Agbaosto Chukwudi Nilliam 17/ENG03/007

1b) Organic Compounds Importance

Organic Compounds are used in the production of:

(i) Food: carbohydrates, proteins, fats, etc
(ii) FUELS, Coal, wood, natural gas, Petrol
(iii) Clothes, Cotton, silk, wool, nylon
(iv) Medicine, Penicillin, Streptomycin, chloromycetin etc
(v) Explosives, Nitroglycerine, Nitrocellulose, etc
(vi) Insecticides; D.D.T, Gammexane, etc
(vii) Dyes, Indigo, Malachite green, Alizarin etc
(viii) Household and Other common articles; Soaps, cosmetics, perfumes, etc

(c) Homocyclic Compounds: These are compounds which consist of atoms belonging to the same element present within the ring of a cyclic compound while

Heterocyclic Compounds: These are compounds which consists of atoms of both carbon and any other elements present within the ring of a cyclic compound.

2(a) Retardation Factor (RF) = $\frac{\text{Distance moved by Band}}{\text{Distance moved by solvent fraction}}$

(i) Band (2.4cm): $RF = \frac{2.4\,cm}{12.2\,cm} = 0.19672$

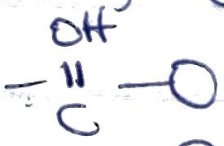
(ii) Band (5.6cm) $RF = \frac{5.6\,cm}{12.2\,cm} = 0.45902$

(iii) Band (8.9cm); $RF = \frac{8.9\,cm}{12.2\,cm} = 0.72951$

(b) Organic compounds A belongs to → Aldehyde family
Organic Compounds B belongs to → Ketone family

(c) 2,4 Dinitrophenylhydrazine test is employed for identification of both Aldehydes ~~and~~ and Ketones

d (i) Alkyl Halide → −F, −Cl, −Br

(ii) Esters → 

(iii) Alkanones → 

(iv) Alkanols → −OH

(v) Alkanals → −CHO

(vi) Alkanoic Acid → −COOH

(vii) Ethers → −OR

Examples

(i) (1) 3 bromo-1-propene (Alkyl bromide) (2) Cyclohexyl bromide

(ii) (1) Methyl ethanoate (2) Ethyl Propanoate

(iii) (1) Propanone (2) Pentan-3-One

(iv) (1) Butanol (2) Cyclopentanol

(v) (1) Ethanal (2) Butanal

(vi) (1) Methanoic acid (2) 2 methyl butanoic acid

(vii) (1) 2-methoxy-2-methyl propanone (2) diphenyl-ether