

## 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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