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Observation-II: $(\alpha_{obs})_X = +10^\circ$ $(\alpha_{obs})_Y = -10^\circ$

$\Rightarrow$

$\Rightarrow$

$\Rightarrow$

$\Rightarrow$

$\Rightarrow$ X is Rotating clockwise & Y is Rotating Anticlockwise.

$\Rightarrow$ X & Y Both are mirror images of each other.

Observation-III: $(\alpha_{obs})_X = +15^\circ$ $(\alpha_{obs})_Y = 0^\circ = (+\alpha) + (-\alpha)$

$\Rightarrow$ Both X & Y are showing optical isomerism.

$\Rightarrow$ X is optically Active & Y is optically Inactive

$\Rightarrow$ X is Rotating PPL in clockwise direction

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Observation - IV

$(\alpha_{obs})_x = 0^\circ$ $\quad$ $(\alpha_{obs})_y = 0^\circ$

Case (i):

$\Rightarrow$ X & Y Both wd be identical
$\Rightarrow$ optically inactive
$\Rightarrow$ dosn't show optical isomerism.

Case (ii)

$(\alpha_{obs})_x = (+\theta) + (-\theta)$ $\quad$ $(\alpha_{obs})_y = (+\theta) + (-\theta)$

$\Rightarrow$ X & Y Both wd be identical
$\Rightarrow$ optically inactive
$\Rightarrow$ showing optical isomerism

Case (iii):

$(\alpha_{obs})_x = (\alpha) + (-\alpha)$ $\quad$ $(\alpha_{obs})_y = (+\beta) + (-\beta)$

$\Rightarrow$ X & Y Both wd be different
$\Rightarrow$ Both are optically inactive
$\Rightarrow$ ——— showing optical isomerism

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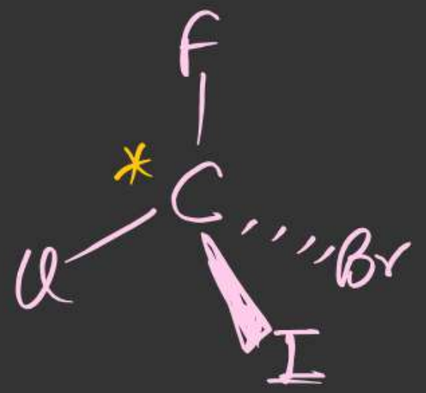
(1)



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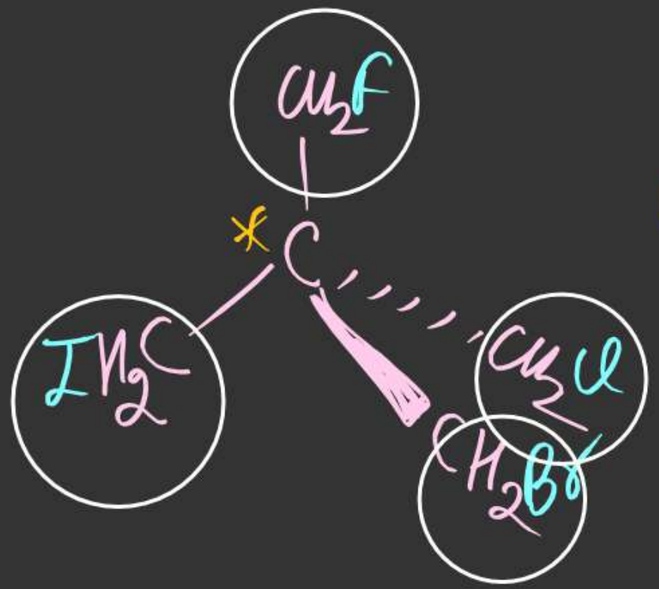

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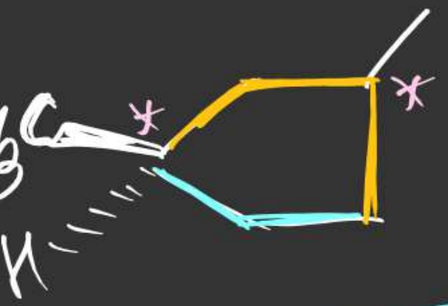
(3)

CC=0

(4)



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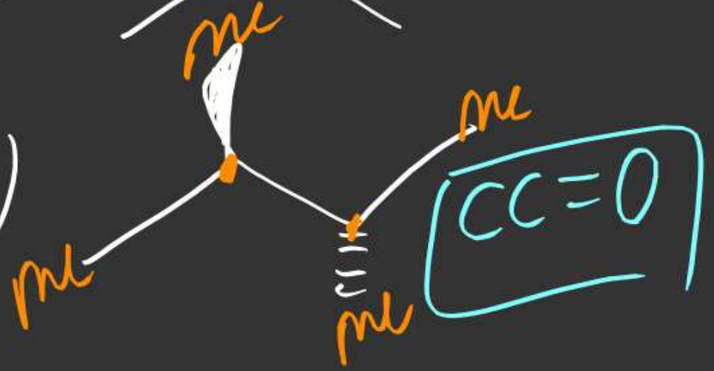
(5)

CC=0

(6)



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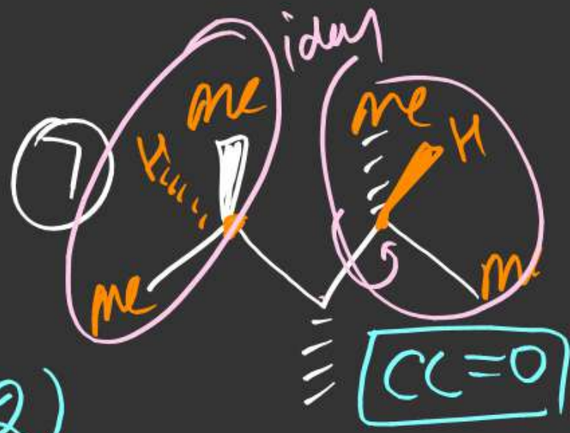

(8)

CC=0

CC=2

(9)

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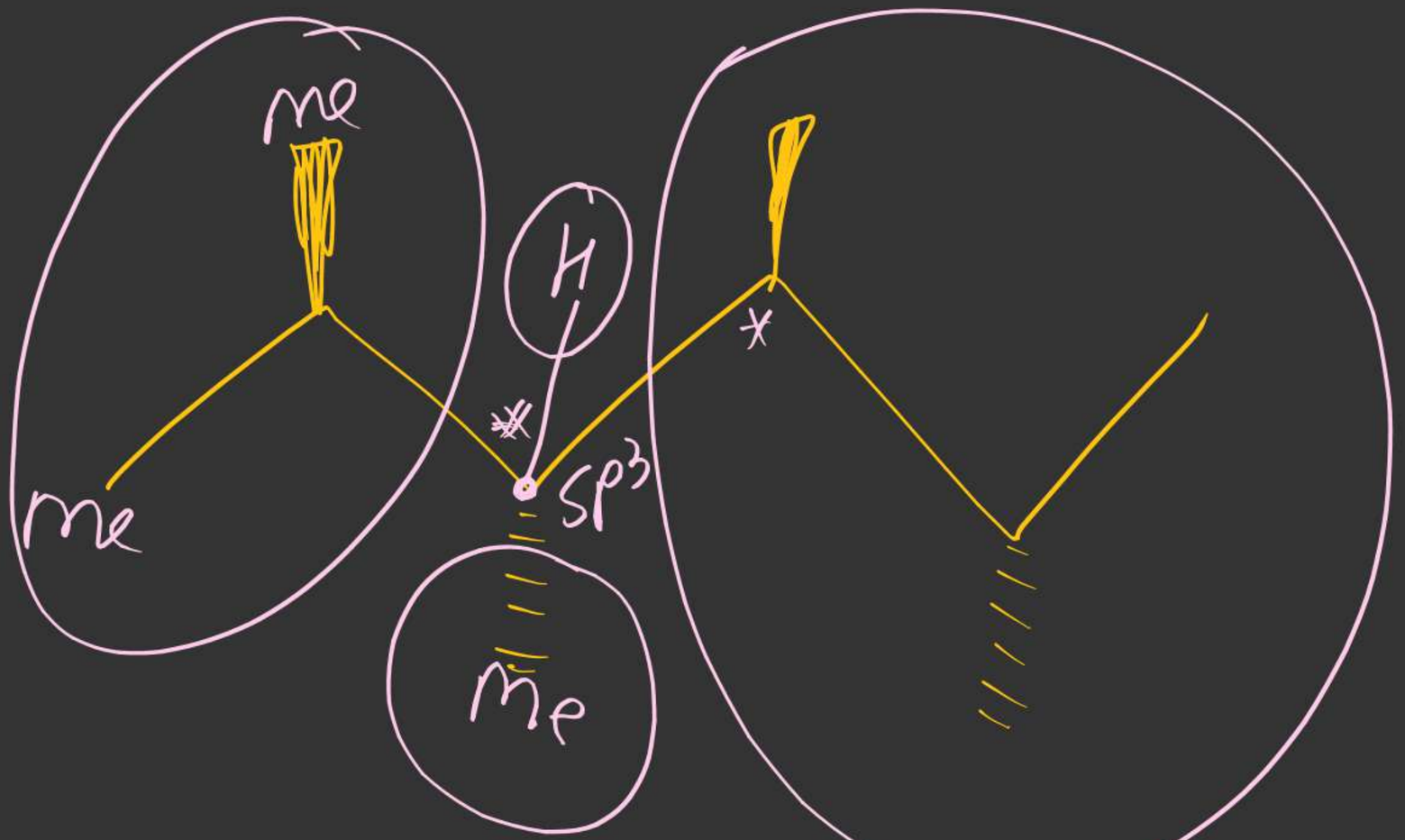

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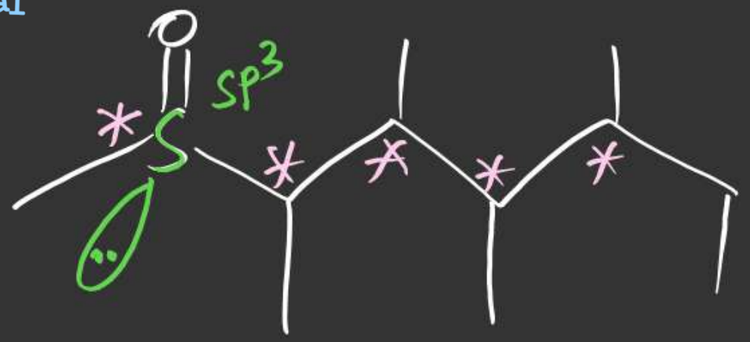
(10)



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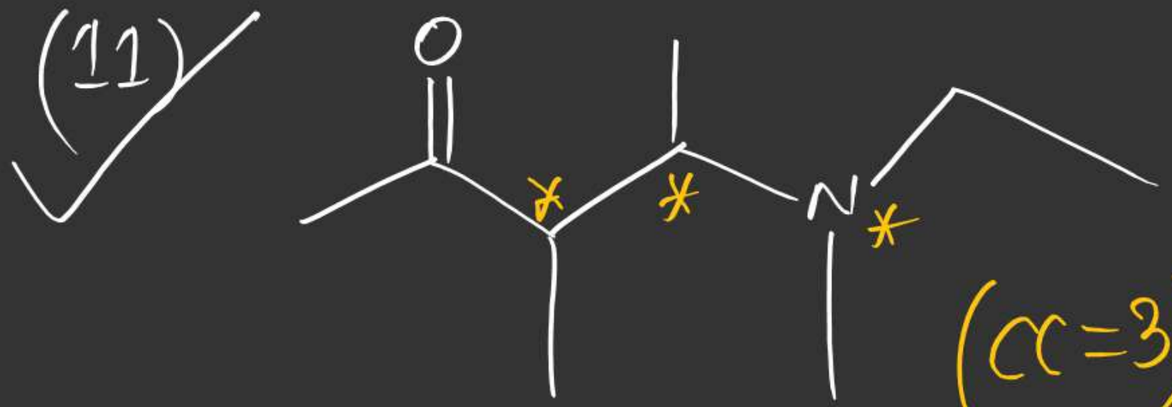
(11)



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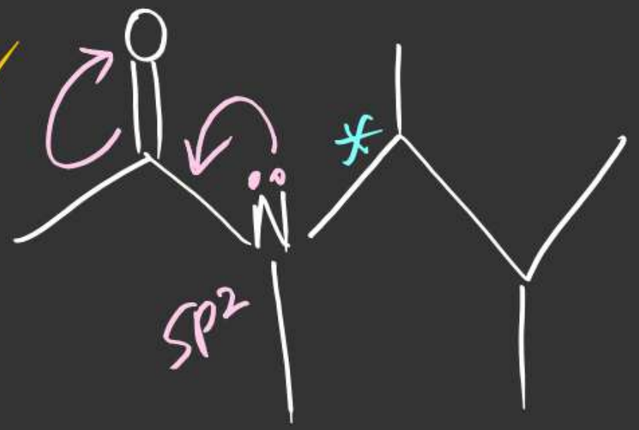

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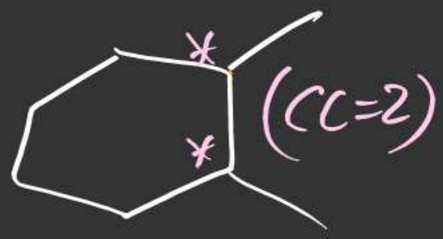
(13)



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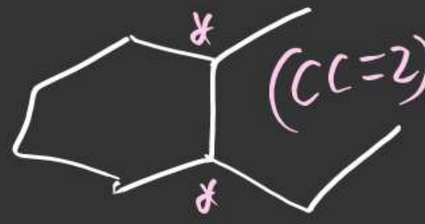

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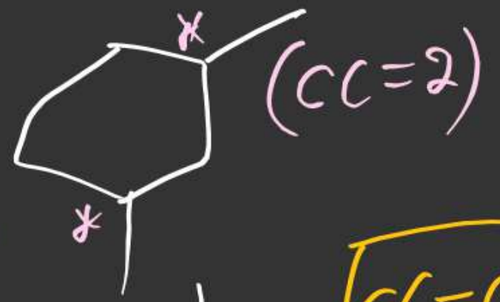
(15)



(CC=2)

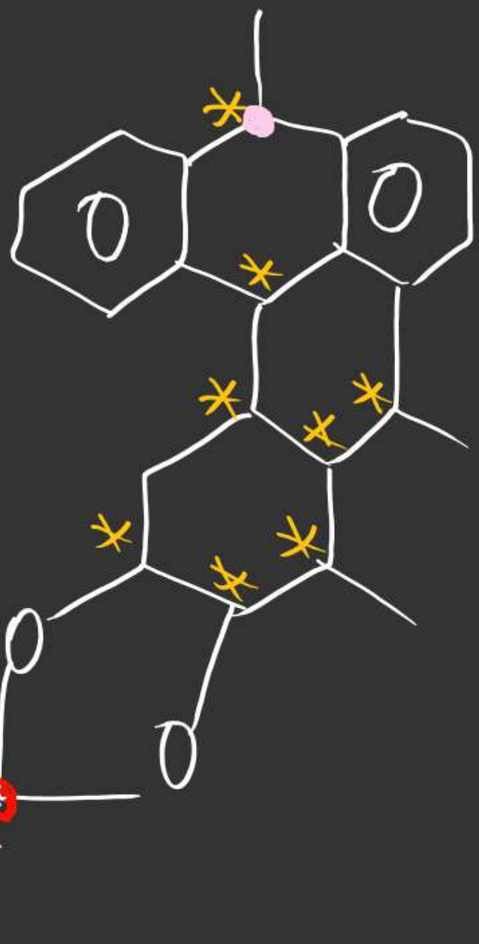
(16)

CC=0

(17)

CC=4

(18)



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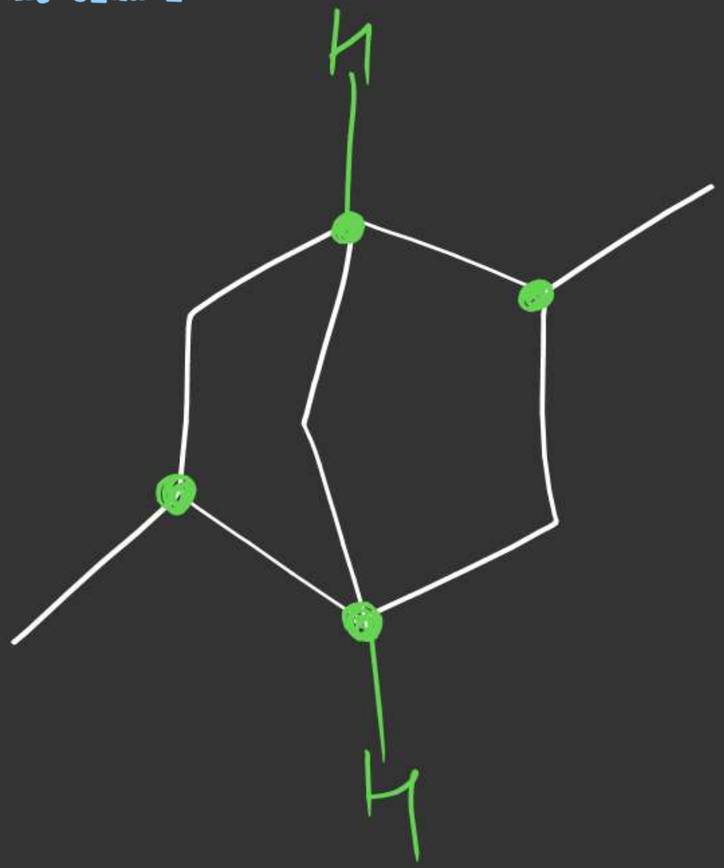
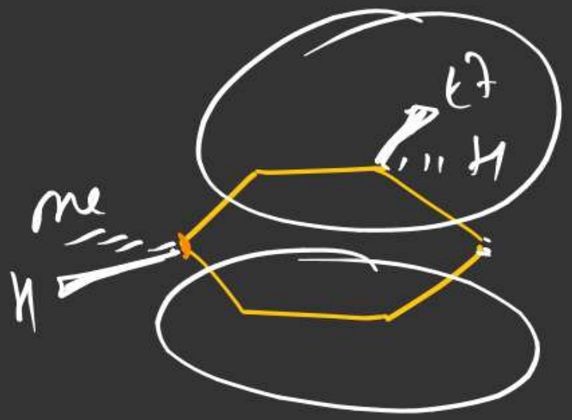


Nishant Jindal



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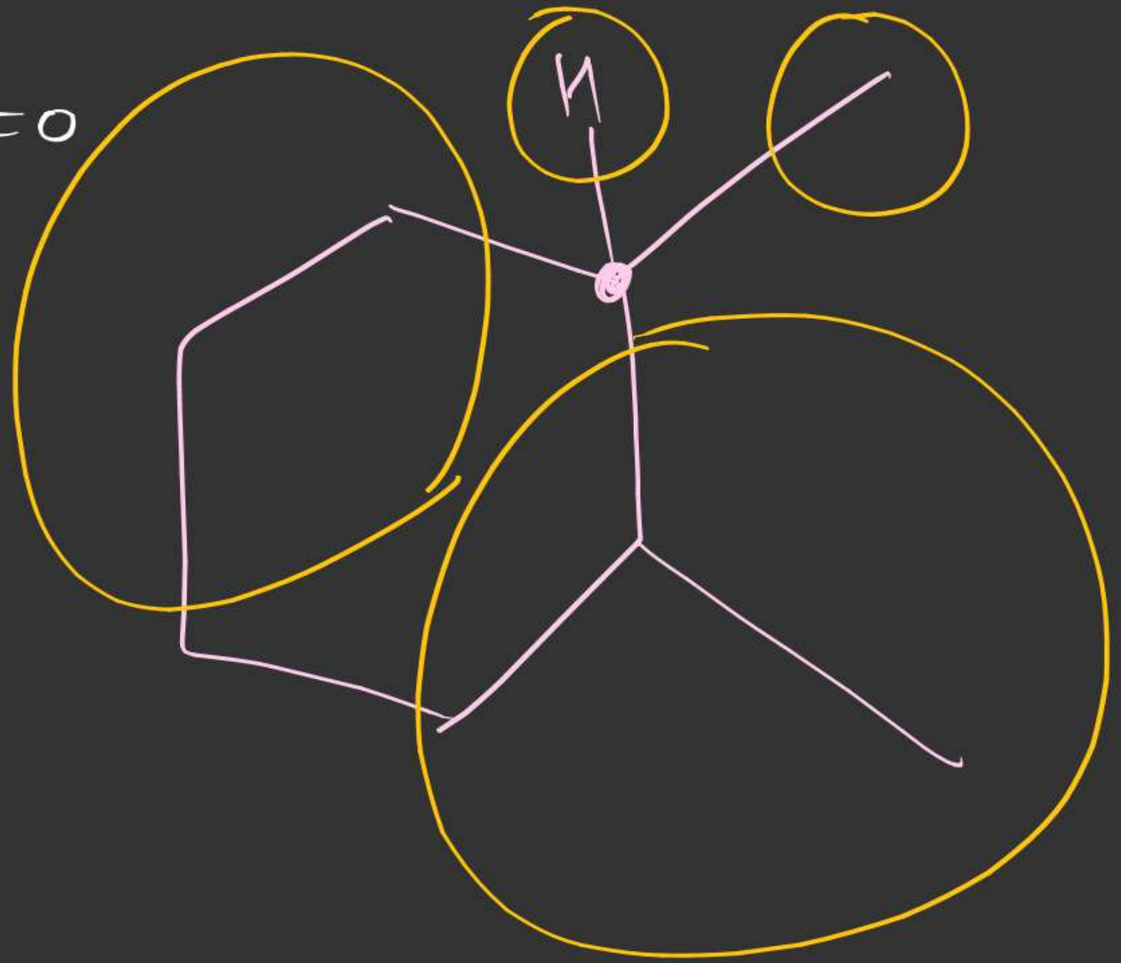
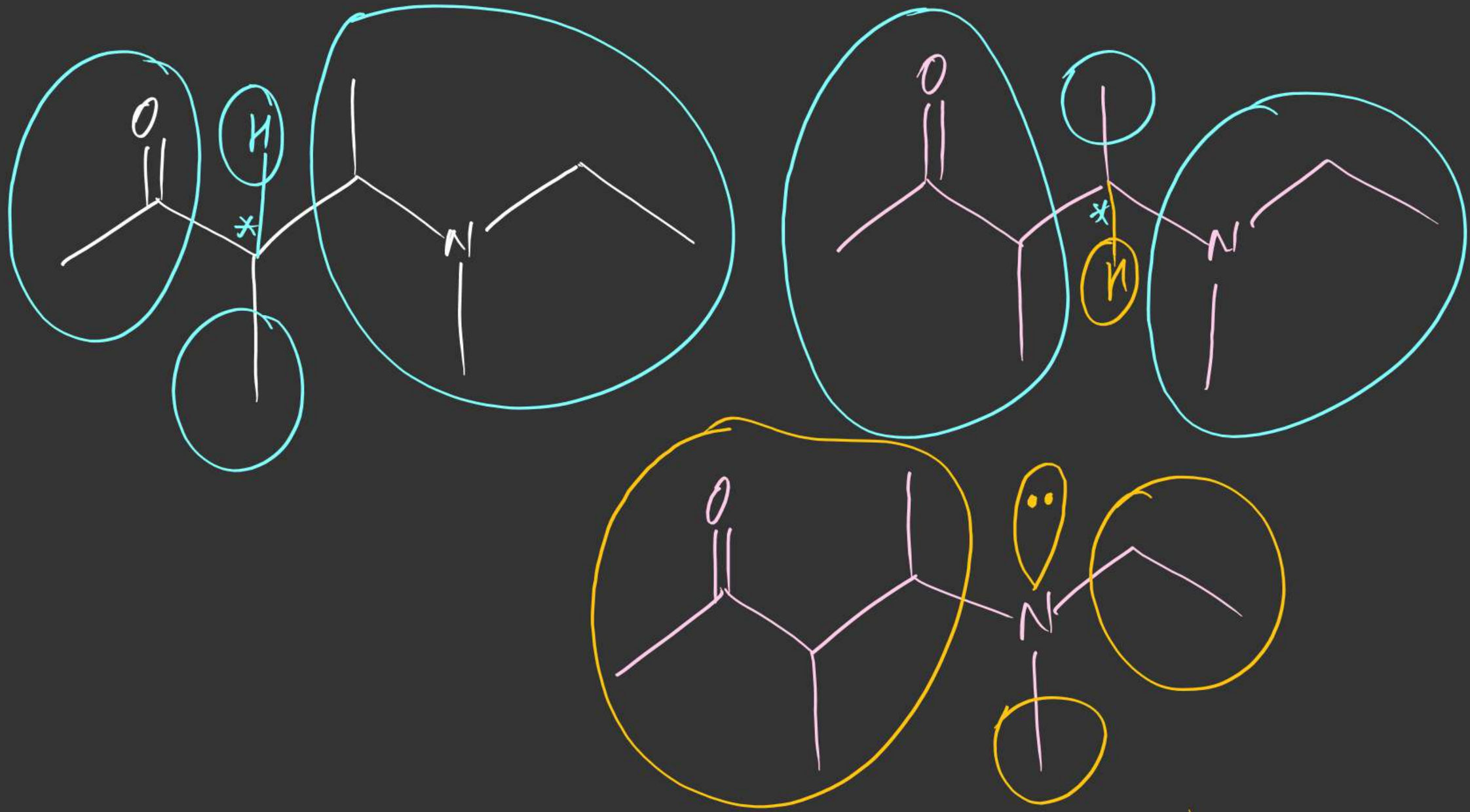


Nishant Jindal



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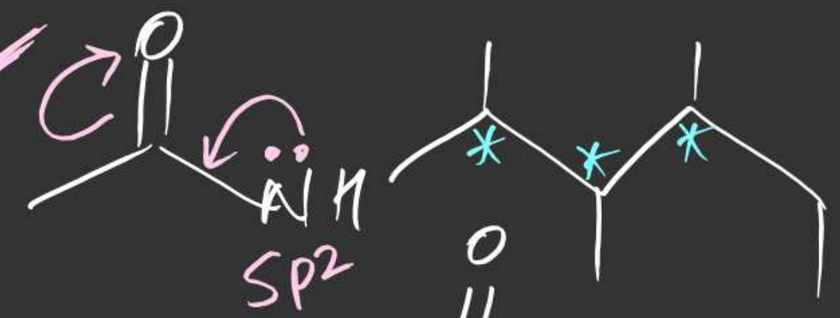
(19)



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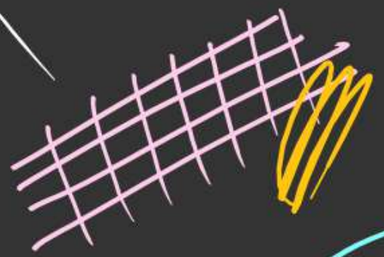
(20)

CC=4



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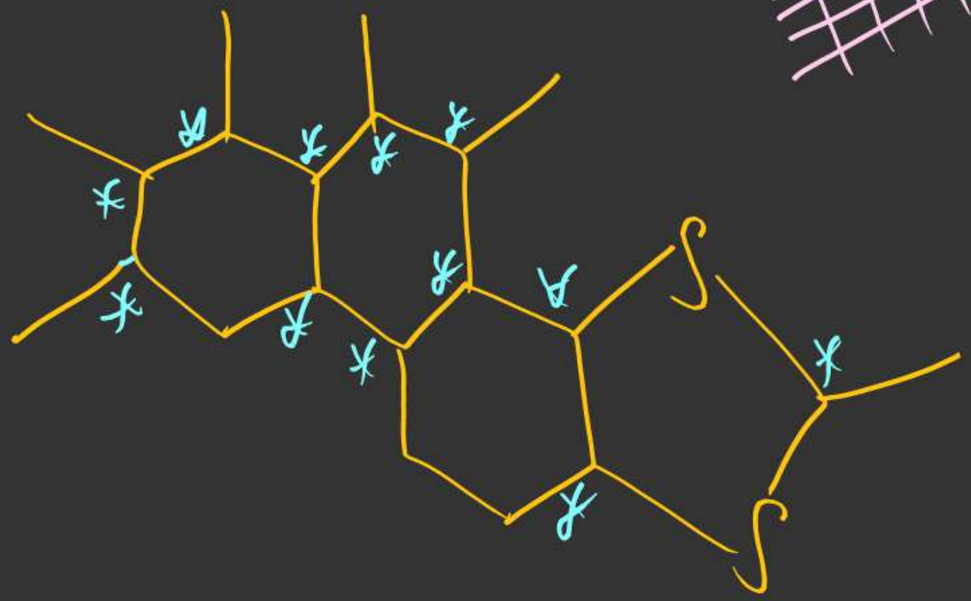

CC=12

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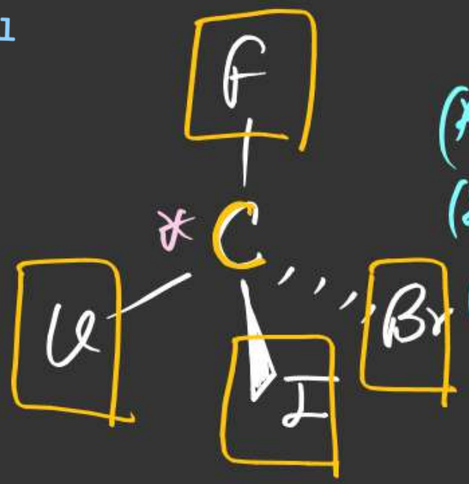
(22)

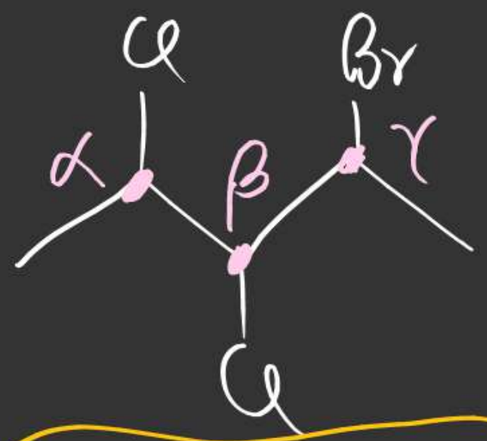


(*) CC = 1

(*) Sn absent

(*) $\alpha_{obs} = +\theta$

(23)

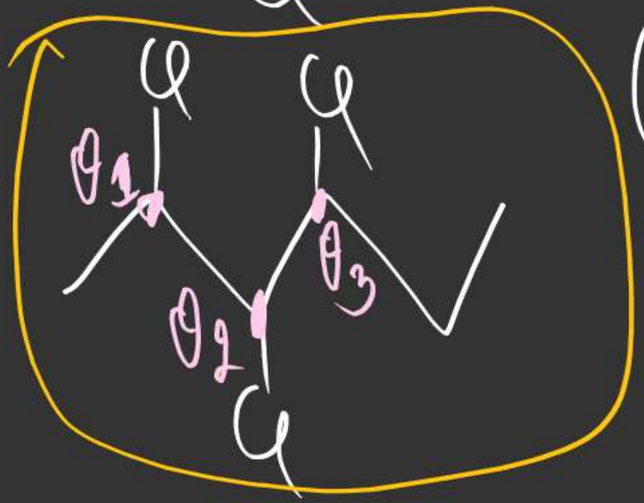


(CC = 3)

Compounds ⇒

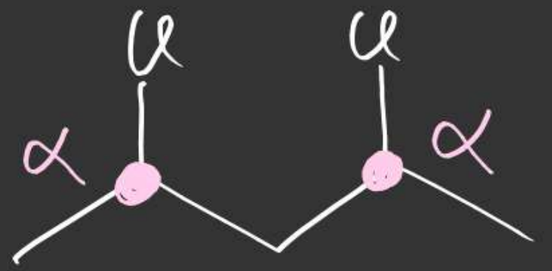
(CC = 3)

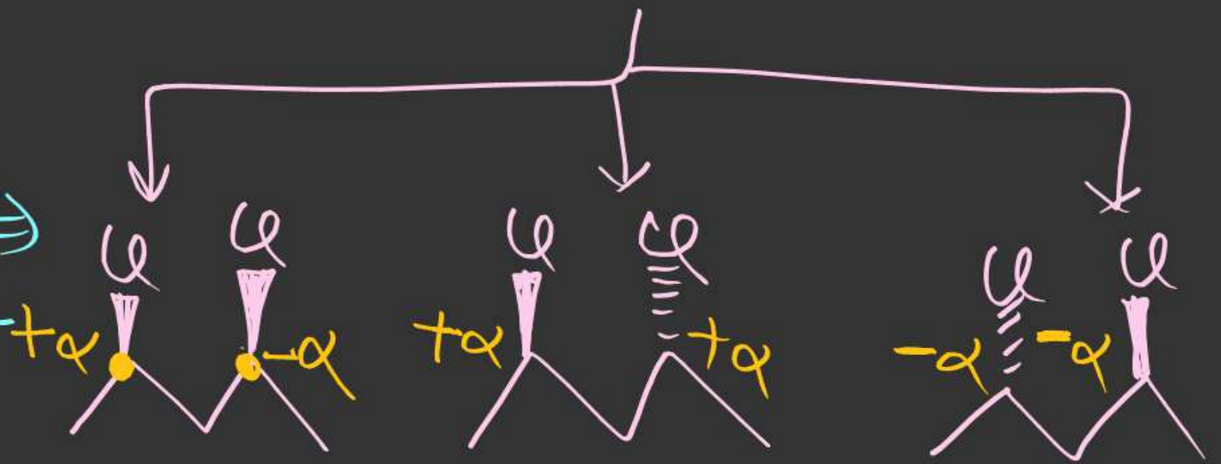
(24)



Category of Compound

(25)





$\alpha_{obs} = 0$

$\alpha_{obs} = +2\alpha$

$\alpha_{obs} = -2\alpha$

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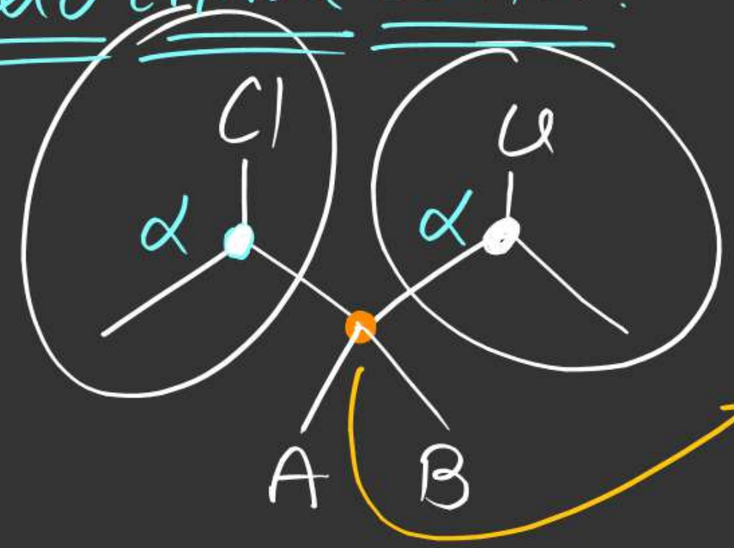
Psvedo chiral centre :

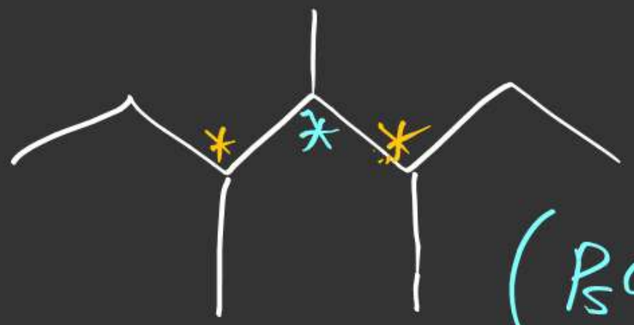
(26)



Psvedo chiral centre

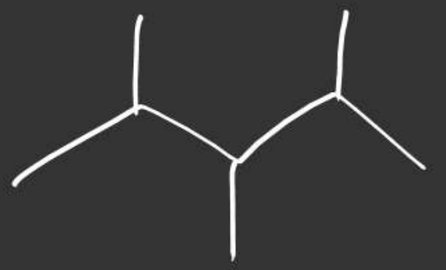
= If A ≠ B in any Symetrical Compound & Rest two Segments are Showing stereoisomerism then centre atom is known as psvedo chiral centre

(27)



($P_s CC = 1$)

(28)



($P_s CC = 0$)

$CC = 0$

Note if Category of compound is given then Psvedo chiral centre is counted as chiral center by default.

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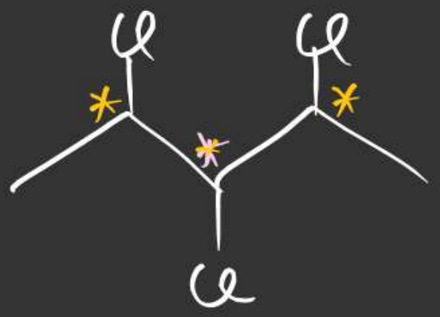
(29)



PsCC = 1

Total chiral centre = 3

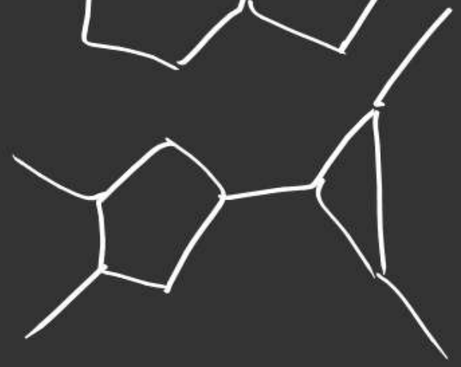
(30)

PsCC = 1

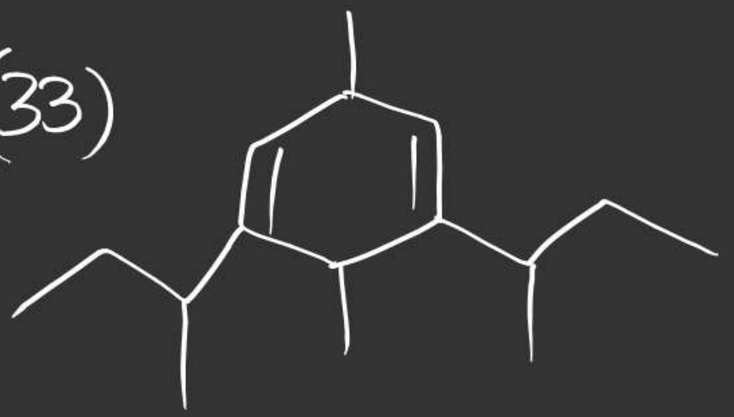
T·CC = 2

(31)

(32)

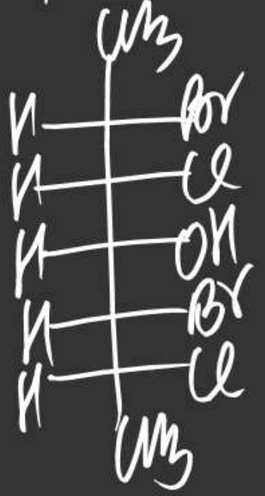


(33)



(34)

(35)



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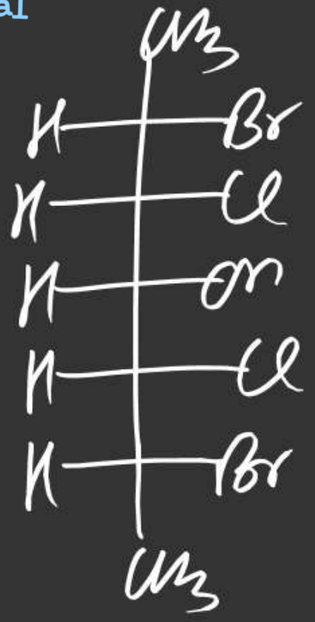
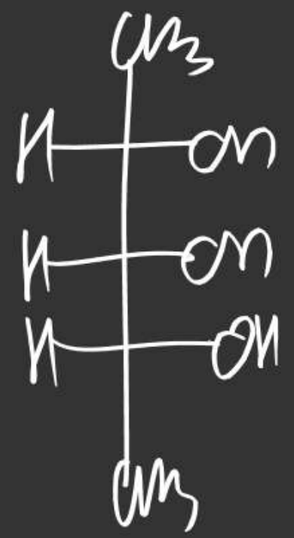
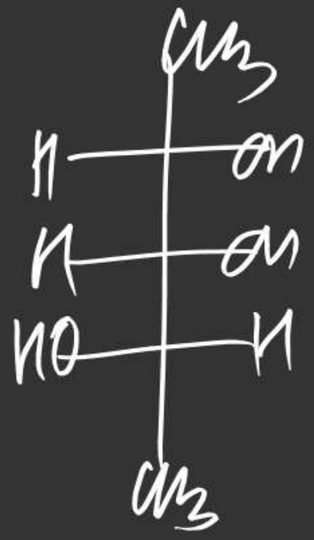
(36)



(37)



(38)



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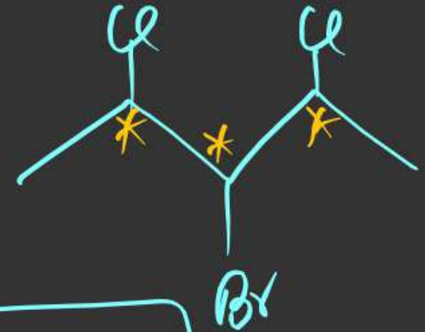
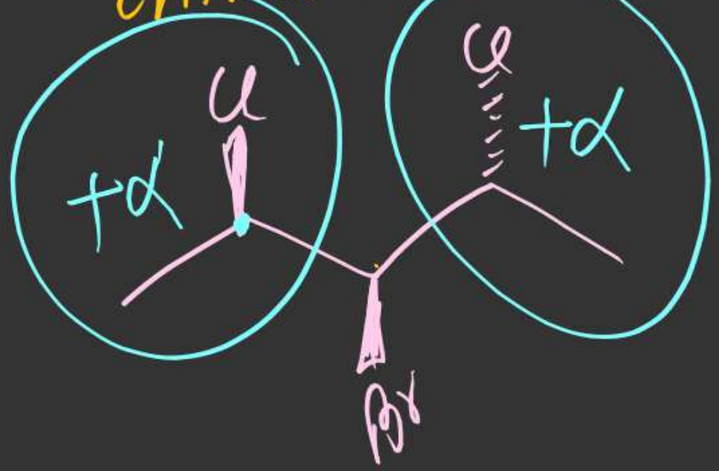


$P_sCC = 1$

$TCC = 3$

Note (i) Pseudo chiral centre may a may not be chiral centre.

(39)



$P_sCC = 1$

$CC = 2$