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Dept: MBBS/MHS

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1) Give the IUPAC names of the following organic compounds

i) $\text{CH}_3\text{OCH}_3 \longrightarrow$ Methoxymethane

ii) $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3 \longrightarrow$ Ethoxyethane

iii) $(\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2)_2\text{O} \longrightarrow$ Butyl ether (Butoxymethane)

iv) $\text{CH}_3\text{CH}_2\text{OCH}_3 \longrightarrow$ Ethyl methyl ether (methoxyethane)

v) $\text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_3 \longrightarrow$ Ethyl propyl ether (ethoxypropane)

2) Discuss the properties of ethers

1) At room temperature, ethers are colourless, neutral liquids with pleasant odours.

2) Ethers are less soluble in water than are the corresponding alcohols

3) Most of the simple ethers are less dense than water, although the density increases with increasing relative molecular mass and some of the aromatic ethers are in fact denser than water.

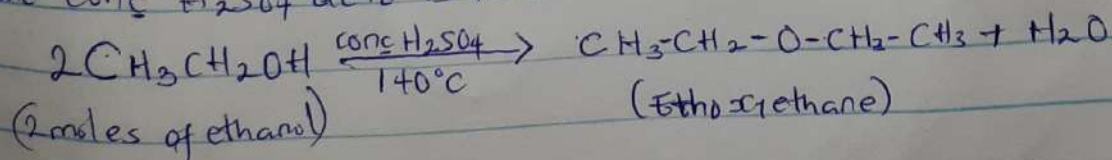
4) Low molecular mass ethers have a lower boiling point than the corresponding alcohols.

5) Ethers are inert at moderate temperature this lead to their wide use as reaction media.

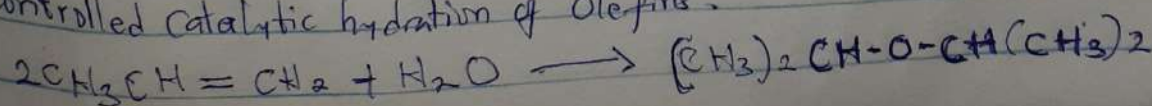
3) Discuss explicitly two methods of preparing ethers and show equation of reaction

i) Partial dehydration of alcohols

Simple ethers are manufactured from alcohols by catalytic dehydration. and conc H_2SO_4 acid is heated at a constant temperature of 140°C .



ii) Controlled catalytic hydration of Olefins.



4) state three uses of ethylene oxide.

- 1) Ethylene oxide is used as an intermediate in the hydrolytic manufacture of ethylene glycol.
- 2) Ethylene oxide is used in the preparation of nonionic emulsifying agents, plastics, plasticizers etc.
- 3) Ethylene oxide is used as a gaseous sterilizing agent.