Name: Ayoade Mayodad

Matric No: 19/mhs01/110

Dept: MBBS

1) State the functional group present in the following molecules.

a) $CH_2=C(OH)HCHO$

- functional groups: (i) Double bond / Alkene (ii) Hydroxyl group.
(iii) Aldehyde / Alkanal

b) $C_6H_5CH(NH_2)COCH_3$

- functional group: (i) Amine ($-NH_2$) (ii) Alkanone ($-C=O$)

c) $CH_3C=CHCH(OH)CHO$

functional groups: (i) Double bond (Alkene) (ii) Hydroxyl group (OH)
(iii) Aldehyde / Ketone ($-C=O$)

2. A 0.865 g sample of pure (2R,3R) tatarin acid was diluted to $10cm^3$ with H_2O and placed in a 1.0dm polarimeter tube. The observed rotation at 20°C was 1.0 calculate the specific rotation of (2R, 3R) tatarin acid.

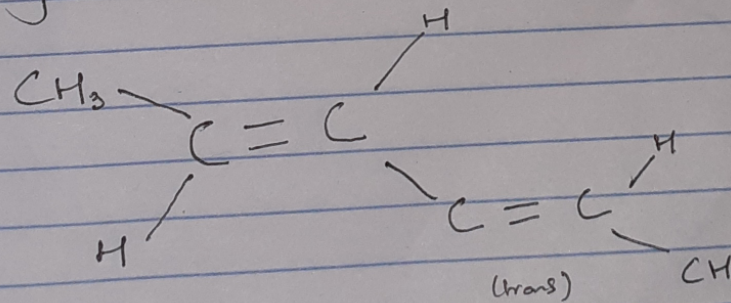
The specific rotation $\alpha_A^T = \frac{\alpha}{c \cdot L}$

$$C = \frac{\text{mass}}{\text{volume}} = \frac{0.856}{10} = 0.0856\ gcm^{-3}$$

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

the specific rotation of (2R, 3R) - tatarin acid = $11.68\ g^{-1}cm^3\ dm^{-1}$

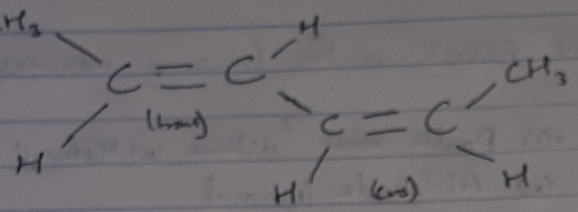
3. Draw the possible geometric isomers (where possible) for each of the following compounds.



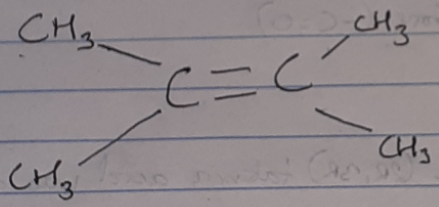
(trans)

- Hexan-2,4 diene.

9)



2) 2, 3 · dimethyl but-2-ene



It doesn't have geometric isomers because there are two identical groups attached to the same carbon atom of the double bond.