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MECHATRONICS ENGINEERING
19/ENG05/019.
CHM 102

1 i) $CH_2=C(OH)HCHO$ — Alkanols $-OH$
ii) $C_6H_5CH(NH_2)COCH_3$ — Amides $-RCONH_2$
iii) $CH_3C=CHCH(OH)CHO$ — Alkanols $-OH$

2 $\alpha^T_\lambda = \frac{\alpha}{c \cdot l}$

$c = \frac{0.850}{10} = 0.0856\ g\,cm^{-1}$

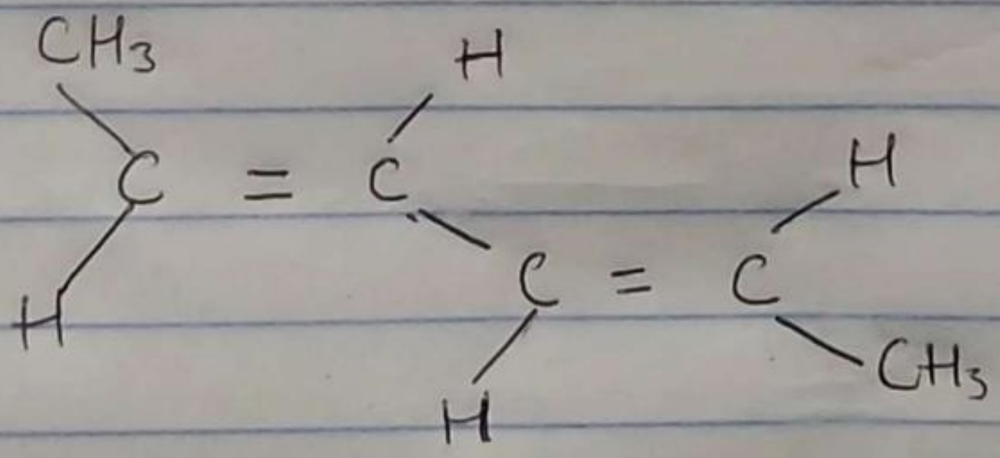
$\alpha = +1.0^\circ$; $l = 1\ dm$ $c = 0.0856\ g\,cm^{-1}$

$\therefore \alpha^T_\lambda = \frac{1.0}{0.0856 \times 1}$

$= \frac{1}{0.0856} = +11.6822^\circ$

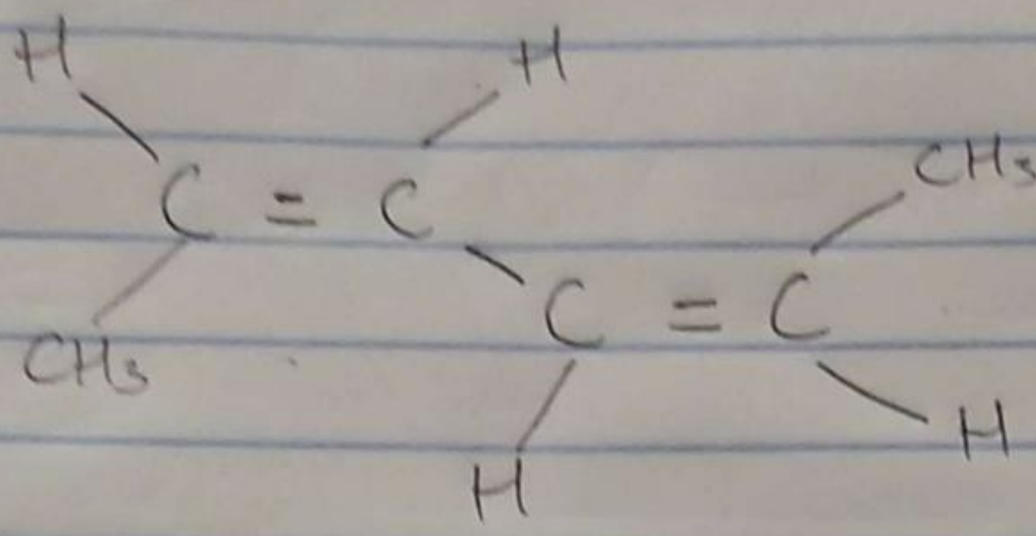
3 i) The possible isomers of Hexan-2,4-diene.

a)



(2E,4E) hexan-2,4-diene
trans-trans isomer

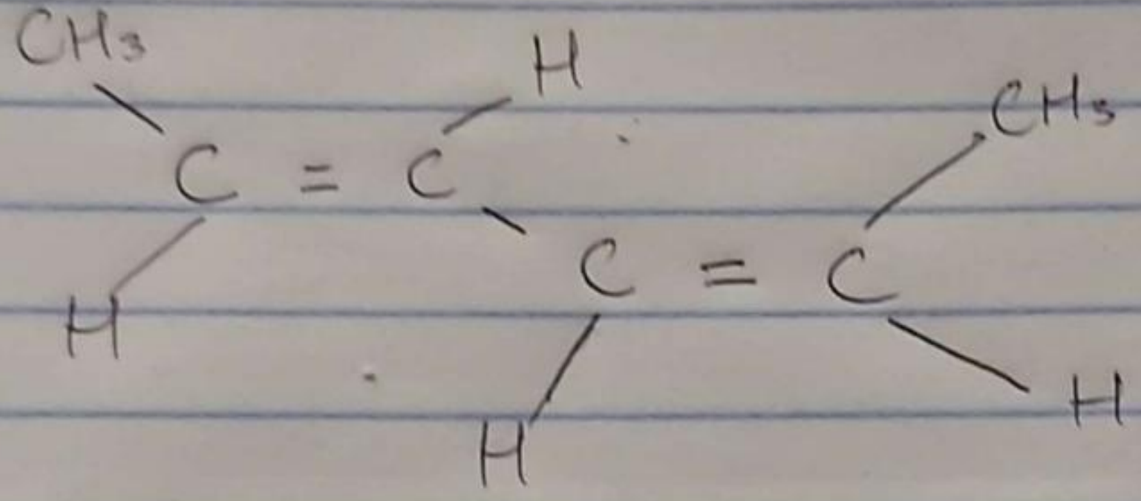
b)



(2z, 4z) hexan 2,4 diene

Cis-Cis isomer

c)

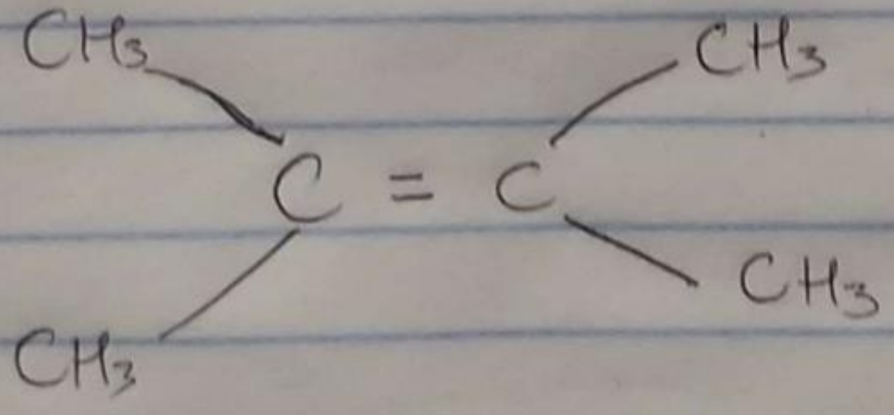


(2z, 4E) hexan-2,4-diene

Cis-trans isomer.

There are 3 possible isomers of Hexan-2,4-diene.

ii) The possible isomer for 2,3 Dimethylbut-2-ene



There is only one possible isomer for 2,3 Dimethylbut-2-ene.