

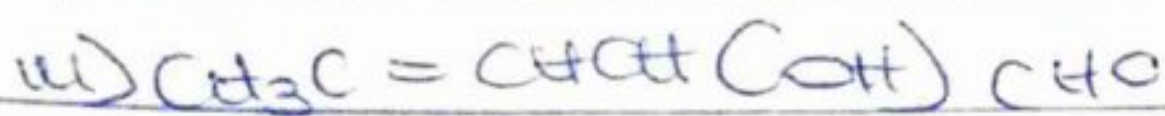
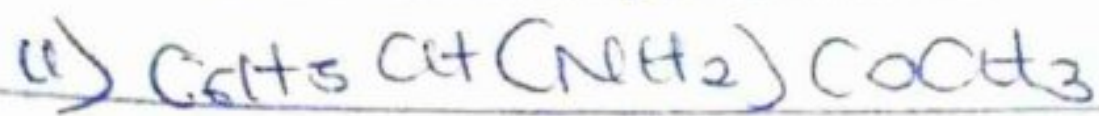
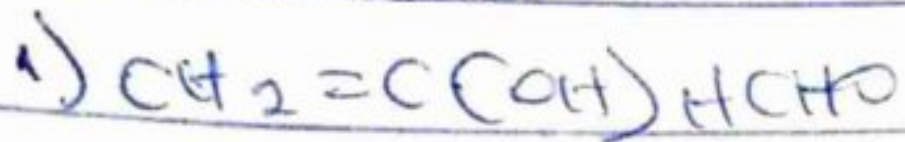
Chem 102

Eyeback Anwarulapoo Elizabeth

MBBS

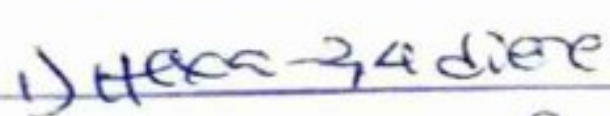
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1) Name the functional groups present in each of the following molecules.

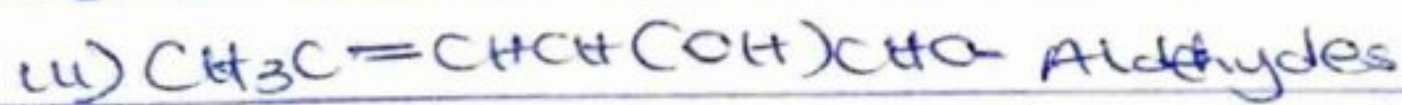
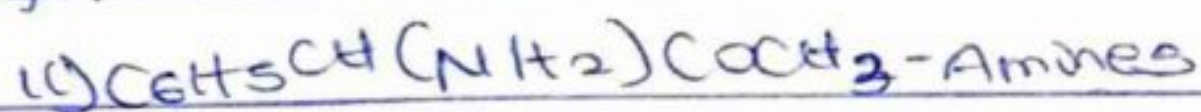
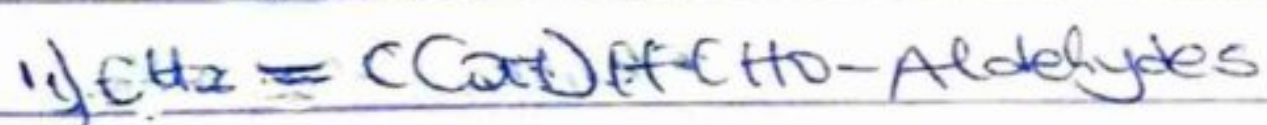


2) A 0.856g sample of pure (2R, 3R)-tartaric acid was diluted to 100cm³ with water and placed in a 1.0dm polarimeter tube. The observed rotation at 20°C was +1.0°. Calculate the specific rotation of (2R, 3R)-tartaric acid.

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



Answer



2) Specific rotation = $\frac{\text{observed rotation (degrees)}}{(\text{Concentration g/cm}^3) \text{ path length of sample}}$

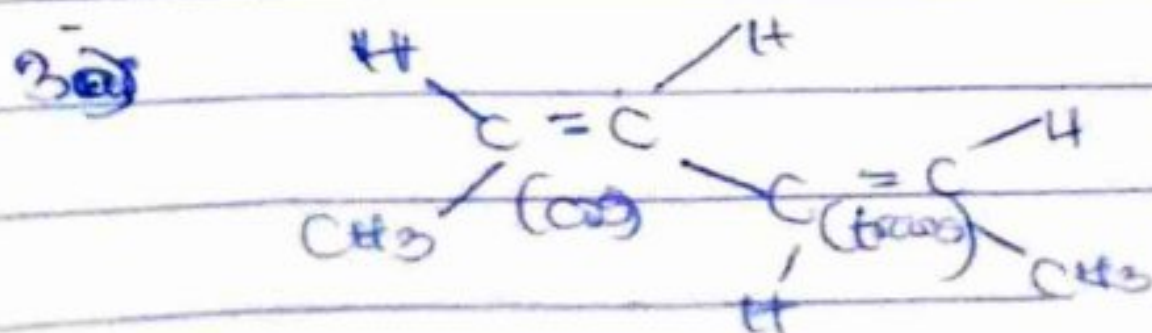
$$= 1^\circ$$

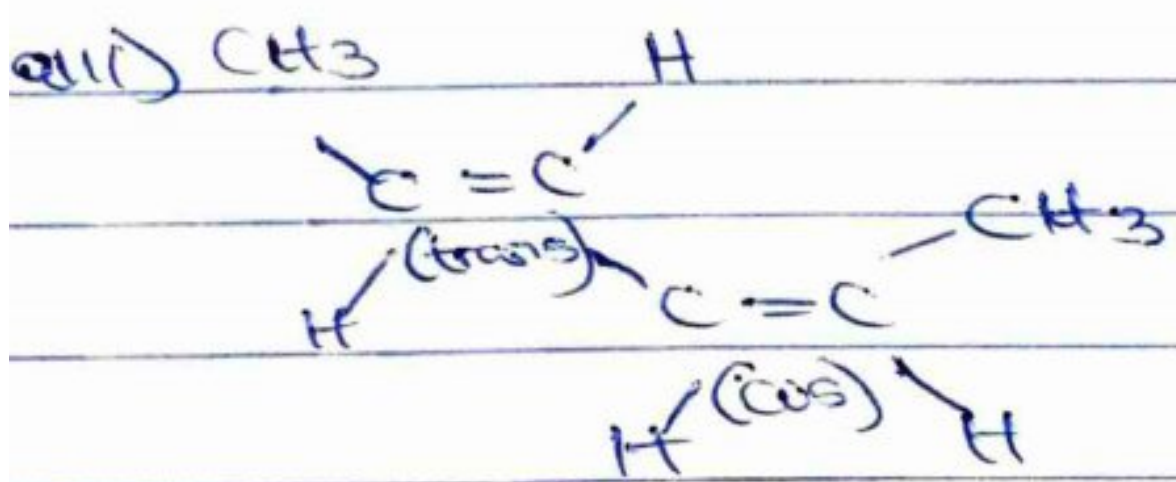
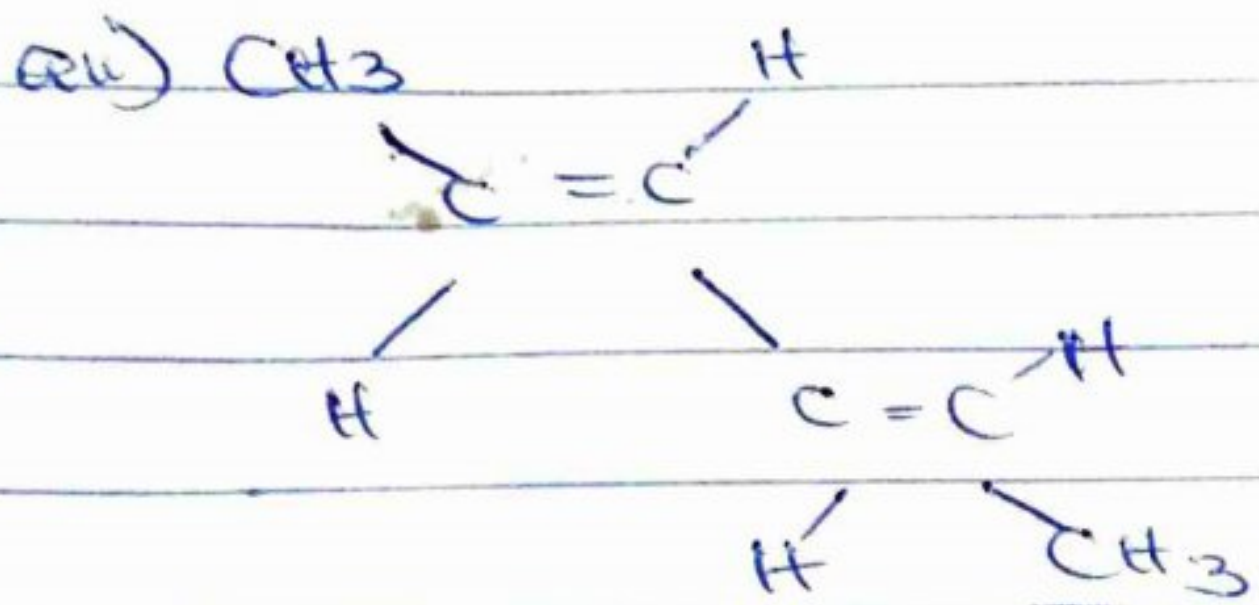
$$= 1^\circ$$

$$\frac{(0.856\text{g}/100\text{cm}^3)(1\text{dm})}{0.856\text{g/cm}^3}$$

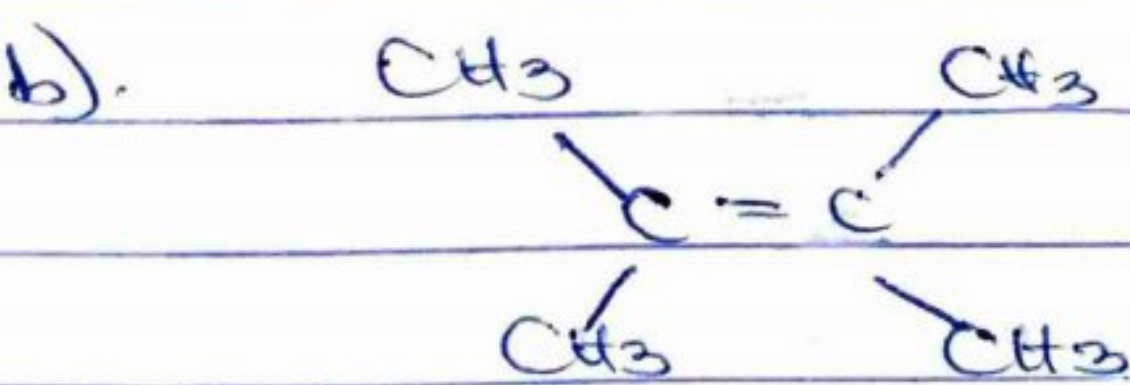
$$= 11.7^\circ \text{g}^{-1} \text{cm}^3 \text{dm}^{-1}$$

$$= 11.7^\circ \text{g}^{-1} \text{cm}^3 \text{dm}^{-1}$$





(It possesses 3 possible geometric isomers)



It does not have a geometric isomer because there are two identical groups attached to the same carbon of the double bond.