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17/MHS06/033

MEDICAL LABORATORY SCIENCE

1. Suggest possible formulas for a molecular ion (m/s) of 105

N=14

105-14=91

Determine c

91/12 = 7.5 c7NH?

C7NH = 105-(12\*7+1\*14) =7

7 H gives C7NH7

2(7.5) +2-7/2 =5

ADD AN O ATOM

C7NH7 ------C6NOH3

2(6.5) +2-3/2 =6

1. IMPORTANCE OF ORGANIC COMPUND
2. They serve as the basis for all carbon based life on each created energy production in the biological life, cause atmospheric depiction and release hydrocarbon energy
3. They are used in the production of food like carbohydrate protein fats vitamins enzymes
4. In medicine it can be used in the production of drugs and cures
5. It can be used in the production an explosive
6. It serve as a medium in the production of clothes like silk, cotton etc.
7. It can serve as a means of fuel
8. It can be used in the production insecticide
9. It can be used in house hold and common article like soap cosmetic perfumes detergent etc
10. Differences between homocyclic and heterocyclic

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| homocyclic | heterocyclic |
| Homocylic compound are cyclic compound having atom of same element as ring member | Heterocyclic compounds are cyclic compound having atom of the difference element as ring member including carbon atom |
| Ring contains atoms of the same element | Ring contain atom of different element |
| Contain atom of the same element bonded to each forming a ring | Contain atoms of a least two different element bonding to each other forming a ring |
| Examples including benzene, cyclohexane, toluene, cyclohexane | Examples include pyrin, arccosine theocon etc. |

SECTION B

1. If the distance of the solvent front is 12.2cm. 2.4cm, 5.6cm, and 8.9 are distance of the different band respectively. Calculate the retardation factor of the available

Rf= b/a

Rf1=2.4/12.2=0.196

Rf2= 5.6/12.2=045

Rf3=8.9/12.2=0.72

1. Two organic compound were labelled A and B. A gave a positive test result (dark grey precipate) to tollen test and B Decolorize bromine water. Suggest the family to which these organic compound belong. Alkene family
2. 2,4 dinitrophenyl hydrazine test is employed for aldehyde and ketones
3. List the functional groups of organic giving two example of each groups

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| --- | --- |
| functional groups | EXAMPLES |
| Alkanes. — | Decane (C10H22) ,Methane (CH4) |
| Alkenes = | ethene CH2=CH2 ,Pent-2- ene CH3—CH=CH—CH2—CH3 |
| Alkynes. \_= | Ethye H—C\_=C—H , Pen-2-yne CH3C2H2\_=C2H3 |
| Alkanols -OH | 4-chloroutaol ClCH3—CH2—CH2—CH2OH ,Ethanol CH3CH2OH |
| alkanoic. (Carbonxylic) -COOH | Ethanoic acid ( CH3COOH) AND 2- hydroxy propanoic acid ( CH3CH(OH)COOH) |
| Alkanals -CHO | 3-hydroxyl pentanal CH3CH2CH(OH)CH2CHO, propanal CH3CH2CHO |
| Alkanoate -COO- | 3-methyl, methly butanoate ,CH3CH(CH3)CH2COOCH3 ,3-,Chloro-4-methylpent-2-ene methyl pentanoate CH3CH(CH)CCL=CH—COOCH3 |