

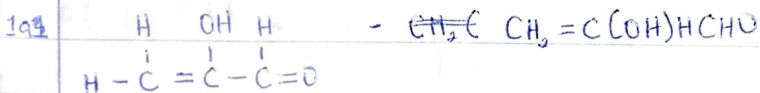
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DEPARTMENT: MEDICINE AND SURGERY

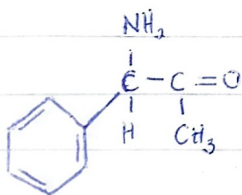
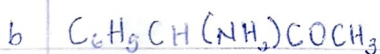
MATRIC NUMBER: 19/MHS01/163

COURSE CODE: CHM 102




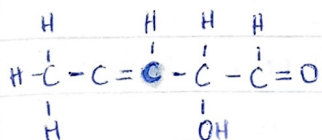
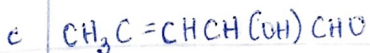
The functional groups present in the molecule above are:

- i alkene (double bond =)
- ii alkanol / alcohol (hydroxyl group -OH)
- iii aldehyde ($-\overset{\text{H}}{\underset{\text{H}}{\text{C}}}=\text{O}$)



The functional groups present in the molecule above are:

- ai Ketone / Alkanone ($-\overset{\text{H}}{\underset{\text{H}}{\text{C}}}=\text{O}$)
- ii Amine ($-\text{NH}_2$)
- iii Aromatic group / Phenyl group ()



The functional groups present in the ~~functional~~ molecule above are:

- a Alcohol / Alkanol (hydroxyl group -OH)
- b Aldehyde / Alkanal ($-\overset{\text{H}}{\underset{\text{H}}{\text{C}}}=\text{O}$)
- c Alkene (double bond =)

2 Mass of sample of pure (2R,3R)-tartaric acid = 0.856g

Volume of water used for dilution = 10cm³

Length of polarimeter tube (path length) = 1.0dm

Observed rotation = +1.0°

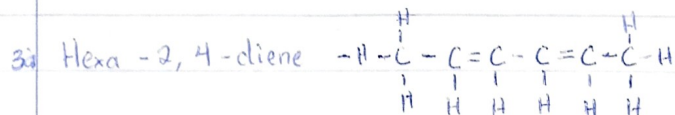
Temperature = 20°C

Concentration of solute = $\frac{\text{mass of pure sample (g)}}{\text{volume of water (cm}^3\text{)}} = \frac{0.856}{10} = 0.0856 \text{ g/cm}^3$

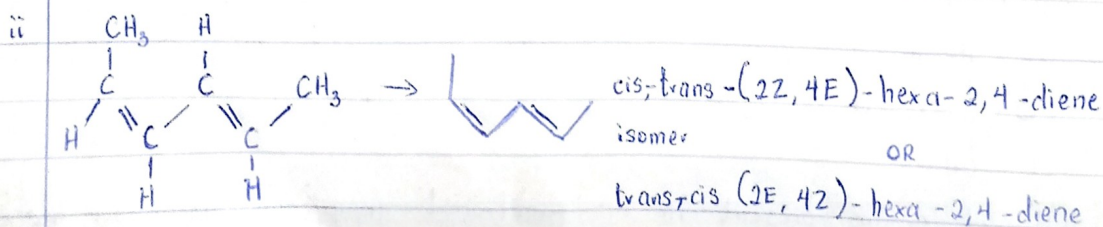
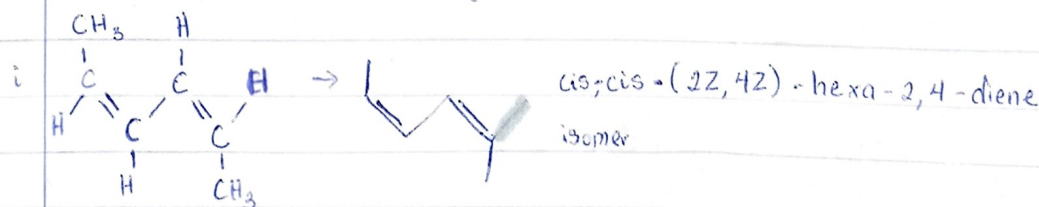
Specific rotation, $[\alpha]^T = \frac{\text{observed rotation}}{\text{concentration} \times \text{path length of sample cell}}$

$$[\alpha]^{20^\circ} = \frac{+1.0^\circ}{0.0856 \text{ g/cm}^3 \times 1.0 \text{ dm}}$$

$$[\alpha]^{20^\circ} = +11.68^\circ$$

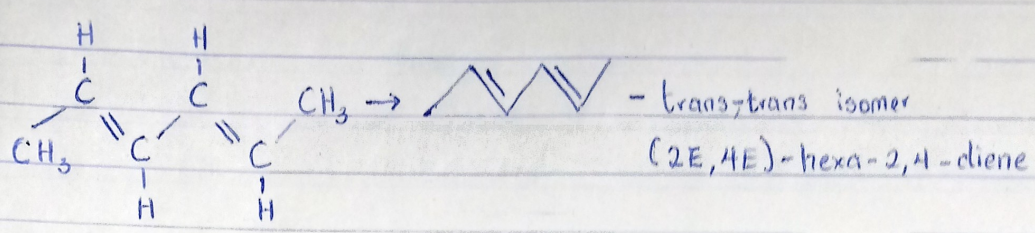


This compound has 3 geometric isomers

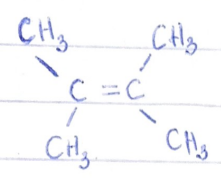


cis,trans and trans-cis isomers are identical

ii



b 2,3-dimethylbut-2-ene



This compound does not exhibit geometrical isomerism because there are two identical groups (CH₃) attached to the same carbon of the double bond.