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DEPARTMENT: NURSING

MATRIC NO: 19/MHLSO21074

Assignment Answer

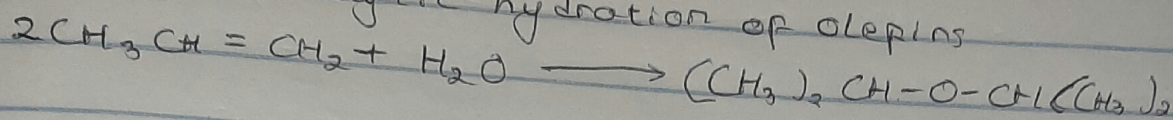
- i) i) CH_3OCH_3 - Methoxymethane Methoxyethane
- ii) $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$ - Ethoxyethane
- iii) $(\text{CCH}_3\text{CH}_2\text{CH}_2\text{CH}_2)_2\text{O}$ - Butoxymethane
- iv) $\text{CH}_3\text{CH}_2\text{OCH}_3$ - Methoxyethane
- v) $\text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_3$ - Ethoxypropane

2) General Properties

- i - Physical states: Ethers are colourless, neutral liquids with pleasant odors at room temperature and lower aliphatic ethers are highly flammable gases or volatile liquids.
- ii - Solubility: Ethers are less soluble in water than corresponding alcohols. Lower molecular weight ethers such as methoxymethane and methoxyethane are fairly soluble in water since the molecules are able to form hydrogen bonds with the water molecules but as the hydrocarbon content of the molecules increases, there is a rapid decline in solubility. They are miscible with most organic solvents.
- iii - Density: The density of ethers increases with increasing relative molecular mass. Most of the ethers are less dense than water and some aromatic ethers are also denser than water.
- iv - Boiling point: The boiling point of ethers tend to approximate those of hydrocarbons of same relative molecular mass from which we can ~~assume~~ conclude that the molecules are not in liquid phase. ~~as there are no~~ Lower molecular mass ethers have a lower boiling point than corresponding alcohols but those ethers containing alkyl radicals, the reverse is true.
- v - Reactivity: Ethers are inert at moderate temperature. Their inertness at moderate temperature leads to their wide use as reaction media.

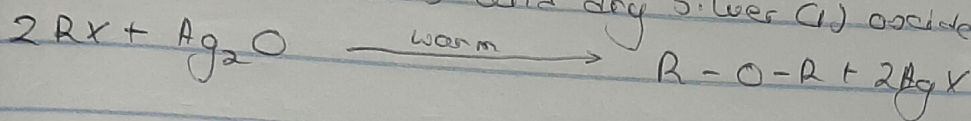
3) Manufacture and Preparation of Ethers

i - Controlled catalytic hydration of olefins

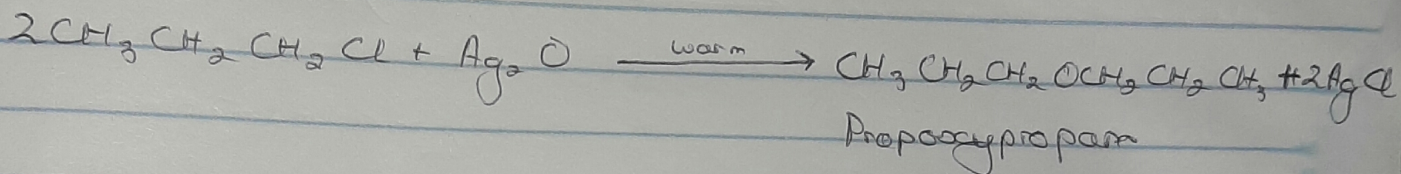


2 - isopropoxypropane

ii - From Haloalkanes and dry silver (I) oxide



e.g



4) Uses of Ethylene oxide

i - It is used as a gaseous sterilizing agent

ii - It is used as an intermediate in the hydrolytic manufacture of ethylene glycol

iii - It is used in the preparation of nonionic emulsifying agents, plastics, plasticizers and several synthetic textiles.