

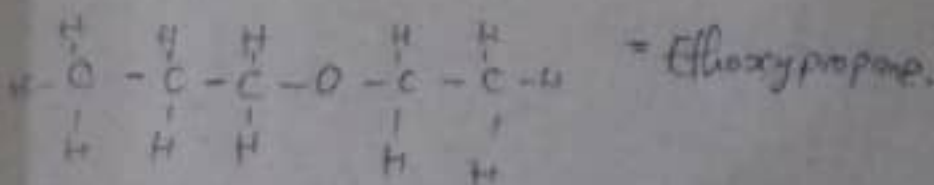
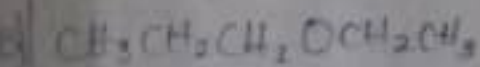
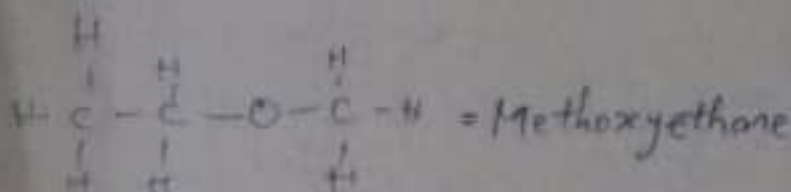
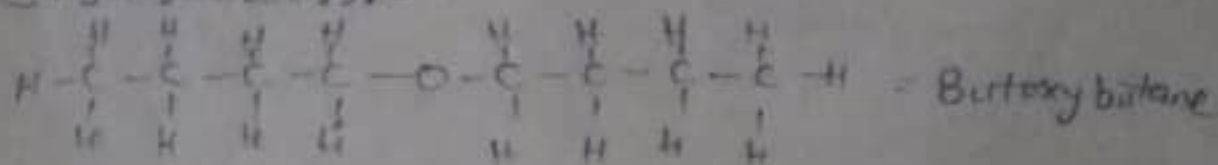
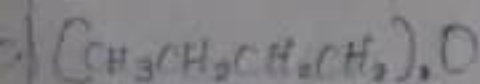
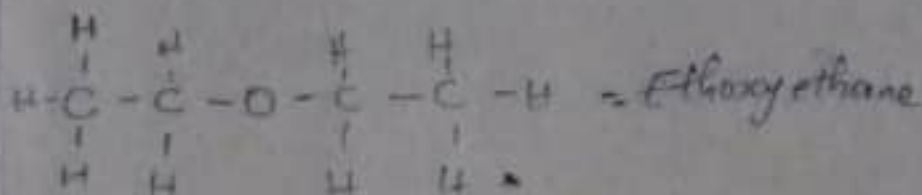
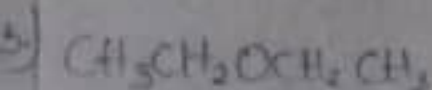
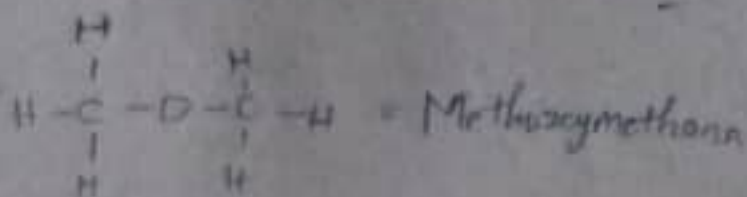
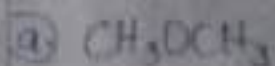
DBASEKI PRECIOUS OJINBAMOLA

NURSING SCIENCE

19/MHS03/DB2

CHEM 102 ASSIGNMENT

IUPAC names for the following Organic Compounds.



Question 2.

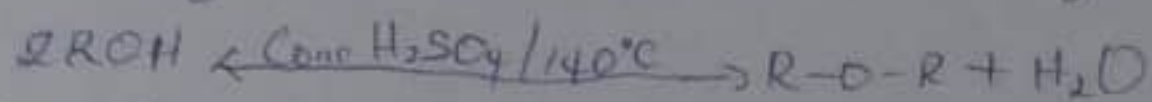
Properties of ethers.

- 1) **Physical states:** At room temperature, ethers are colourless, neutral liquids with pleasant odours. The lower aliphatic ethers are highly flammable gases or volatile liquids.
- 2) **Solubility:** Ethers are less soluble in water. 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. The miscibility of ethers with water resembles those of alcohols and miscible with most organic solvents.
- 3) **Density:** Simple ethers are tasteless such as (diethyl ether), 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 denser than water.
- 4) **Boiling point:** Low 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.
- 5) **Reactivity:** Ethers are inert at moderate temperature. Their inertness at moderate temperatures leads to their wide use as reaction media.
Ethers are quite stable compounds which do not react with bases, active metals, dilute acids, reducing and oxidising agents.

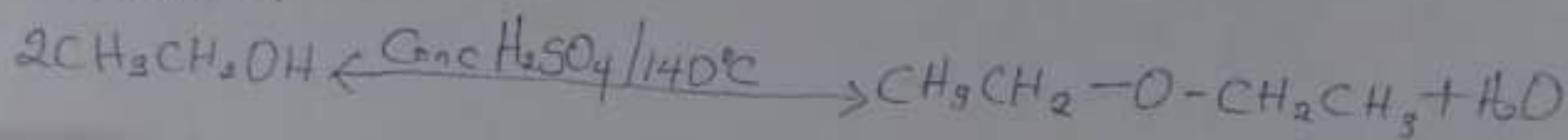
Preparation of ethers with chemical reactions

1. By Dehydration of Alcohols.

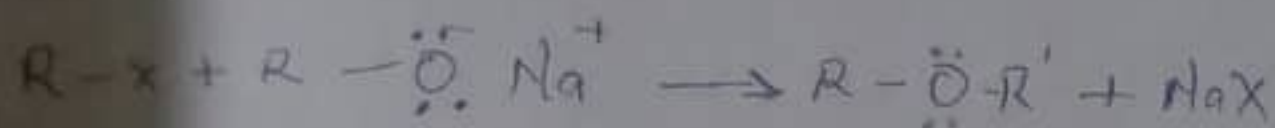
Simple ethers are manufactured from alcohols by Catalytic dehydration. The alcohol in excess and concentrated tetraoxosulphate (VI) acid is heated at a carefully maintained temperature of 140°C . This process is known as etherification. If excess alcohol is not used, the temperature is as high as $170-180^{\circ}\text{C}$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



Examples:-



2. By Williamson Synthesis - is an important method for the preparation of symmetrical and asymmetrical ethers in laboratories. In this method, an alkyl halide is reacted with sodium alkoxide which leads to the formation of ether. The reaction generally follows the $\text{S}_{\text{N}}2$ mechanism for primary alcohol.



(NO 4)

Ethylene Oxide is used as an intermediate in the hydrolytic manufacture of ethylene glycol.

Ethylene Oxide is used in the preparation of anionic emulsifying agents, plastics, plasticizers and several synthetic textiles.

Ethylene Oxide is used as a gaseous sterilizing agent.