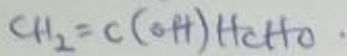


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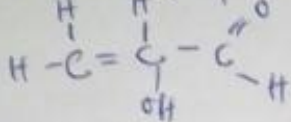
Solutions

(1)

(i)



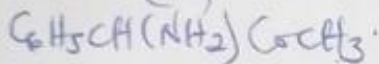
The structural formula:



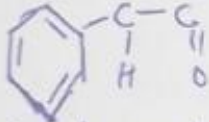
functional present are:

- Double bond chain = (Alkene)
- OH (hydroxyl group)
- $\overset{\text{O}}{\parallel}$ (alkanol)

(ii)



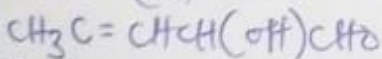
Structure:



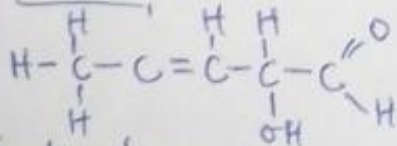
functional present

- phenyl group (C_6H_5) with double bonds
- Amine
- Alkaneone / ketone ($\overset{\text{O}}{\parallel}$)

(iii)



Structure:



functional present

- Alkene ($C=C$)
- Hydroxyl group (OH)
- Alkanol ($\overset{\text{O}}{\parallel}$)

(2)

Recall;

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

where

l = length of sample tube

$$c = \frac{\text{mass}}{\text{volume}} \left(\frac{g}{\text{cm}^3} \right) \text{ or } \left(\frac{g}{\text{mL}} \right)$$

α = observed rotation

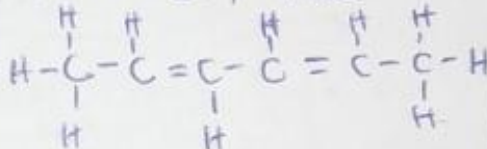
$$S_r = \frac{1.0}{1.0 \times \left(\frac{0.856}{1} \right)}$$

$$S_r = \frac{1}{0.856} = \underline{\underline{11.68}}$$

(3)

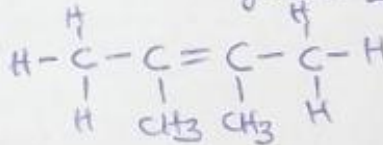
(i)

Hexa-2,4-diene



(ii)

2,3-Dimethylbut-2-ene



OR

