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DEPT: HND

Question 1a. Ethylbenzene (C8H10),

Phenylmathanone (C7H5O)

1b) The following are the importance of organic compounds

1. Generation of energy from coal and petroleum products
2. Production of synthetic fibres like terylene as substitute for natural fibres
3. Production of drugs, dyes, perfumes, cosmetics e.t.c
4. Production of soap, detergent and paper
5. Production of explosives

1c. Homocyclic compounds are cyclic compounds having atoms of the same elements as ring members. An example is benzene, benzene is a homocyclic compound of six carbon atoms bounded together in a hexagonal ring, with one hydrogen atom bounded to each of the six carbon. Heterocyclic compounds contain atoms of at least two different elements bounded to each other forming a ring. Example pyran, azocine, thiocane.

Question

2a) Retardation factor = (distance moved by solute)/(distance moved by solvent)

Rf A =

Rf A = 0.1967

Rf B =

Rf B = 0.4590

Rf C =

Rf C = 0.7295

Therefore, A and B are more attracted to the mobile phase than C

2c) 2,4-Dinitrophenylhydrazine test is used to qualitatively test for carbonyl groups associated with aldehydes and ketones.

b. Compound A is from the aldehyde functional group.

Compound B is from the alkyl functional group.

c. It is used to test for carbonyl groups associated with aldehydes and ketones.

d.

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| **Functional group** | **Examples** |
| Alkyl halides | Methyl chloride, butyl bromide |
| Alkanols | Methanol, ethanol |
| Ethers | Methoxyethane, phenoxybenzene |
| Aldehydes | Butanal, propanal |
| Ketones | 2-butanone, diphenyl methanone |
| Alkanoic acid | Methanoic acid, ethanoic acid |
| Esters | Ethyl ethanoate, ethyl propanoate |