

QUESTION 1

1. Suggest possible formulas for a molecular ion (m/z) of 105.
2. What are the importance of organic compounds
3. Differentiate between homocyclic and heterocyclic compounds

QUESTION 2

1. If the distance of the solvent front is 12.2 cm. 2.4cm, 5.6 cm and 8.9cm are distances of the different bands respectively. Calculate the Retardation factor of the available bands.
2. Two organic compounds were labelled A and B. A gave a positive test result (dark grey precipitate) to Tollens test and B decolourizes Bromine water. Suggest the family to which these organic compounds belong.
3. 2,4-Dinitrophenylhydrazine test is employed for
4. List 7 functional groups of organic compounds giving two examples of each group.

Answers

Question 1(b):

Importance of organic compounds include:

1. Organic compounds are use in Explosives.
2. For clothing
3. for food
4. insecticides
5. for medicines

Question 1(c):

Differences between Homocyclic and Heterocyclic Compounds include:

Homocyclic Compounds	Heterocyclic Compounds
They are compounds having the same element as ring members.	They are compounds having different elements as ring members including carbon atoms
The rings contain atom of the same element	The rings contain atom of different elements
They are formed from atom of the	They are formed when atleast atoms

same elements bonding to each other. E.g benzene, cyclohexane, toluene, cyclohexanol etc.	from two different elements bond to each other.E.g pyran, azocine, thiocane.
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Question 2(a)

distance of the solvent front= 12.2cm

distance of different bands=2.4cm,5.6cm,and 8.9cm

\i.e
$$\frac{2.4+5.6+8.9}{12.2} = 1$$

Question2(b)

The family to which these organic compounds belong to are the Aldehydes

Question 2(c)

in testing for carbonyl functionality of a ketone or Aldehyde.

Question 2(d)

Examples are

1. Esters
2. Aldehydes
3. Ethers
4. Amines
5. Carboxylic acids
6. Ketones
7. Amide

