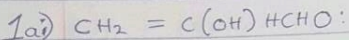
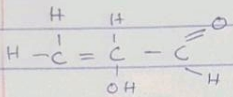


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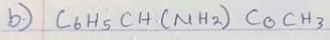


The structural formular:

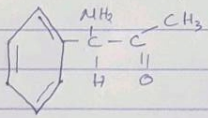


Functional groups present are;

- i) Aldehyde group (CHO)
- ii) Hydroxyl group (OH)
- iii) Alkenene group (double bond).

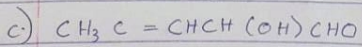


The structural formular:

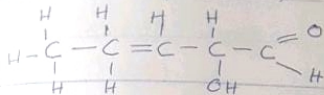


Functional group present

- i) Ketone group (carbonyl group)  $>\text{C}=\text{O}$
- ii) Amine group ( $\text{NH}_2$ )
- iii) Aromatic group (Phenyl).



Structural formula;

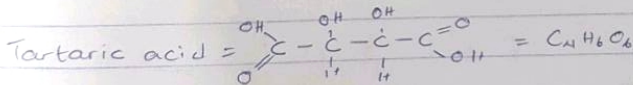


Functional group present;

- i) Aldehyde group.
- ii) Hydroxyl group.
- iii) Double bond (Alkene group).

$$\text{Concentration (mol dm}^{-3}\text{)} = \frac{\text{Conc (g/dm}^3\text{)}}{\text{Molar mass (g/mol)}}$$

$$[\alpha]_d^T = \frac{\alpha}{C \cdot l}$$



$$\text{Molar Mass} = 150 \text{ g/mol}$$

$$0.856 \text{ g} \text{ ————— } 10 \text{ dm}^3$$

$$20 \text{ g} \text{ ————— } 1000 \text{ cm}^3$$

$$\frac{0.856 \times 1000}{10} = 85.6 \text{ g/dm}^3$$

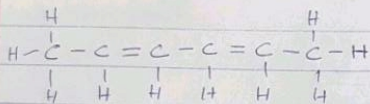
$$\text{Concentration in g/cm}^3 = \frac{\text{Concentration (g/dm}^3)}{1000}$$

$$= \frac{85.6}{1000} = 0.0856 \text{ g/cm}^3$$

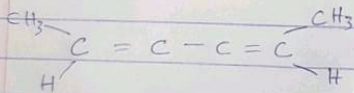
$$[\alpha]_D = \frac{\alpha}{C \cdot l}; \alpha = +1.0^\circ, C = \frac{0.856}{10} = 0.0856 \text{ g/cm}^3$$

$$= \frac{+1.0}{0.0856} = 11.68^\circ$$

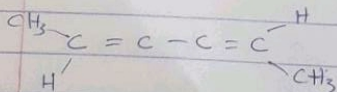
3i)



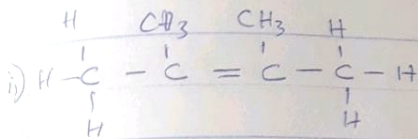
Hexa-2,4-diene



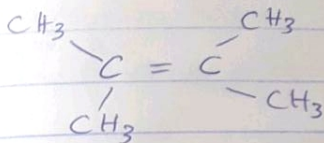
Cis-



Trans-



2,3-dimethyl but-2-ene



No geometric isomer.