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DEPARTMENT: PETROLEUM ENGINEERING

MATRIC NO: 19/ENG07/005

COURSE CODE: CHM102 (Stereochemistry and functional Group.

CHM 102

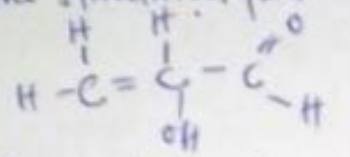
Solution

1.

(i)

$CH_2=C(OH)HCHO$

The structural formular;



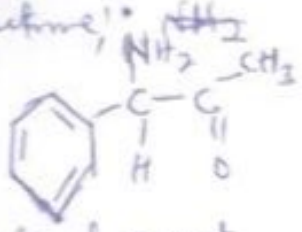
functional present are;

- Double bond chain = (Alkene)
- OH (hydroxyl gmp)
- $\overset{=O}{C}_{H}$ (alkanal)

(ii)

$C_6H_5CH(NH_2)COCH_3$

Structure;



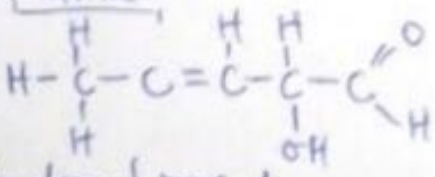
functional present

- phenyl gmp (C_6H_5) with double bonds.
- Amine.
- Alkanone/ketone $\left(\overset{=O}{C}-R\right)$

(iii)

$CH_3C=CHCH(OH)CHO$

Structure;



functional present

- Alkene (C=C)
- Hydroxyl gmp (OH)
- Alkanal $\left(\overset{=O}{C}-H\right)$

2.

Recall;

$$[\alpha]_{\lambda}^{T} = \frac{\alpha}{l \times c}$$

where

l = length of sample tube

$c = \frac{\text{mass}}{\text{volume}}$ (g/dm) or (g/mol)

α = observed rotation

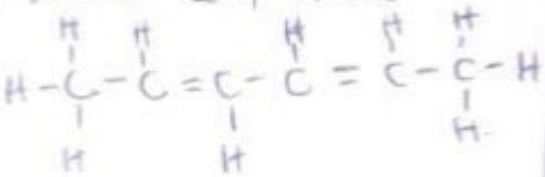
$$S_x = \frac{1.0}{1.0 \times \left(\frac{0.052}{4}\right)}$$

$$S_x = \frac{1}{0.052} = 11.68$$

3.

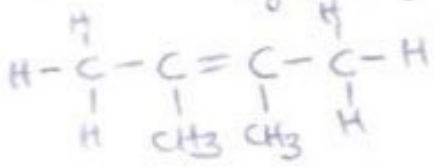
(i)

Hexa-2-4 diene.



(ii)

2,3-Dimethylbut-2-ene.



OR