

EKPOIO - ENOMAZINO-ESTHER.

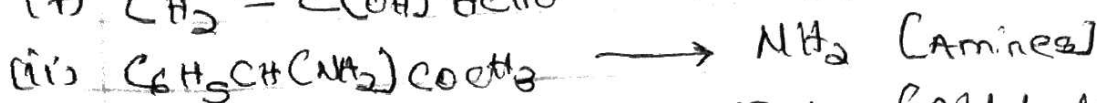
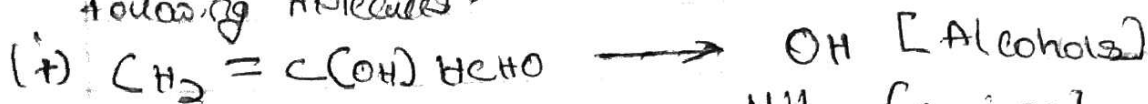
19/MHS021045

MEDICINE AND HEALTH SCIENCES

NURSING

CHEM 102.

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



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

Solution

$$\text{Concentration} = \frac{0.856\text{g}}{10\text{cm}^3}$$

$$= 0.0856\text{gcm}^{-3}$$

$$\text{path length} = 1\text{dm}$$

$$\text{Observed rotation} = +1.0^\circ$$

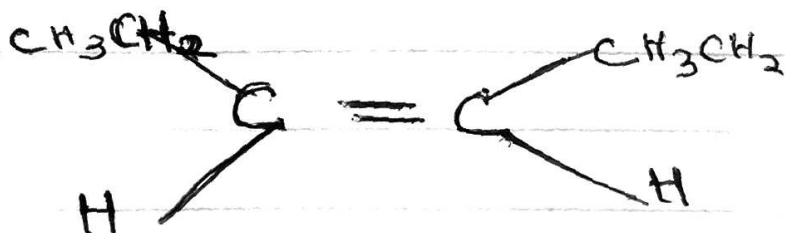
$$\text{Specific rotation} = \frac{\text{Observed rotation } (^\circ)}{\text{concentration} \times \text{path length}}$$

$$\text{Specific rotation} = \frac{1.0^\circ}{0.865 \times 1 \text{ dm}}$$

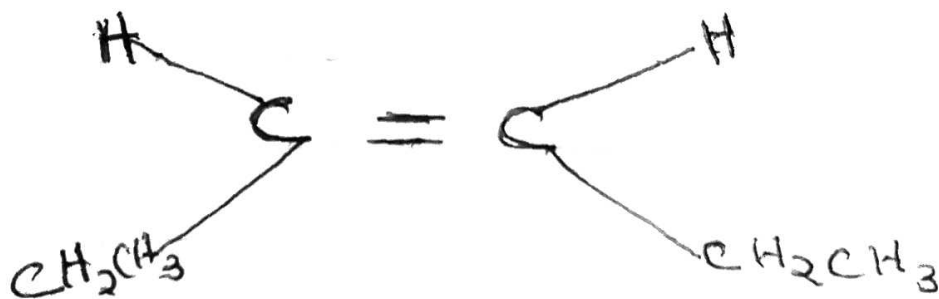
$$\text{Specific rotation} = \underline{\underline{11.560^\circ \text{ g}^{-1} \text{ cm}^3 \text{ dm}^{-1}}}$$

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

(i) Hexa-2,4-diene.

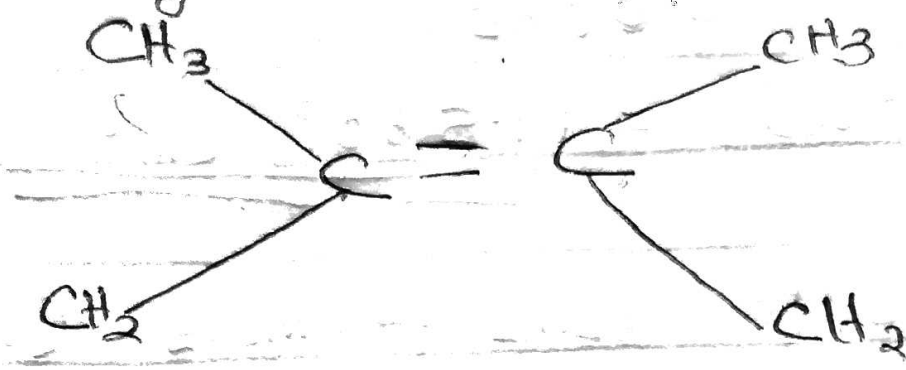


Cis Hex-2,4-diene.

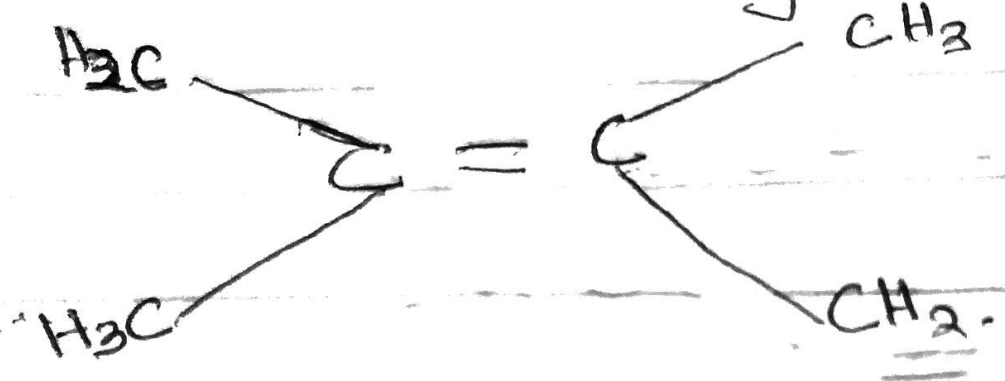


Trans Hex-2,4-diene.

2,3 dimethyl but-2-ene  $\text{CH}_3\text{C}(\text{CH}_3)=\text{C}(\text{CH}_3)\text{CH}_3$



Cis 2,3 dimethyl but-2-ene



Trans 2,3 dimethyl but-2-ene