**NAME: LAWAL AMINAT TEMITOPE**

**MATRIC NUMBER: 17/MHS01/177**

**DEPARTMENT: MEDICINE AND SURGERY**

**CHM 102 ASSIGNMENT**

1. a) Molecular ion= mass(m)= 105

Charge (z) charge

b) i) Organic compounds, for example; esters, are used in production of perfumes.

ii) Tetra ethyl lead is used to prevent knocking in engines.

iii) Alkanes can be used as natural gas.

iv) CHCl3 which is also known as chloroform is used as anaesthesia in hospitals.

v) CCl4 can be used as a cleaning agent.

vi) CCl4 is also used in fire extinguishers.

vii) CHCl3 is used as solvents in industries.

viii) Esters are used as solvents for lacquers, paints and varnishes.

ix) Esters are used as artificial flavors.

x) CHCl3 is used to produce freons which are used as refrigerants.

**c)** The ring of homocyclic compounds is made up of only carbon atoms whereas the ring of heterocyclic compounds is made up of more than one kind of atoms. Examples of homocyclic compounds include; cyclohexane, cyclopropane e.t.c. Examples of heterocyclic compounds include; Thiamine, Pyrrole e.t.c.

**2) a)** Retardation factor= Distance moved by substance

Distance moved by solvent front

Distance for first band= 2.4cm, distance for second band= 5.6cm, distance for third band= 8.9cm, distance moved by solvent front= 12.2cm.

Retardation factor for first band= 2.4 cm = 0.197

12.2cm

Retardation factor for second band= 5.6 cm = 0.459

12.2cm

Retardation factor for third band= 8.9cm = 0.730

12.2cm

b) A belongs to aldehydes while B belongs to alkenes.

c) 2,4- Dinitrophenylhydrazine test is employed for ketones and aldehydes.

d)

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| FUNCTIONAL GROUP | EXAMPLES |
| -OH | Ethanol, Propanol. |
| -CHO | Hexanal, Butanal. |
| -COOH | Propanoic acid, Hexanoic acid. |
| -CO | Ethanone, Propanone. |
| -COX | Bromobutane, Chloroethane. |
| -O- | Methyl methoxide, ethyl ethoxide. |
| -COO | Methyl ethanoate, ethyl propanoate. |