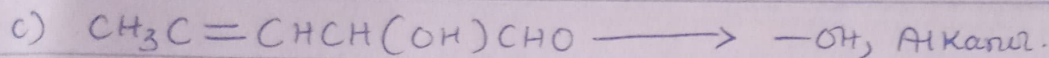
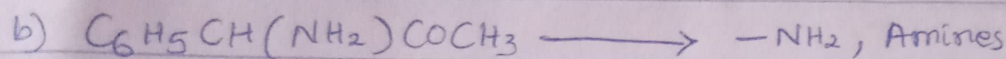
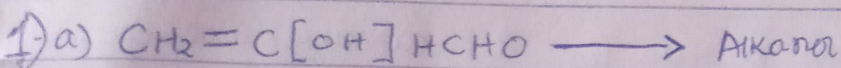


ORKAA SAMUEL TERUNGWAA

19/MHS01/358

GENERAL CHEMISTRY 102



2) Specific rotation = Observed rotation (in degrees)

$$\left( \frac{\text{Conc. g cm}^{-3}}{[\text{path length of sample in dm}]} \times [\text{observed rotation}] \right)$$

$$\text{Conc. g cm}^{-3} = \frac{0.856\text{g}}{10\text{cm}^3}$$

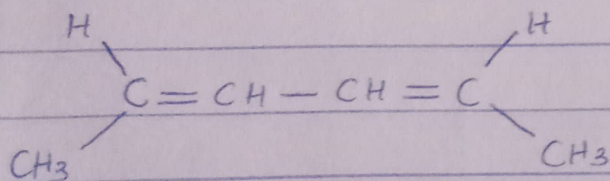
$$= 0.0856\text{g cm}^{-3}$$

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

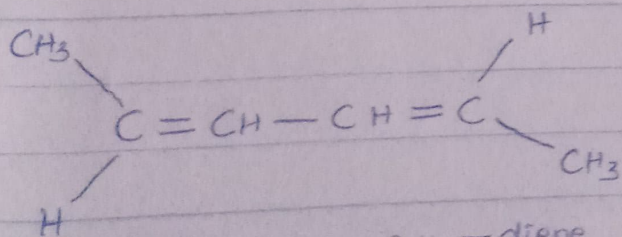
$$\text{Path length of sample} = 1\text{dm.}$$

$$\therefore \text{Specific rotation} = \frac{+1}{[0.0856][1]} = 11.68\text{g}^{-1}\text{cm}^3\text{dm}^{-1}$$

3) a. Hexa-2,4-diene ( $\text{CH}_3-\text{CH}=\text{CH}-\text{CH}=\text{CH}-\text{CH}_3$ )

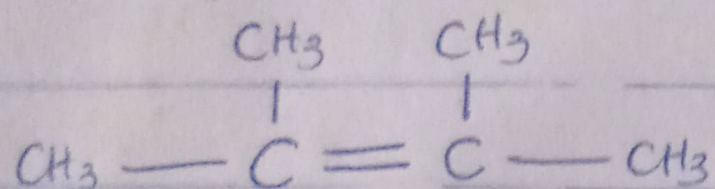


Cis Hexa-2,4-diene.



Trans Hexa-2,4-diene.

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



Geometric Isomerism is not possible for 2,3-dimethylbut-2-ene.