

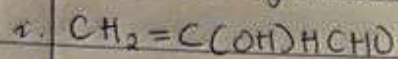
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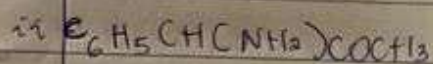
Department: Computer Engineering

Course Title/Code: Chemistry | CHE 502

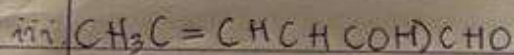
1. Name the functional groups present in each of the following molecules



- Formyl group (Aldehyde) group (CHO)
- Hydroxyl group (OH)
- Alkene group (double bond)



- Keto group (Carbonyl group) ($\text{C}=\text{O}$)
- Amino group (NH_2)
- Aromatic group (phenyl group)



- Aldehyde group
- Hydroxyl group
- Double bond (alkene group)

2. A 0.856g sample of pure (2R,3R)-tartaric acid was diluted to 10cm^3 with water and placed in a 1.0dm polarimeter tube. The observed rotation at 20°C was $+1.0^\circ$. Calculate the specific rotation of (2R,3R)-tartaric acid

Soln

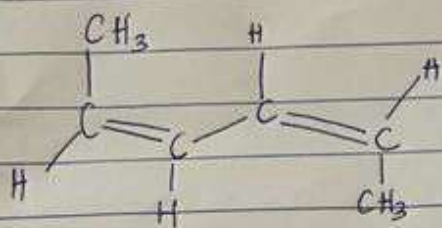
$$[\alpha]_D = \frac{\alpha}{c \cdot l} \quad (\text{Tartaric acid} = \text{C}_4\text{H}_6\text{O}_6)$$

$$\alpha = 1.0$$

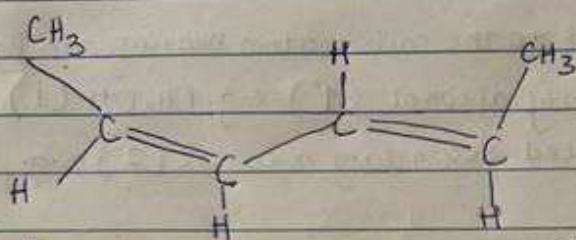
$$\text{Conc. in } \text{g}/\text{cm}^3 = \frac{0.856}{10} = 0.0856$$

$$\therefore [\alpha]_D = \frac{1.0}{0.0856} = 11.68^\circ$$

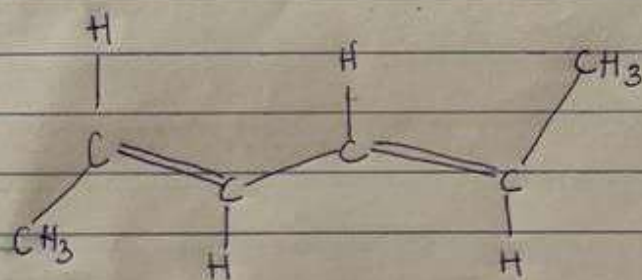
3i Hexa-2,4-diene



(cis-cis hexa-2,4-diene)



[cis-trans hexa-2,4-diene]



[trans-trans hexa-2,4-diene]

ii 2,3-dimethyl but-2-ene.

