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COLLEGE OF MEDICINE AND HEALTH SCIENCE

CHEMISTRY ASSIGNMENT

QUESTION 1a. The rule of 13 states that formula of a compound is a multiple n of 13(the molar mass of carbon and hydrogen)plus a reminder r.

According to the rules of 13 n=

For o add o and subtract CH4

For N add N and subtract CH2

For Cl,add Cl and subtract C2H11.

If molecular ion=105, according to the rule of 13 it becomes; =8r1 where n=8 and r =1

Using r

o,C6HO2,C7H7N,C6H9N2,C5H3N3,C4HN4,C6H3NO.

1b)the importance of organic compounds

-they are used to produce detergent and other household materials example cosmetics and perfumes.

-the organic compound make a large percentage of the human food,it requires a large percentage of organic moleculesto keep ones cell and bones healthy.

-carbohydrate which is an important form of diet also plays a crucial role in human life.

-the clothes industry uses to produce cotton,silk,wool and so on.

-Organic compounds are used to produce explosives.

-hydrocarbon is a good source of energy for many countries today.

1C) DIFFERENCES BETWEEN HOMOCYCLIC AND HETEROCYCLIC COMPOUNDS

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| --- | --- |
| HOMOCYCLIC COMPOUNDS | HETEROCYCLIC COMPUNDS |
| There are only one type of atom in the ring | There are different types of atoms including carbon |
| It divides into alicyclic homocyclic compunds and aromatichomocyclic compounds | It divides into alicylic heterocyclic compoundsand aromaticheterocyclic compounds . |
| It has 100%carbon in its ring | It has carbon in addition to other elements like n itrogen,oxygen and so on |
| Examples are phenol,nephathelene and so on | Examples are pyridine and pyrrole. |

2A) retardation factor=

RF1= =0.197

RF2= =0.459

RF3= =0.730

2B) A belongs to the ketone family

B belongs to the alkene family

2C) KETONES AND ALDEHYDE

2D)

|  |  |
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| Fuctional group | Example |
| Alkene | Ethene,butene |
| Alkane | Ethane propane |
| Carboxylic acid | Ethanoic acid,propanoic acid |
| Alkyne | Ethyne,butyne |
| Alkanal | Ethanal,butanal |
| Alkanol | methanoll ,butanol |
| Amides | Methanamide,propanamides |