

NAME: OLADIMESI TOLA ESTHER.

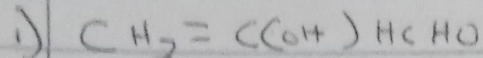
Matric Number: 19 / MHS02 / 096

Department: NURSING

Course Code: CHM102

ASSIGNMENT

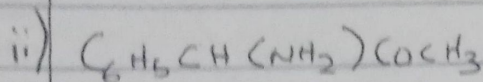
1) Name the Functional groups Present in each of the following molecules



Functional group: - i) aldehyde

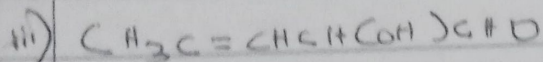
ii) alcohol

iii) alkene



Functional group: i) amides

ii) ketones



Functional group: i) Alkene

ii) Alcohol

iii) aldehydes

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

Answer:

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

$$\text{Concentration} = \frac{0.856\text{g}}{10\text{cm}^3} = 0.0856\text{g cm}^{-3}$$

$$\text{Length of sample cell (polarimeter)} = 2.0\text{dm}$$

$$\therefore \text{Specific rotation} = \frac{\text{observed rotation (degrees)}}{\text{Concentration (g/cm}^3) \times \text{Path of sample cell in dm}}$$

$$\text{Specific rotation of the sample} = \frac{1}{0.856 \times 1}$$

$$= \frac{1}{0.856}$$

$$= 1.168$$

$$= \frac{1}{0.0856 \times 1} = 11.68 \text{ g}^{-1} \text{ cm}^3 \text{ dm}^{-1}$$

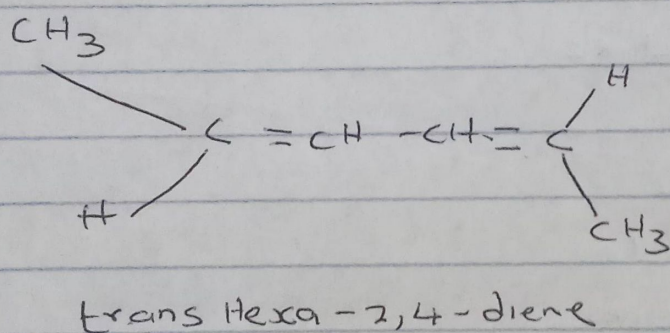
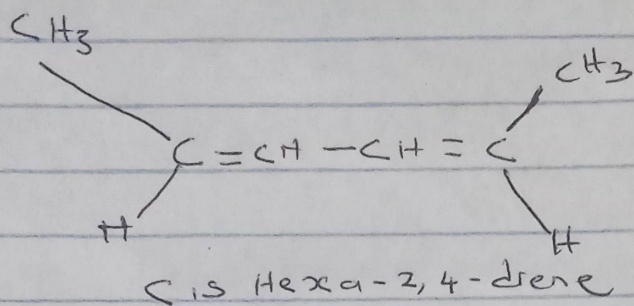
3) Draw the possible geometric isomers (where possible) for each ~~one~~ of the following compounds.

i) Hexa-2,4-diene

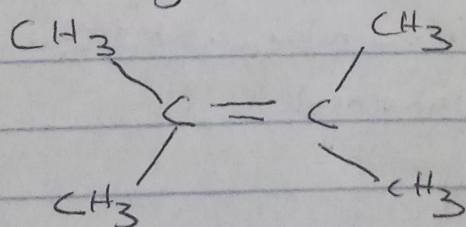
ii) 2,3-Dimethylbut-2-ene

Ans //

i) Hexa-2,4-diene



ii) 2,3-Dimethylbut-2-ene



Geometric isomers is not possible for

2,3-Dimethylbut-2-ene.