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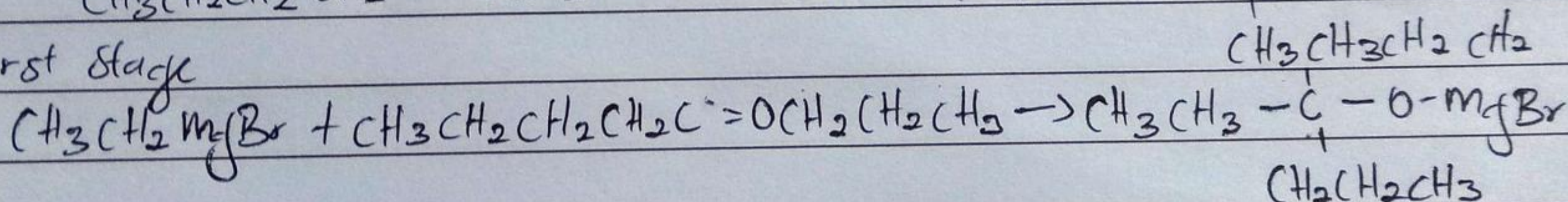
1) Primary Alkanol :- the hydroxyl group is attached to a primary carbon atom in the molecule. It is characterised by  $-CH_2OH$ . Examples are:-  
i)  $CH_3OH$  methanol ii)  $CH_3CH_2OH$  ethanol.

b) Secondary Alkanol :- the  $-OH$  group is on a secondary carbon atom, characterised by  $\Rightarrow CHOH$ . Examples are: i)  $[CH_3]_2C-OH$  2-methylpropan-2-ol. ii)  $CH_3CH(OH)CH_3$  Propan-2-ol.

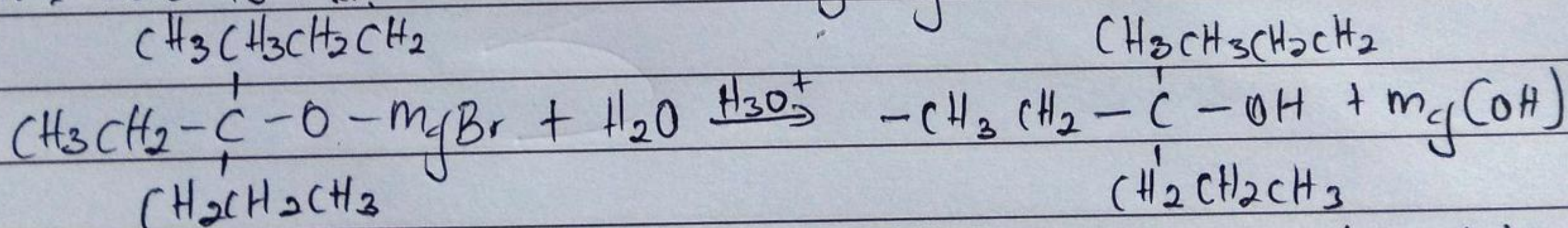
2) In the Grignard synthesis of Alkanols, react a named Grignard reagent with

$CH_3CH_2CH_2CH_2C=OCH_2CH_2CH_3$ . Show the reaction steps.

First stage



Dilute acid is then added to this to hydrolyse it



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

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# Celebration Of Life

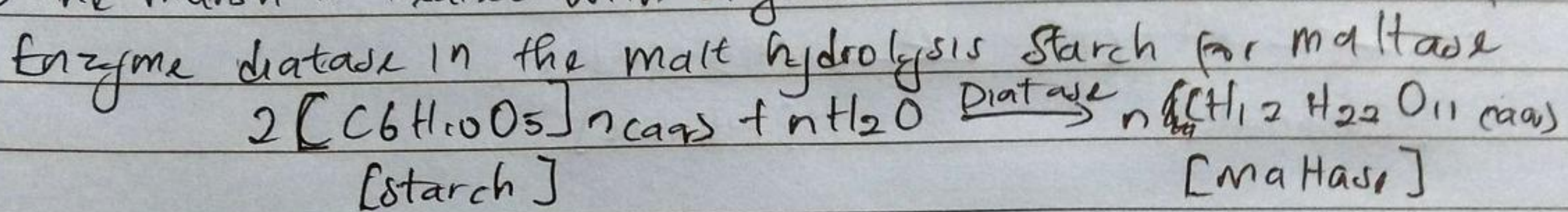
MADAM OMOTESIRI  
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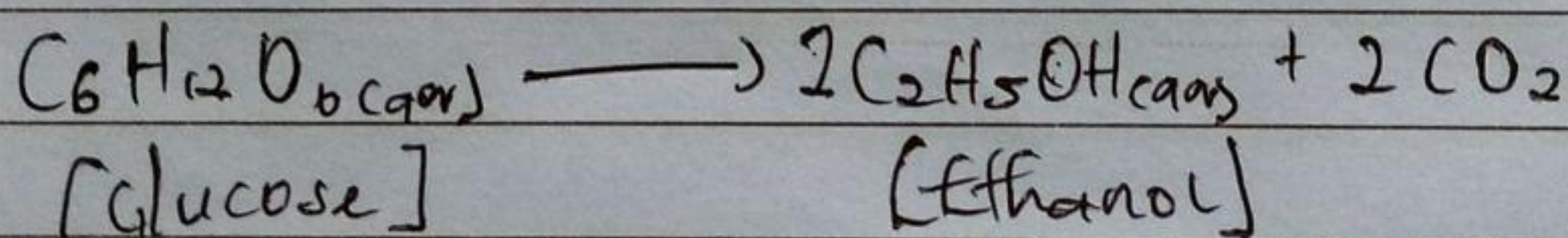
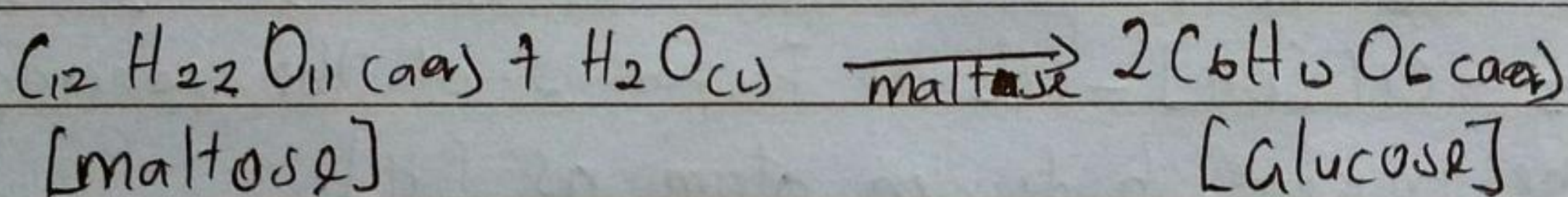
3) Industrial Preparation of Ethanol :: This can be done by the fermentation of molasses.  
a) The starch containing crop, such as cassava, is peeled, crushed and steam-heated or pressure-cooked to release water to obtain a mash.

b) The mash is treated with yeast and warmed at 30°C for 2 hours.



c) Yeast containing enzymes maltase and zymase is added to mixture and kept at room temperature [about 27°C] for about three days.

During this period, enzyme zymase ferments glucose to ethanol with the evolution of carbon dioxide. The reaction is exothermic.



The mixture is distilled to obtain 95% ethanol that boils at 78°C.

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