**AKINBUWA OLUWAFUNKE JOY**

**17/MHS01/042**

**MHS/MBBS**

**CHM 102**

A. M/Z 105This is an ODD molecular ion which means it must contain an N atom.

Therefore, I did the following:

105-14 = 91

91/12 = 7remainder7

Therefore, a possible molecular formula is C7H7N

B. It is important in fuels eg coal, natural gas

 Methane/ Butane is used as cooking gas

 It can also be used as dyes eg Indigo, Malachite green

 Alcohol is used in making beers and wine

 It can also be used in medicine in the production of drugs eg penicillin, aspirin and morphine

 It is also used in the manufacturing of the clothes we put on be it cotton, synthetic, nylon.

C

|  |  |
| --- | --- |
| Homocyclic Compound | Heterocyclic compound |
| Homocyclic compound ring contains only one types of atom | Heterocyclic compound ring contains at least two different types of atoms including carbon |
| Homocyclic compounds have 100% carbon atoms in their ring. | Heterocyclic compounds have mainly carbon and in addition, heteroatoms such as nitrogen, oxygen, and suphur are found in their ring. |
| Alicyclic homocyclic and aromatic homocyclic | Alicyclic heterocyclic and aromatic heterocyclic |
| Phenol, Toluene, Naphthalene, and Anthracene | Tetrahydrofuran , Piperidine, Pyridine, Furan and Pyrrole |

Question 2

A. Retardation factor= Distance moved by substance/ Distance moved by solvent

1. 2.4/12.2= 0.197
2. 5.6/12.2=0.459
3. 8.9/12.2=0.730

B.Aldehyde

Alkenes

C. Tollens test

D.

|  |  |
| --- | --- |
| Functional group | Example |
| Alkyl halides | Methyl iodide |
|  | Ethyl chloride |
| Alkanols | 123-propenetriol |
|  | ethanol |
| Carboxylic acid | Pentanoic acid |
|  | Propanoic acid  |
| Ethers | Methoxyethane |
|  | Propoxypentane |
| Acid halides | Propanoyl bromide |
|  | Ethanoyl chloride |
| Esters | Ethyl ethanoate |
|  | Propyl butanoate |
| Alkanones | Propanone  |
|  | 2-bromo-4,4-dimethylcyclohexane |