

NAME: ANISHA - 00101100000000000000
 DEPT: CHEMISTRY
 COURSE: B.Sc. CHEMISTRY
 COURSE CODE: CHM102

ASSIGNMENT

1. Name the functional groups present in each of the following molecules.

(i) $\text{CH}_2 = \text{C}(\text{OH})\text{CH}_3$
 Functional group = Aldehyde, Alcohol and Alkene

(ii) $\text{C}_6\text{H}_5\text{COCl}$ [$\text{M}_1\text{C}_6\text{H}_5$]
 Functional group = Acyl chloride

(iii) $\text{CH}_3\text{C}(\text{OH})(\text{CH}_3)\text{CHO}$
 Functional group = Aldehyde, Alcohol and Alkene.

2. Specific rotation = observed rotation [in degrees] / path length of sample cell in dm [in cm]

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

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

Observed rotation = $+1.0^\circ$

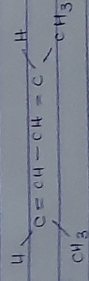
Path length of sample = 1dm

\therefore Specific rotation = $+1$

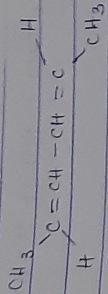
$[0.856] [1]$

$= 11.68\text{g/cm}^3\text{dm}^{-1}$

3. (i) Hexa-2,4-diene [$\text{CH}_2 = \text{CH} = \text{CH} = \text{CH} = \text{CH} = \text{CH}_2$]

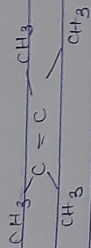


Cis: Hexa-2,4-diene



Trans hexa-2,4, diene

(v) 2,3-dimethylbut-2-ene [CH₃-C(CH₃)=C(CH₃)CH₃]



Geometric isomerism is not possible for 2,3-dimethylbut-2-ene