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MBBS

1. $\text{CH}_3\text{OCH}_3 \rightarrow$ methoxymethane
 $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3 \rightarrow$ Ethoxyethane
 $[\text{CH}_3(\text{CH}_2(\text{CH}_2(\text{CH}_2)_2)\text{O}] \rightarrow$ Butoxymethane
 $\text{CH}_2\text{CH}_2\text{OCH}_3 \rightarrow$ methoxyethane
 $\text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_3 \rightarrow$ ethoxypropane

2. Physical ^{states} ~~ethers~~: at room temperature, ethers are colourless neutral liquids with pleasant odours. The lower aliphatic ethers are highly flammable gases or volatile liquids.

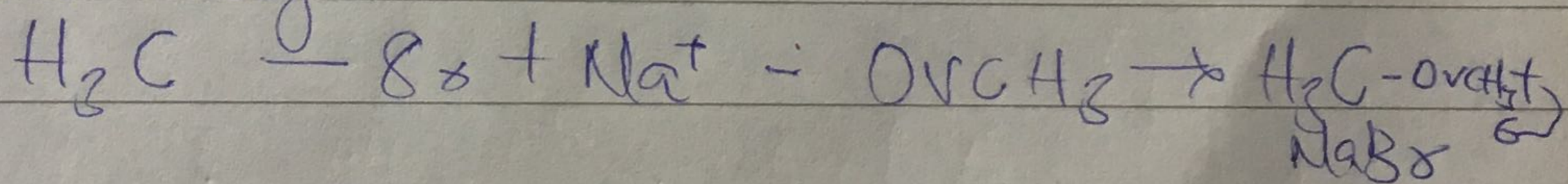
Solubility: ethers are less soluble in water than the corresponding alcohols. Lower molecular weight ethers such as methoxymethane are fairly soluble in water.

Density: some of the simple ethers are less dense than water, although the density increases with RMM and most of the aromatic ethers are much denser than water.

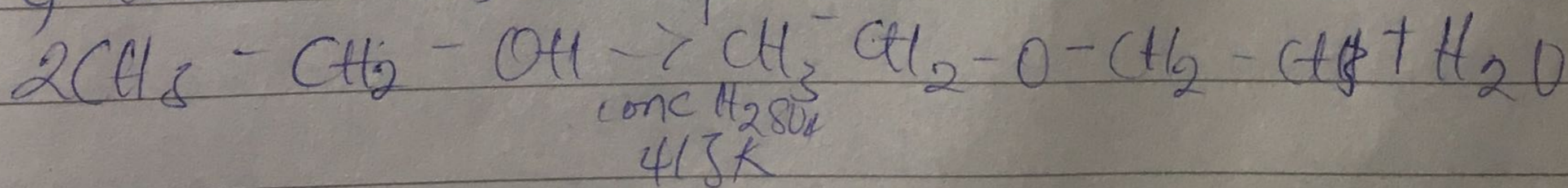
Boiling point: low molecular mass ethers have a lower b.p than the corresponding alcohols but those ethers containing alkyl radicals larger than four carbon atoms, the reverse is true.

Reactivity: ethers are inert at moderate temperature. Their inertness at moderate temperature leads to their wide used reaction media.

William ether synthesis: Ethers can be made in ethers using a method discovered by Alexander Williams in which is applied named the William ether synthesis. In this process, an alkoxide ion (an alcohol with the hydrogen removed) reacts with an alkyl halide (a hydrogen attached to hydrocarbon). This is also called substitution reaction because the alkoxide ion replaces the halogen.



Preparation of ethers by dehydration of Alcohols
When alcohols are heated with conc. H_2SO_4 at 413K , ethers (ROR) are formed.



Uses of ethylene oxide

It is used as a fumigant for foods and textile. It is also used as a raw material for industrial manufacture of ethylene glycol.