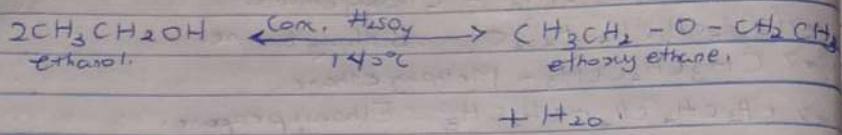


NAME: OBUKOFE OKEOGHENE FAVOUR
DEPT: MBBS
MATRIC NUM: 19/MHS01/275

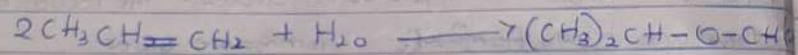
CHM 102 ASSIGNMENT

- 1) $\Rightarrow \text{CH}_3\text{OCH}_3$ - Methoxy methane.
 $\Rightarrow \text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$ - Ethoxyethane.
 $\Rightarrow (\text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_2)_2$ - Butoxybutane.
 $\Rightarrow \text{CH}_3(\text{CH}_2\text{OCH}_3)_2$ - Methoxyethane.
 $\Rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_3$ - Ethoxypropane.
- 2) Properties of ether ethers:
 - \Rightarrow Physical states! At room temperature, ethers are colourless, neutral liquids with pleasant odours. The lower aliphatic ethers are highly flammable flammable gases.
 - \Rightarrow Solubility: Ethers are less soluble in water than are the corresponding alcohols. Low molecular weight ethers such as methoxymethane and methoxyethane are fairly soluble in water but as the hydrocarbon content of molecule increase, there is a rapid decline in solubility. They are miscible in most organic solvent.
 - \Rightarrow Density: Most of the simple ethers are less dense than water, although the density increases with increasing relative molecular mass and some of the aromatic ethers are in fact denser than water.
 - \Rightarrow Boiling point: Lower molecular mass ethers have a lower boiling point than the corresponding alcohols but those ethers containing alkyl radicals larger than four carbon atoms, the reverse is true.
 - \Rightarrow Reactivity: Ethers are inert at moderate temperature. Their inertness at moderate temperatures lead to their wide use as reaction media.
- 3) Manufacturing of ethers:
 - \Rightarrow Partial dehydration of alcohols! Simple ethers are.

manufactured from alcohols by catalytic dehydration
 The alcohol in excess and concentrated tetravalent
 (VI) acid is heated at a carefully maintained temperature
 of 140°C . The process is known as continuous etherification.
 If excess alcohol is not used, the temperature is as high
 as $170^{\circ}\text{--}180^{\circ}\text{C}$, further dehydration to yield alkene occurs.



\Rightarrow Ethers can be manufactured by controlled catalytic hydration of olefins / alkynes.



propene + water \rightarrow 2-methoxypropane

ethylene + water \rightarrow ethanol

alkyne + water \rightarrow alkoxide + water

alkene + water \rightarrow alcohol

alkene + water \rightarrow alkoxide + water

alkene + water \rightarrow alkoxide + water