

CHM 102

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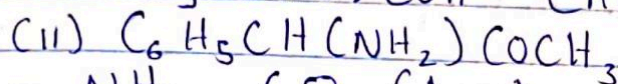
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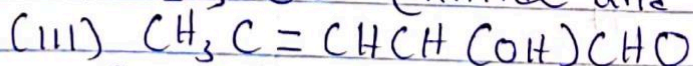
(1) Name the Functional groups present in each of the following molecules.



— OH , CHO/COH (Alkanols and aldehyde Functional group)



— NH_2 , CO (Amide and ketone Functional group)



— COH , CHO (Alkanol and aldehyde Functional group)

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

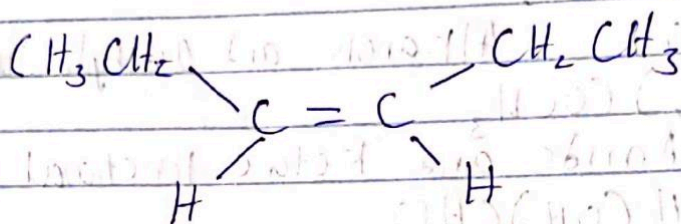
Specific rotation = $\frac{\text{Observed rotation (degrees)}}{(\text{Conc. } \text{g}/\text{cm}^3) \times \text{Path length of sample cell (in dm)}}$

$$= \frac{+1.0}{(0.0856 \text{ g}/\text{cm}^3) (1 \text{ dm})}$$

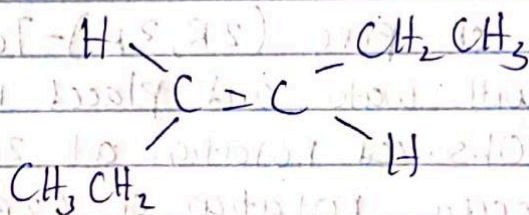
$$\text{Specific rotation} = 11.68 \text{ g}^{-1} \text{ cm}^3 \text{ dm}^{-1}$$

(3) Draw the possible geometric isomers (where possible) for each of the following compounds.

(i) Hexa-2,4-diene



or



(ii) 2,3-Dimethyl But-2-ene

