

Adoramose & Getola Division
 19/MMS 01/018
 MMS/MMS 105
 CHM 102

100 LEVEL

- 1) Give the IUPAC names to the following organic compounds.
- 2) CH_3OCH_2 → Dimethyl ether
 - 3) $\text{CH}_3\text{CH}_2\text{COCH}_2\text{CH}_3$ → Pentan-3-one
 - 4) $(\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2)_2\text{O}$ → Dodecyl ether
 - 5) $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$ → Ethoxyethane
 - 6) $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_2\text{CH}_3$ → Ethoxypropane

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2) Draw the structure of $\text{C}_4\text{H}_{10}\text{O}$
Alcohol

- 1) Ethanol: $\text{CH}_3\text{CH}_2\text{OH}$
- 2) Propan-1-ol: $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$
- 3) Propan-2-ol: $\text{CH}_3\text{CH}(\text{OH})\text{CH}_3$
- 4) Butan-1-ol: $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$
- 5) Butan-2-ol: $\text{CH}_3\text{CH}_2\text{CH}(\text{OH})\text{CH}_3$

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Aldehyde

- 1) Ethanal: CH_3CHO
- 2) Propanal: $\text{CH}_3\text{CH}_2\text{CHO}$
- 3) Butanal: $\text{CH}_3\text{CH}_2\text{CH}_2\text{CHO}$

3) Draw structure for alcohol of primary class and secondary class.

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4) Preparation of ethyl alcohol by hydration of ethene

In the presence of phosphoric acid, ethene undergoes hydration to form ethyl alcohol. The reaction is as follows:

$$\text{C}_2\text{H}_4 + \text{H}_2\text{O} \xrightarrow{\text{H}_3\text{PO}_4} \text{C}_2\text{H}_5\text{OH}$$


3] Preparation of ethers by Williamson synthesis

Williamson synthesis is a preferred method for the preparation of symmetrical and unsymmetrical ethers. In this method, an alkyl halide is reacted with sodium alkoxide which leads to the formation of ether. The reaction generally follows the S_N2 mechanism for primary alkyl halide.



Since ether alkoxide are strong bases and can react with alkyl halide leading to elimination reaction.

4] State uses of ethylene oxide (4)

- i] Used to Make Antiseptics
- ii] Used as a fumigant & Pesticides
- iii] Used as a Sterilization agents for medical equipment