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 QUESTION 1.

 

1. Importance of organic compounds
* They are used in the field of medicine to produce drugs e.g penicillin, aspirin, iodoform, etc.
* They can be used as cleansing agents for example in the extraction of drugs from plants, the fatty matter from the pulp is removed using petroleum ether.
* They can be used for sterilizing various objects e.g phenol, formaldehyde due to their properties like solubility.
* They serve as an analytic substance, most substances like drugs and pesticides are analysed qualitatively and quantitatively using organic compounds
1. Differences between homocyclic and heterocyclic compounds.

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| Homocyclic compounds | Heterocyclic compounds  |
| 1. Ring contains one type of atom.
 | Ring contains at least 2 different types of atoms including carbon. |
| 1. They have 100% carbon atoms in their ring.
 | They have mainly carbon, in addition, heteroatoms, such as nitrogen, oxygen and sulphur are in their ring. |
| 1. Examples are; toluene, phenol, naphthalene, anthracene etc.
 | Examples are; tetra hydrofuran, piperadine, pyrrole, furan etc. |

Question 2

1. Rf=$\frac{distance moved by the substance}{distance moved by the solvent font}$

 Rf=$\frac{2.4}{12.2}=$0.1967

 Rf=$\frac{5.6}{12,2}=$0.4590

 Rf=$\frac{8.9}{12.2}= $0.7295

1. For the tollens test, the family of organic compound suggested is the Aldehyde.

For the decolourization of bromine water, the family of organic compound is the Alkene.

1. 2,4-Dinitrophenylhydrazine test is employed for Keytones and Aldehydes.
2. Seven functional groups and 2 examples each.

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| Functional groups | Examples. |
| 1. –OH alkanols
 | Propan-1-ol, pentanol. |
| 1. -OR ethers
 | Di methyl ether, ethyl methyl ether. |
| 1. –COOH carboxylic acid
 | Ethanoic acid, butanoic acid. |
| 1. RX alkyl halides
 | 2-bromo butane, 2-iodo propane. |
| 1. C=C
 | But-1-ene, pentene. |
| 1. –NH2 amines
 | Dimethyl amine,diphenylamine. |
| 1. –COH
 | Pentanal, hexanal. |