

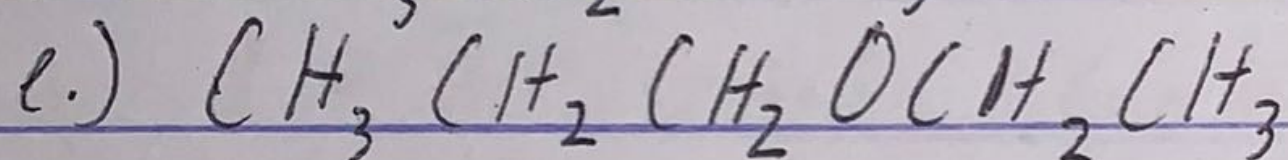
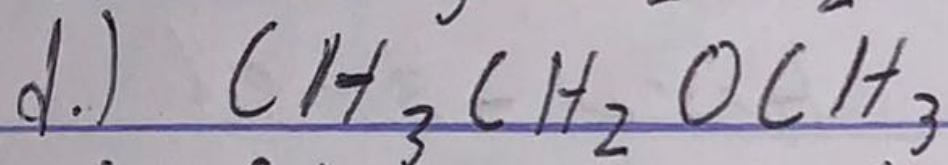
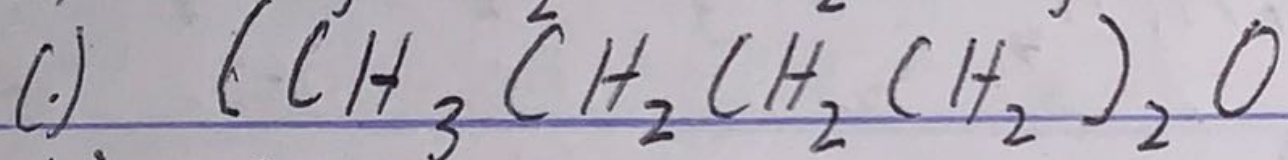
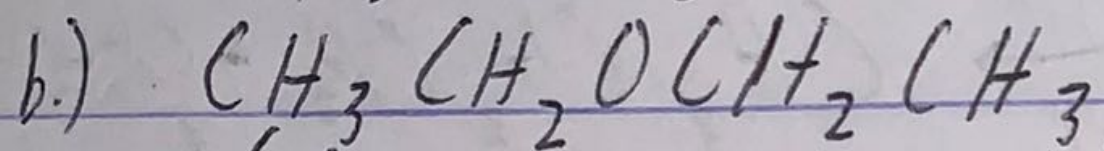
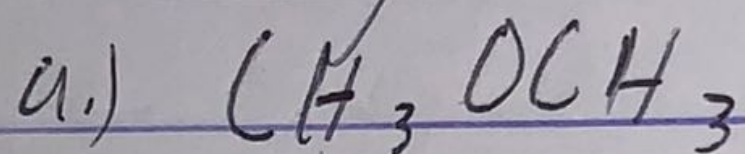
Kanu Kennedy Kene Chukwun

19 / MHS01 / 227

MBBS

CHM 102 Assg on Ethers

1.) Organic Compounds



Iupac names

Methoxymethane

Ethoxyethane

Butoxymethane

Methoxypropane

Ethoxypropane

2.) Properties of ~~fast~~ Ethers

- Physical states: At room temp, they are colourless, neutral liquids with pleasant odours. The lower aliphatic ethers are highly flammable gases or volatile liquids.

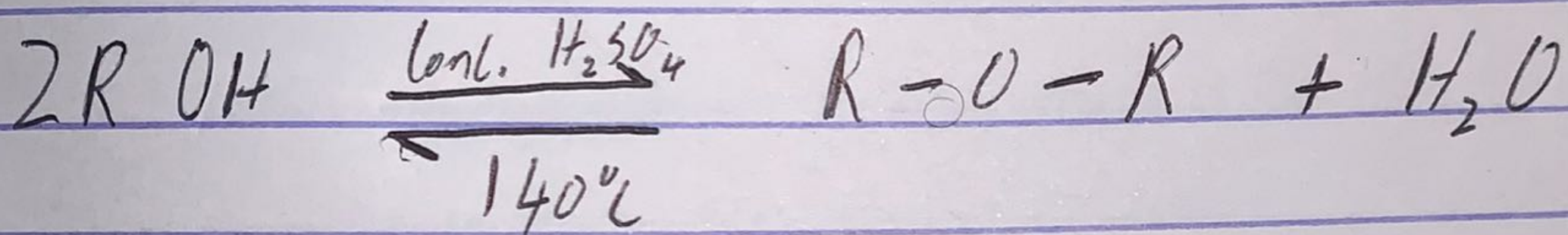
- Solubility: Ethers are less soluble in water than corresponding alcohols. They are miscible with most organic solvents.

- 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.

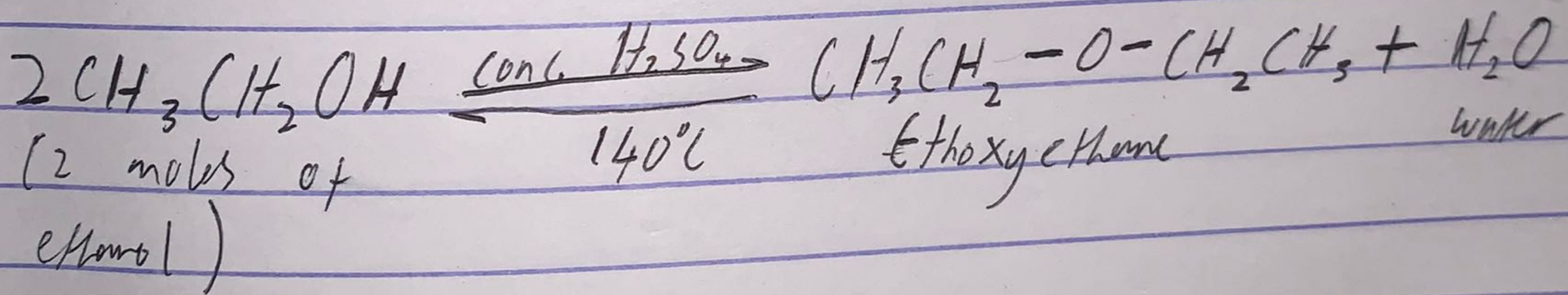
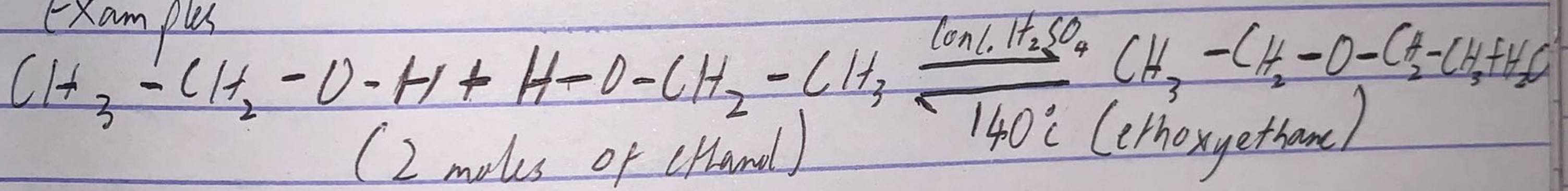
- Reactivity: Ethers are inert at moderate temperature. Their inertness at moderate temperature leads to their wide use as rxn media.

3.) - Methods of Preparing Ethers with Exns

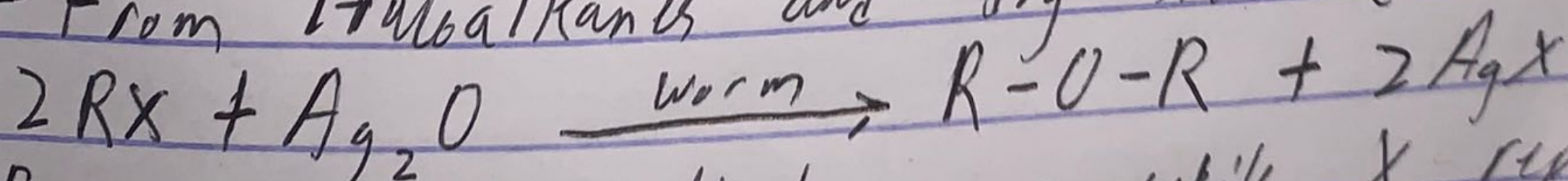
- Partial Dehydration of Alcohols: Simple ethers are manufactured from alcohols by catalytic dehydration. The alcohols in excess and concentrated "sulphuric acid" is heated to a temp of 140°C . This process is known as "continuous etherification".



Examples



- From Haloalkanes and dry silver (I) oxide:



R represents an alkyl group while X represents a halogen. The two atoms of the alkyl group displace the silver from its oxide to form an ether as seen above. The 2 atoms of the alkyl group attach themselves to both sides of the single oxygen atom thereby forming an ether.

4.) Uses of Ethylene Oxide

- It is used as an intermediate in the hydrolytic manufacture of ethylene glycol.
- Ethylene oxide is used in the preparation of non-ionic emulsifying agents, plastics and several synthetic textiles.
- Used as a gaseous sterilizing agent.