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Department: MBBS (Medicine and surgery)
Course code: CHM 102

Answers.

1 (i) $CH_2=C(OH)\#CHO$
functional groups present are:
- Double bond chain (Alkene)
- OH (Hydroxyl group)
- $C^{=O}_{-H}$ (aldehyde / formyl group)

(ii) $C_6H_5CH(NH_2)COCH_3$

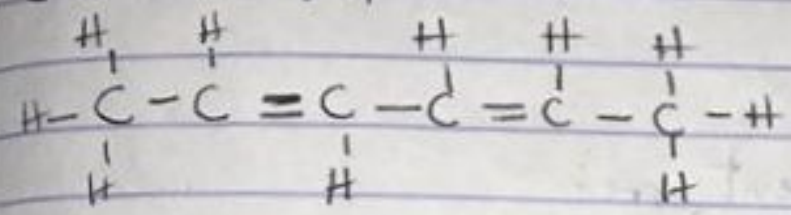
functional groups present are:
- Phenyl group (C_6H_5) with double bond (Aromatic gr
- Amine group (NH_2)
- Alkanone / ketone ($C(=O)-R$)

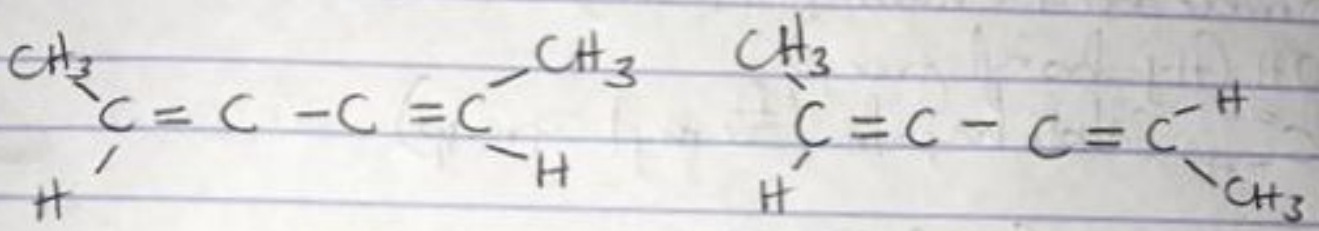
(iii) $CH_3C=CHCH(OH)CHO$
functional groups present are:
- Alkene ($C=C$) double bond
- Hydroxyl group (OH)
- Aldehyde ($C^{=O}_{-H}$) Aldehyde

(2) Recall $[\alpha]^T_\lambda = \frac{\alpha}{l \times c}$
where l = Length of Sample tube
$c = \frac{\text{Mass}}{\text{volume}}$ (g/dm) or (g/mol)
α = observed rotation
$S_r = \frac{1.0}{1.0 \times \left(\frac{0856}{10}\right)}$

$$S_x = \frac{1}{0.0856} = \underline{\underline{11.68}}$$

(3) (i) Hexa-2,4,-diene

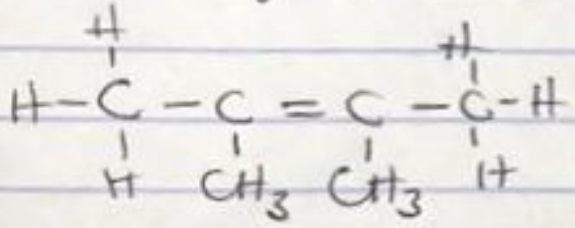


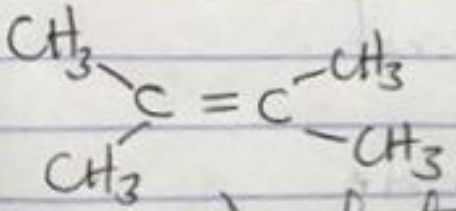


Cis

trans

(ii) 2,3-Dimethylbut-2-ene





Neobutane