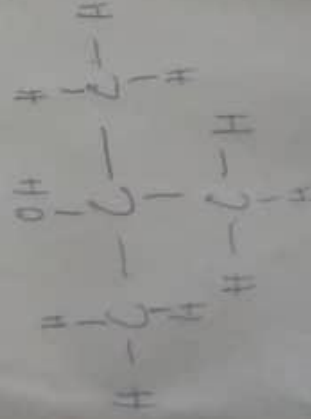


butan-2-ol

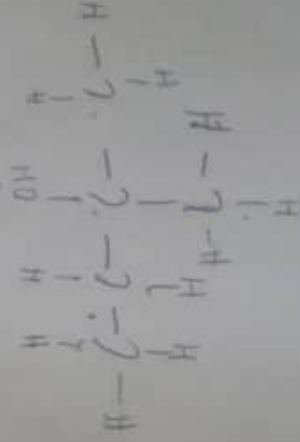


Tertiary alcohols: In a tertiary (3°) alcohol, the carbon atom holding the -OH group is attached directly to three alkyl groups which may be any combination of the same or different groups. Examples of tertiary alcohols are given below.

2-methylpropan-2-ol

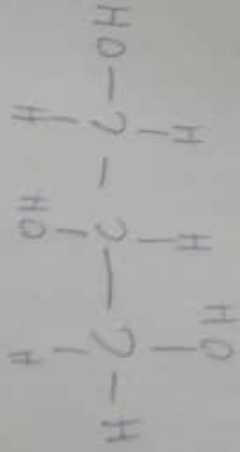


2-methylbutan-2-ol

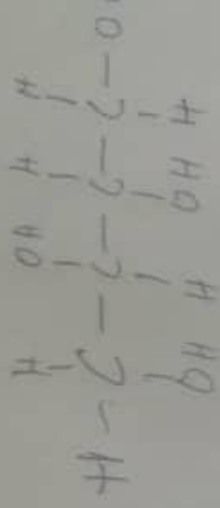


polyhydric alcohol - These are alcohols containing two or more -OH functional groups in its structure. examples are

Propan - 1, 2, 3 - triol



Butan - 1, 2, 3, 4 - Tetra

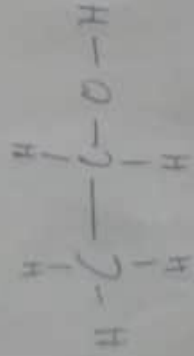
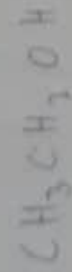


QUESTION 1

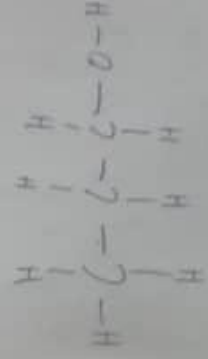
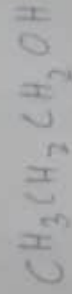
CLASSIFICATION OF ALCOHOLS

Based on position of -OH group

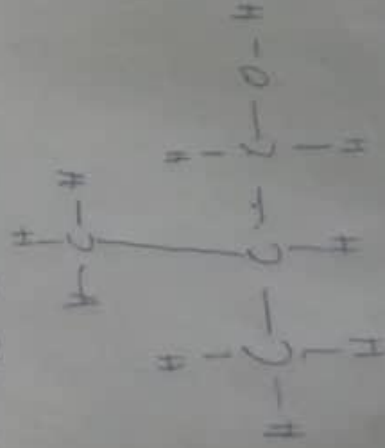
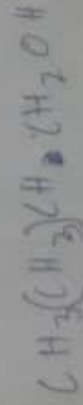
Primary alcohols → In primary (1°) alcohol, the carbon atom that carries the -OH group is only attached to one alkyl group. Some examples of primary alcohols are shown below.



ethanol



Propan-1-ol

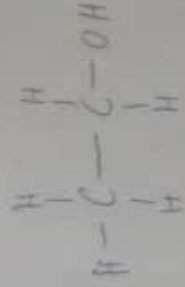
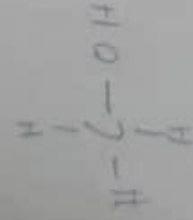


2-methyl Propan-1-ol

Classification based on number of -OH groups

Monohydric alcohol - These alcohols possess contain one -OH functional group in its structure. Examples include

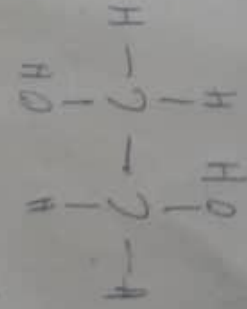
Methanol, ethanol



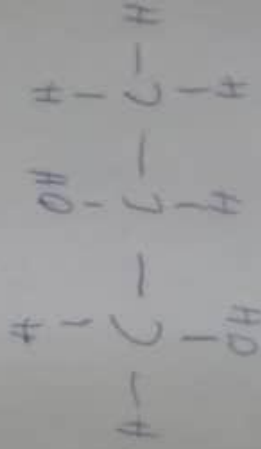
Dihydric alcohol - These alcohols contain two -OH functional groups in its structure and its position does not matter for example

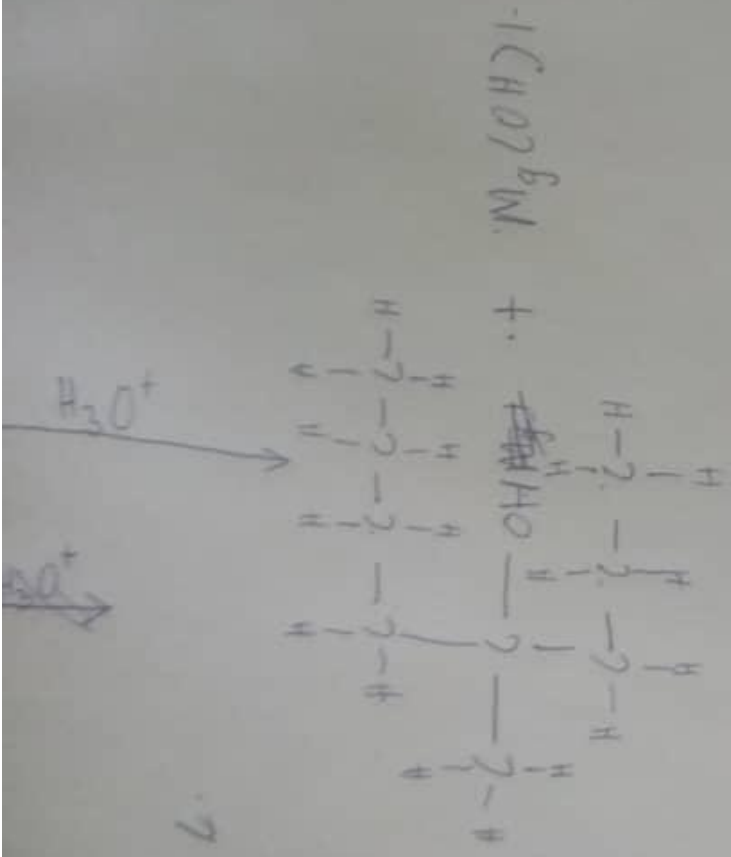
~~1,2-Ethandiol~~

Ethan-1,2-diol



Propan-1,2,3-triol





Note: ignoring the fact that $\text{Mg}(\text{OH})_2$ will react with the acid further.