CHM 102

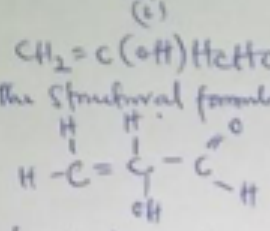
Solutions

1.

(i)

$CH_2=C(OH)HCHO$

The Structural formular:



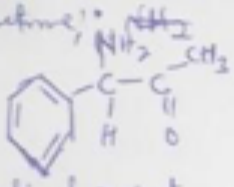
functional present are;

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

(ii)

$C_6H_5CH(NH_2)COCH_3$

Structure;



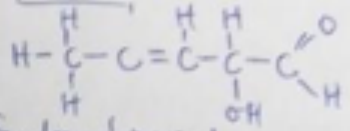
functional present

- phenyl group (C_6H_5) with double bonds.
- Amine
- Alkanone/ketone ($\overset{O}{\underset{}{C}}-R$)

(iii)

$CH_3C=CHCH(OH)CHO$

Structure;



functional present

- Alkene (C=C)
- Hydroxyl group (OH)
- Alkanal ($\overset{O}{\underset{H}{C}}$)

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/cm)

α = observed rotation

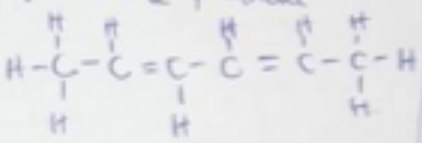
$$S_r = \frac{1.0}{1.0 \times \left(\frac{0.056}{1.0}\right)}$$

$$S_r = \frac{1}{0.0056} = 11.68$$

3.

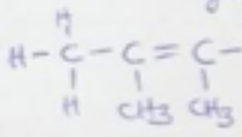
(i)

Hexa-2-4 diene.



(ii)

2,3-Dimethylbut-2-ene.



OR