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QUESTION 1

1. Fragment at m/z =105

C8H9- phenylethyl.

2. – Organic compounds are important because they serve as the basic form of all carbon bases for life on earth.

- Create energy production in biological life
- Causes atmospheric depletion and releases hydrocarbon energy
- Organic compounds have versatile bonding patterns and are part of all organisms
- Long carbon chain can be

produced
- Will bond with many other elements
- Can form single, double and triple bonds
- A huge number of carbons is produced
- Organic compounds form stable bonds to other carbon atoms- (catenation).

3.

Homocyclic	Heterocyclic
They are cyclic compounds having atoms of the same element as ring members	They are cyclic compounds having atoms of different elements as ring members including carbon

	atoms
Ring contains atom of the same element	Ring contains atoms of different elements
Contains atoms of the same element bonded to each other containing a ring	Contains atoms of at least two different element bonded to each other forming a ring
Examples include: benzene, cyclohexane ,toluene, cyclohexanol	Examples include: pyran, azocibe, thiocane etc.

QUESTION 2

a) R.f of the first band = 2.4/12.2= 0.19=~ 0.2.
R.f of the second band= 5.6/12.2= 0.45=~ 0.5.
R.f of the third band= 8.9/12.2= 0.729=~ 0.73.
b) A- belongs to the family of the aldehyde, aromatic aldehyde and alpha hydroxyl ketone functional groups
B- belongs to the alkene or alkyne family.
c) Brandy's test 2,4-Dinitrophenylhydrazine can be used to qualitatively detect the carbony functionality of a ketone or aldehyde functional group.
d)

Organic compounds	Functional group	example
1.	RH	CH4-

Alkanes		methane C2H6- propane
2. Alkenes	RR′ C=CR2 R3CH3	CH2=CH2- ethylene CH2=CH2- propene
3. Alkynes	RIC≡CR2	HC≡CH- acetylene CH3 C ≡ CH HC≡CH- propene
4.	ROH	CH3OH

Alcohols		- methanol CH3OH- ethanol
5. Alkyl halides	RX	CHCL3 - chloroform CH2CL2- dichloromethane
6. Aldehyde	RCHO	CH3CHO- ethanal CH2O- methanal
7. Carboxylic	RCOOH	CH3COOH- ethanoi

acid		c acid HCOOH - formic acid