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COLLEGE: MEDICINE AND HEALTH SCIENCE

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**ASSIGNMENT**

1. THE IUPAC NAME OF ORGANIC COMPOUND:

I.CH3OCH3 –Methoxymethane

II. CH3CH2OCH2CH3-Ethoxyethane

III. (CH3CH2CH2CH2)2O-Butoxybutane

IV. CH3CH2OCH3-Methoxyethane

V.CH3CH2CH2OCH2CH3-Ethoxypropane

2. THE PROPERTIES OF ETHERS:

I. An ethers molecules has a net dipole moment. We can attribute this to the polarity of C-O bond.

II. The boiling point of ethers is comparable to the alkanes. However, it is much lower compared to that of alcohols of comparable molecular mass. This is despite the fact of the polarity of the C-O bond.

III. Ethers are good organic solvent.

IV. Ether molecules are miscible in water. We can attributes to the fact that like alcohols, the Oxygen atom of ether can also form hydrogen bonds with water molecules.

V. The lower ethers are highly volatile and flammable.

VI. The miscibility of ethers with water resembles those of alcohols.

VII. Simple ethers (such as diethyl ether) are tasteless.

3: TWO METHODS OF PREPARING ETHERS:

I. Controlled catalytic hydration of olefins:

2CH3CH=CH2 + H2O (CH3)2CH-O-CH (CH3)2

2-isopropoxypropane

II. Partial dehydration of alcohols:

Simple ethers are manufactured from alcohols by catalytic dehydration. The alcohol in excess and concentrated tetraoxosulphate(iv) acid is heated at a carefully maintained temperature of 140 ͦc. if excess alcohol is not used, the temperature is as high as 170 ͦC – 180 ͦC, further dehydration to yield alkene occur.

2CH3CH2OH conc. H­2SO4/140 ͦ CH3CH2-O-CH2CH3 +H2O

4: Uses of ethylene oxide:

I. Ethylene oxide is used as a gaseous sterilizing agent.

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

III. Ethylene oxide is used in the preparation of nonionic emulsifying agents, plastics, plasticizers and several synthetic textiles.