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MATRIC NUMBER: 17/MHS01/024

CHEMISTRY LMS ASSIGNMENT.

1. A.

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

Therefore, I did the following:

105-14= 91

91/12 = 7 remainder 7

Therefore, a possible molecular formula is C7H7N

B. What are the importance of organic compounds?

1. It is important in fuels e.g. coal, wood, natural gas

2. It can be used as dye e.g. Indigo colour, Malachite green colour

3. It can be used in medicine in the production of drugs e.g. penicillin, aspirin and morphine

4. It can be used in the manufacturing of clothes that we put on e.g. cotton, nylon

C. What is the difference between heterocyclic and homocyclic compounds?

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| Criteria | Homocyclic compounds | Heterocyclic compounds |
| Type of atom contained in ring | There exists only one type of atom in the ring. | There exists at least two different types of atoms including carbon in the ring. |
| Atomic composition of the ring | They possess 100% carbon atoms in their ring | They possess mainly carbon and in addition, heteroatoms such as nitrogen, oxygen and sulphur are found in their ring |
| Sub divisions | Alicyclic homocyclic and Aromatic homocyclic | Alicyclic heterocyclic and Aromatic heterocyclic |
| Examples | Toluene, Phenol | Pyridine, Pyrrole |

1. A. Retardation factor = distance moved by substance/ distance moved by solvent front

 Rf (a) $=\frac{2,4cm}{12.2cm}$ = 0.196

 Rf (b) $=\frac{5.6cm}{12.2cm}$ = 0.459

 Rf (c) $=\frac{8.9 cm}{12,2 cm}$ = 0.729

B. Organic compound A is in the alkanal family

 Organic compound B is in the alkene family

C. 2, 4-Dinitrophenylhyrrazinstest is employed for detecting the presence of organic compounds of aldehyde or ketone by the formation of brightly coloured 2, 4-Dinitrophenylhyrazone precipitates. .

D.

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| Functional group | Examples |
| -OH | Butanol, 1,2,3-propan-tri-ol |
| - | Ethane, Butane |
| -COH | Ethanal, Butanal |
| -NH2 | Methylamine. Phenylamine |
| -Cl, -F | 1-chlorobutane, 2,2-dichloro propane |
| -COOH | Ethanedioc acid, benzoic acid |
| R | Methyl, Ethyl |