

TIEBEBEDIGHA PERE DICKSON

19/ENG06/056

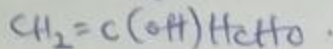
MECHANICAL ENGINEERING

CHM 102

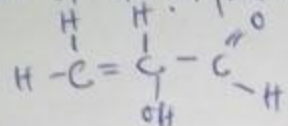
Solution

(1)

(i)



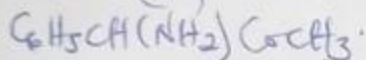
The structural formula:



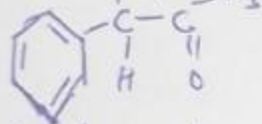
functional present are:

- Double bond chain = (Alkene)
- OH (hydroxyl group)
- $\begin{array}{c} O \\ || \\ C-H \end{array}$ (alcohol)

(ii)



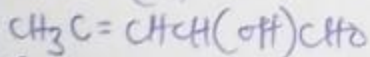
Structure:



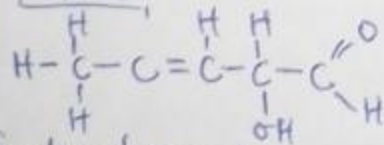
functional present

- phenyl group (C_6H_5) with double bond.
- Amine.
- Alkaneone / ketone ($\begin{array}{c} O \\ || \\ C-R \end{array}$)

(iii)



Structure:



functional present

- Alkene ($C=C$)
- Hydroxyl group (OH)
- Alkanol ($\begin{array}{c} O \\ || \\ C-H \end{array}$)

(2)

Recall:

$$[\alpha]_D^{25} = \frac{\alpha}{l \times c}$$

where

l = length of sample tube

c = $\frac{\text{mass}}{\text{volume}}$ (g/dm³) or (g/ml)

α = observed rotation

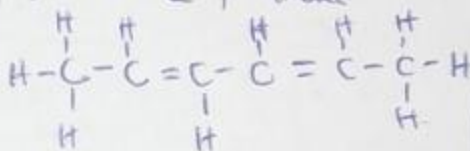
$$S_r = \frac{1.0}{1.0 \times \left(\frac{0.0556}{1}\right)}$$

$$S_r = \frac{1}{0.0556} = \underline{\underline{11.68}}$$

(3)

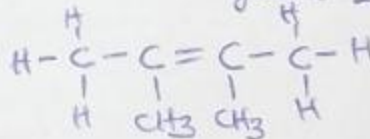
(i)

Hexa-2,4-diene



(ii)

2,3-Dimethylbut-2-ene



OR

