

Assignment

1. Give IUPAC names

- i. $\text{CH}_3\text{OCH}_3 \rightarrow$ Methoxy methane (di-methyl ether).
- ii. $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3 \rightarrow$ Ethoxy ethane (di-ethyl ether)
- iii. $(\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2)_2\text{O} \rightarrow$ Butoxy butane (di-butyl ether).
- iv. $\text{CH}_3\text{CH}_2\text{OCH}_3 \rightarrow$ Methoxy ethane.
- v. $\text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_3 \rightarrow$ Ethoxy propane.

2. Discuss the properties of ethers.

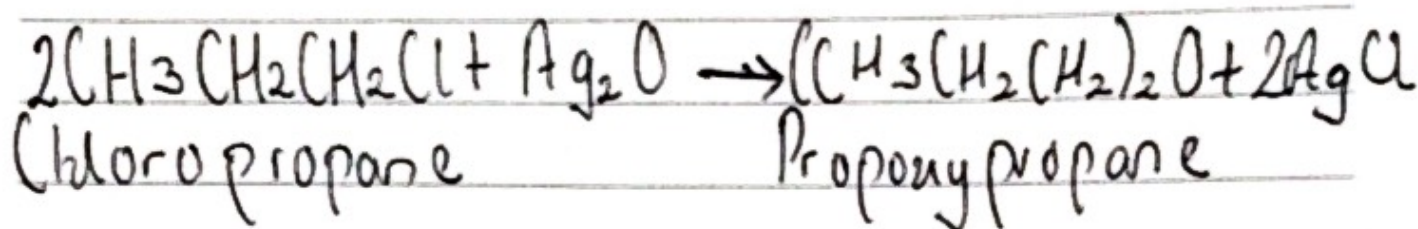
a. Physical Properties

- i. Density \rightarrow most of the simple ethers are less dense than water, although density increases with increasing relative molecular mass.
 - ii. Physical state \rightarrow at room temperature, ethers are colourless, neutral liquids with pleasant odours.
 - iii. Solubility: Ethers are less soluble in water than the corresponding alcohols. Lower molecular weight ethers such as methoxyethane and methoxy.
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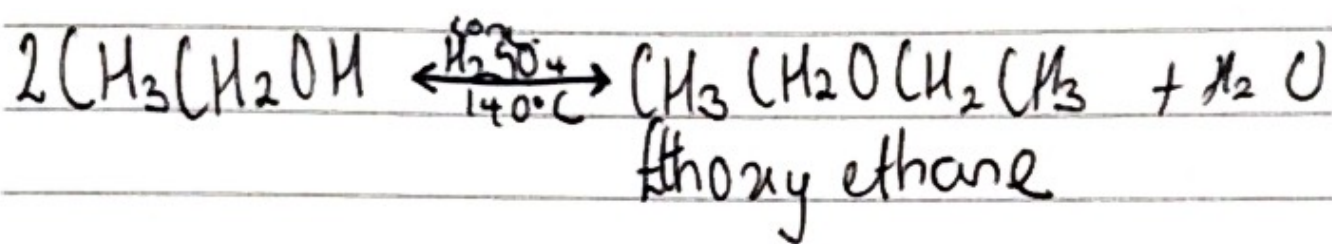
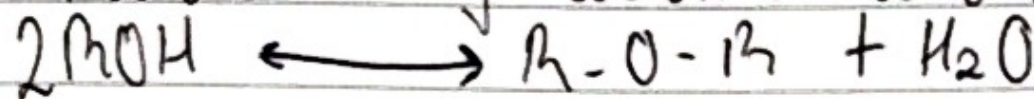
methane are fairly soluble in water.

~~Physical properties~~

3i. From haloalkanes and dry silver oxide
$$2RX + Ag_2O \longrightarrow R-O-R + 2AgX$$



ii. Partial dehydration of alcohols.



- 4i. Ethylene oxide sterilization processes can sanitize medical and pharmaceutical products.
- ii. Ethylene glycol, derived from ethylene oxide, is used to manufacture from fiber glass.
- iii. It is used in the production of chemicals used for making cosmetics and shampoos