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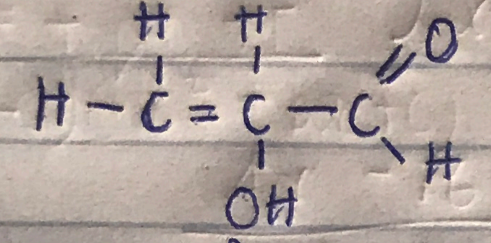
Mechatronics Engineering
19/ENG05/018
CHEM 102 Solution

1i $CH_2=C(OH)HCHO$

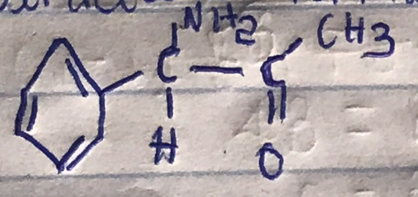
The structural formulae is



functional Present are
- Double bond chain (alkene)
- OH (hydroxy group)
- $\overset{=O}{C}{}_{\searrow H}$ (alkanol)

ii $C_6H_5CH(NH_2)COCH_3$

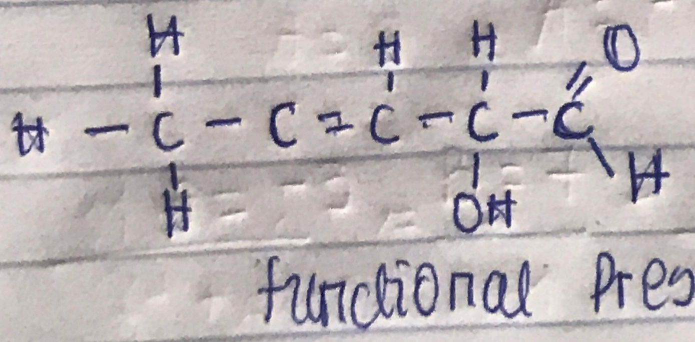
The structural formulae is



functional Present are
Phenyl group (C_6H_5) with double bonds
Amine
Alkanone / ketone $(\underset{\overset{||}{O}}{C}-R)$

iii $CH_3C=CHCH(OH)CHO$

The structural formulae is



functional Present are.

Alkene $(C=C)$
Hydroxyl group (OH) Alkanol $\left(\overset{=O}{C}{}_{\searrow H}\right)$

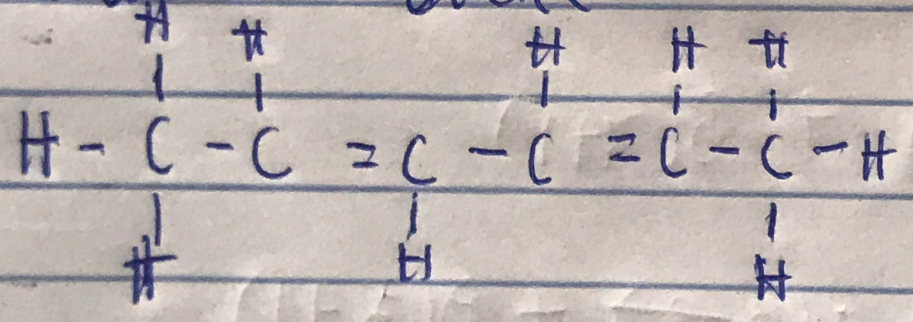
2 $[\alpha]_{\lambda}^{T} = \frac{\alpha}{l \times c}$

l = length of sample tube
$C = \frac{Mass}{Volume}$ (g/dm) or (g/mol)
α = observed rotation

$$S_r = \frac{1.0}{1.0 \times \left(\frac{0.856}{10}\right)}$$

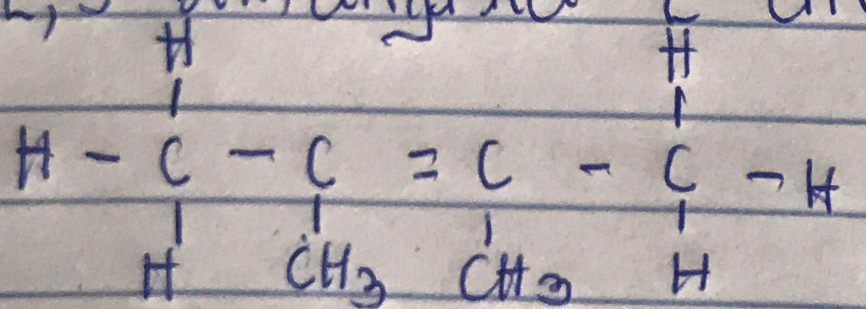
$$S_r = \frac{1}{0.0856} = 11.68$$ //

3i Hexa- 2-4 diene



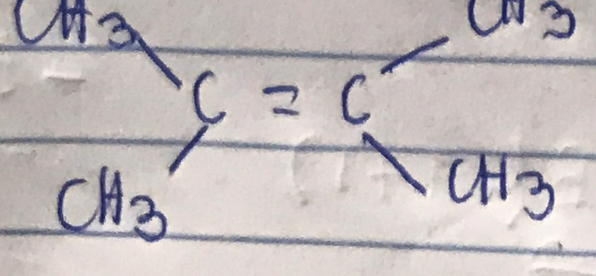
$H-\underset{H}{\overset{H}{C}}-\overset{H}{C}=\underset{H}{C}-\overset{H}{C}=\overset{H}{C}-\underset{H}{\overset{H}{C}}-H$

ii 2,3 Dimethyl het-2-ene.



$H-\underset{H}{\overset{H}{C}}-\underset{CH_3}{C}=\underset{CH_3}{C}-\underset{H}{\overset{H}{C}}-H$

Or



(Neo butane)