

1. IUPAC names of the following:

- i.  $\text{CH}_3\text{OCH}_3$  = methoxymethane.
- ii.  $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$  = Ethoxyethane.
- iii.  $\text{CH}_3\text{CH}_2\text{OCH}_3$  = Methoxyethane.
- iv.  $(\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2)_2\text{O}$  = butoxybutane
- v.  $\text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_3$  = Propoxyethane.

2. Ether molecules have a net dipole moment due to polarity of c-o bonds. The boiling points of ethers are comparable to that of alkanes but much lower than that of alcohols of comparable molecular mass despite the polarity of c-o bonds. The miscibility of ethers with water resembles those of alcohols.

Ethers are generally very unreactive in nature. The alkoxy group in ethers activates the aromatic ring at ortho and the parapositions for electrophilic substitution. Aromatic ethers undergo HALOGENATION.

3. a. Preparation of ethers by dehydration of alcohols.

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In the presence of sulphuric acid, alcohol undergoes dehydration to produce alkenes and ethers under different conditions. This method of preparation is possible with the use of PRIMARY ALCOHOLS.