

NAME: JIDEFOA CHISOMI GLORIA

MATRIC NO: 191MHS01/219

DEPARTMENT: MBBS

① → Primary alcohols - In a primary alcohol the carbon which carries the -OH group is only attached to the one alkyl group. In each case there is only one linkage to an alkyl group from the CH₂ group holding the -OH group.

Example ethanol - CH₃-CH₂-OH

Propan-1-ol - CH₃-CH₂-OH

2-methylpropan-1-ol - CH₃- $\underset{\text{CH}_3}{\text{CH}}$ -CH₂-OH

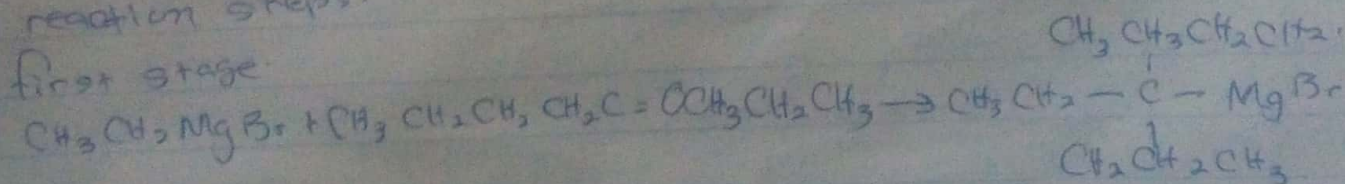
② Secondary alcohols - In a secondary alcohol, the carbon with the -OH group attached is joined directly to two alkyl groups which may be the same or different. Examples:

propan-2-ol - CH₃- $\underset{\text{OH}}{\text{CH}}$ -CH₃

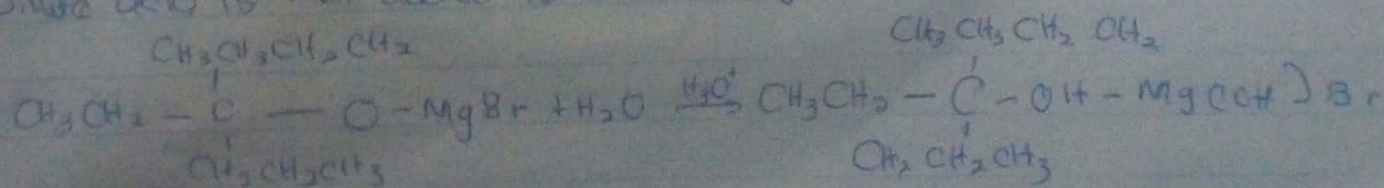
butan-2-ol - CH₃- $\underset{\text{OH}}{\text{CH}}$ -CH₂-CH₃

pentan-3-ol - CH₃-CH₂- $\underset{\text{OH}}{\text{CH}}$ -CH₂-CH₃

③ In the Grignard synthesis of alkanols, react a name Grignard reagent with CH₃CH₂CH₂CH₂C=OCH₃CH₂CH₃. Show the reaction steps.



Dilute acid is then added to this to hydrolyse it.

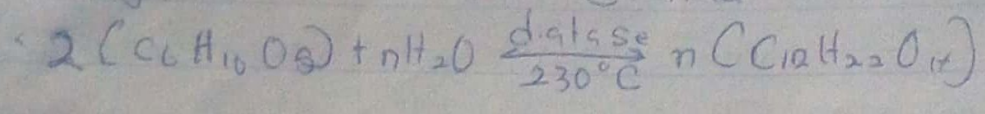


An alcohol is formed. The key use of Grignard reagent is the ability to make complicated alcohol easily.

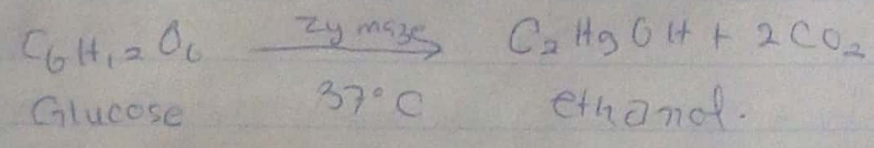
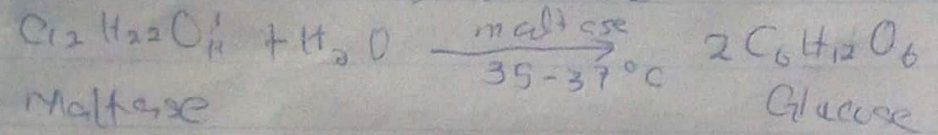
3) industrial manufacture of ethanol showing all reaction eqns and necessary enzymes and temperature of reaction.

1) The potato is crushed and steamed at 1400°C to 1500°C pressure to prepare starch solution.

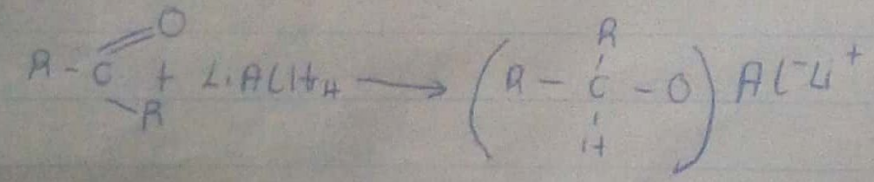
2) Hydrolysis of starch - starch is hydrolysed to maltose by an enzyme known as diastase



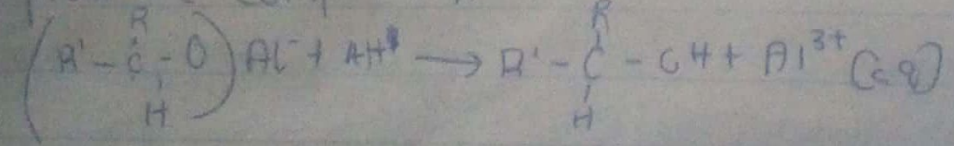
3) Fermentation - Yeast is added to maltose



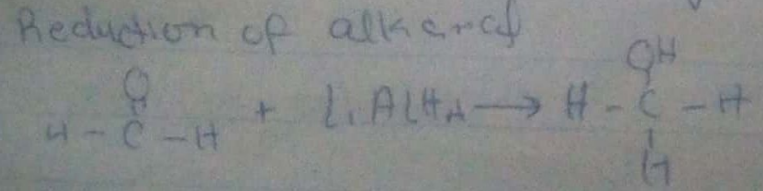
4) Reduction of alkanone by using reducing agents - lithium tri-tert-butoxyaluminum hydride and sodium tetrahydridoborate



The product is then treated with dilute HCl to release the alcohol from the complex.



which leads to a secondary alcohol



which leads to give primary alcohol.