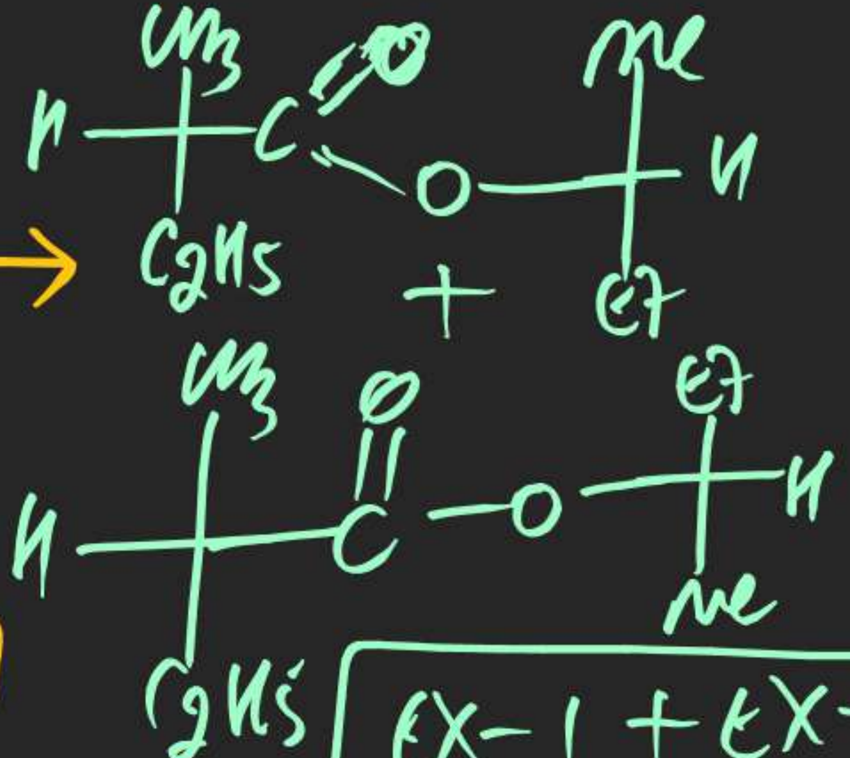
Nishant Jindal

STEREOISOMERISM

Ex-2: $\boxed{\text{(+)-2-methyl Butanoic Acid}}$ + $\boxed{\text{(±)-2-Butanol}}$ →



Ex-3: $\boxed{\text{(±)-2-methyl Butanoic Acid}}$ + $\boxed{\text{(±)-2-Butenol}}$ → $\boxed{\text{Ex-1 + Ex-2}}$ (4 product)

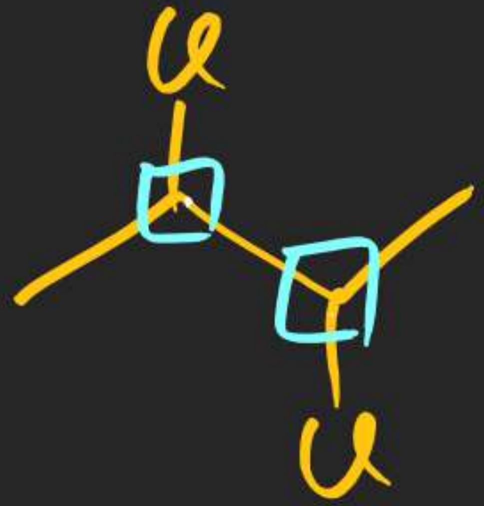
Q-4: Find Total no. of Compounds which can be used to converted Enantiomeric mixture of Carboxylic Acid into Diastereomeric mixture.

STEREOISOMERISM

(1) 

$(n=1)$ $\begin{cases} a = 2^1 = 2 \\ m = 0 \\ ep = 1 \\ T = 2 \end{cases}$

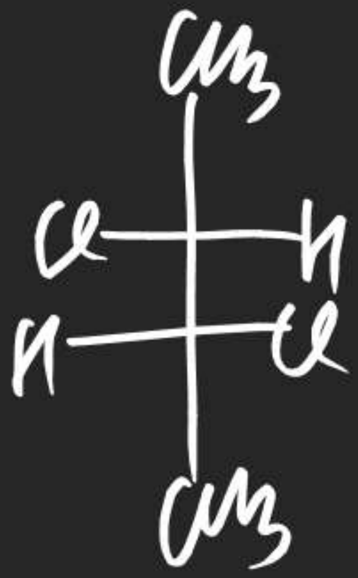
 $+ mI$

(2) 

$(n=2)$ $\begin{cases} a = 2^{2-1} = 2 \\ m = 2^{1-1} = 1 \\ ep = 1 \\ T = 3 \end{cases}$

(meso)

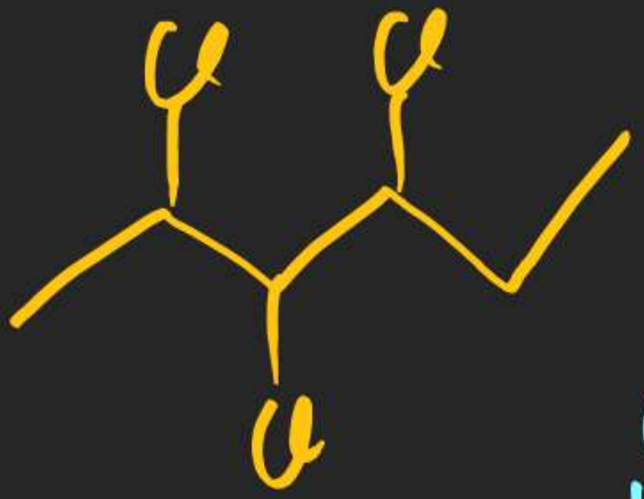
$\underbrace{\qquad}_{m}$

 $+ mI$

pos X

cos X

$\underbrace{\qquad}_{a}$

(3) 

$(n=3)$

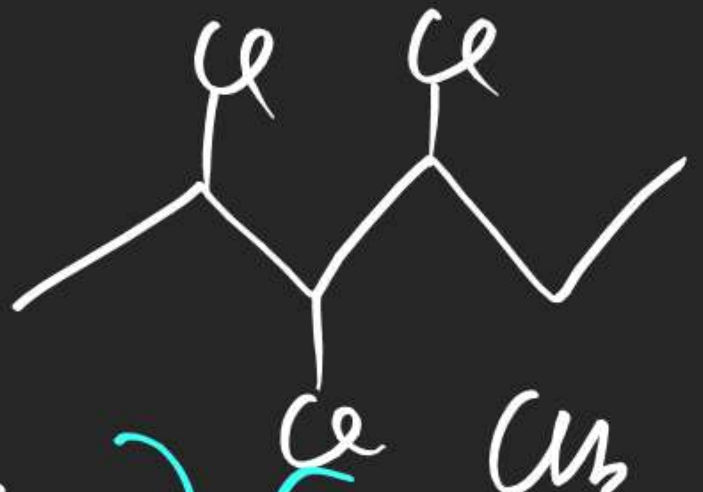
$a = 2^3 = 8$

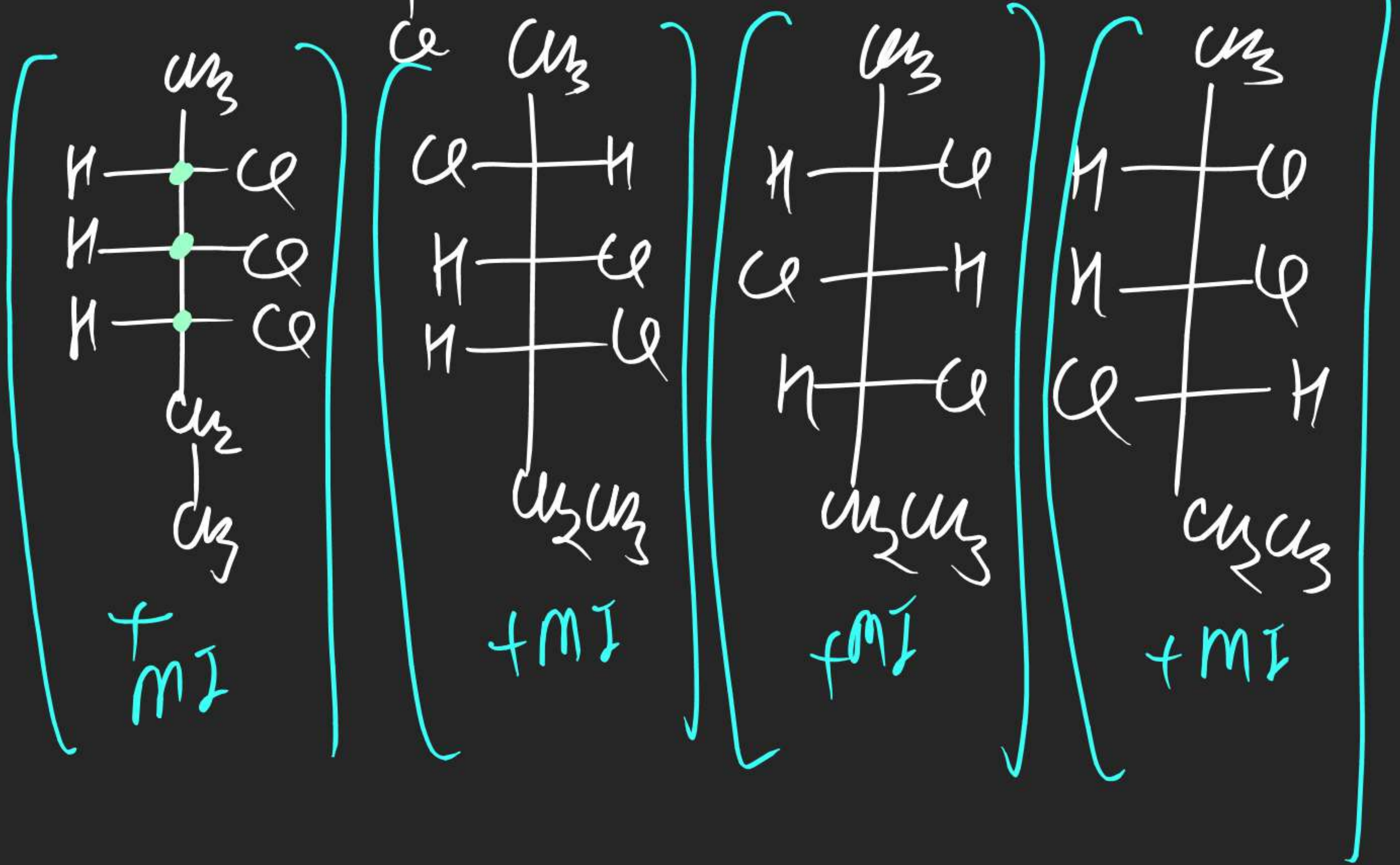
$m = 0$

$ep = 4$

$T = 8$

Soln (3)

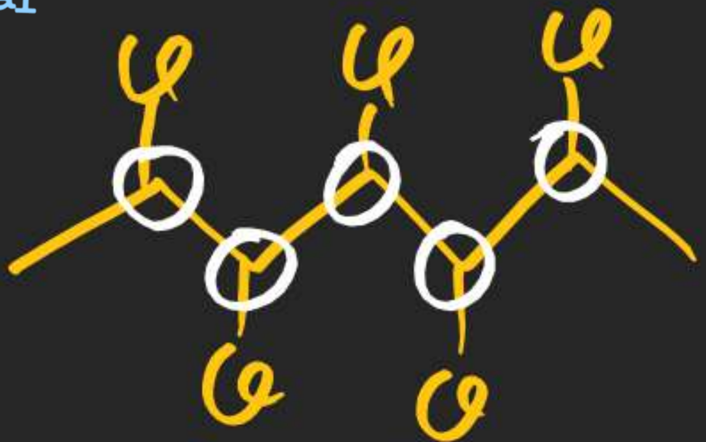




$= \left[\frac{n}{2}\right]$ GIF

STEREOISOMERISM

(4)



(n=5) symmetrical

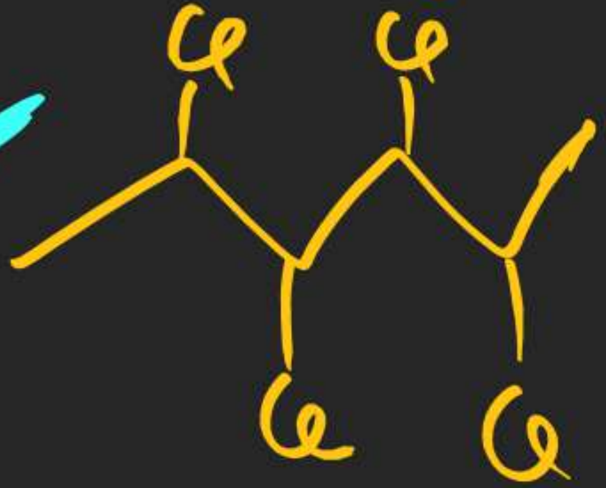
$a = 2^{n-1} - 2^{\frac{n-1}{2}} = 2^{5-1} - 2^{\frac{5-1}{2}} = 2^4 - 2^2 = 12$

$m = 4$

$EP = 6$

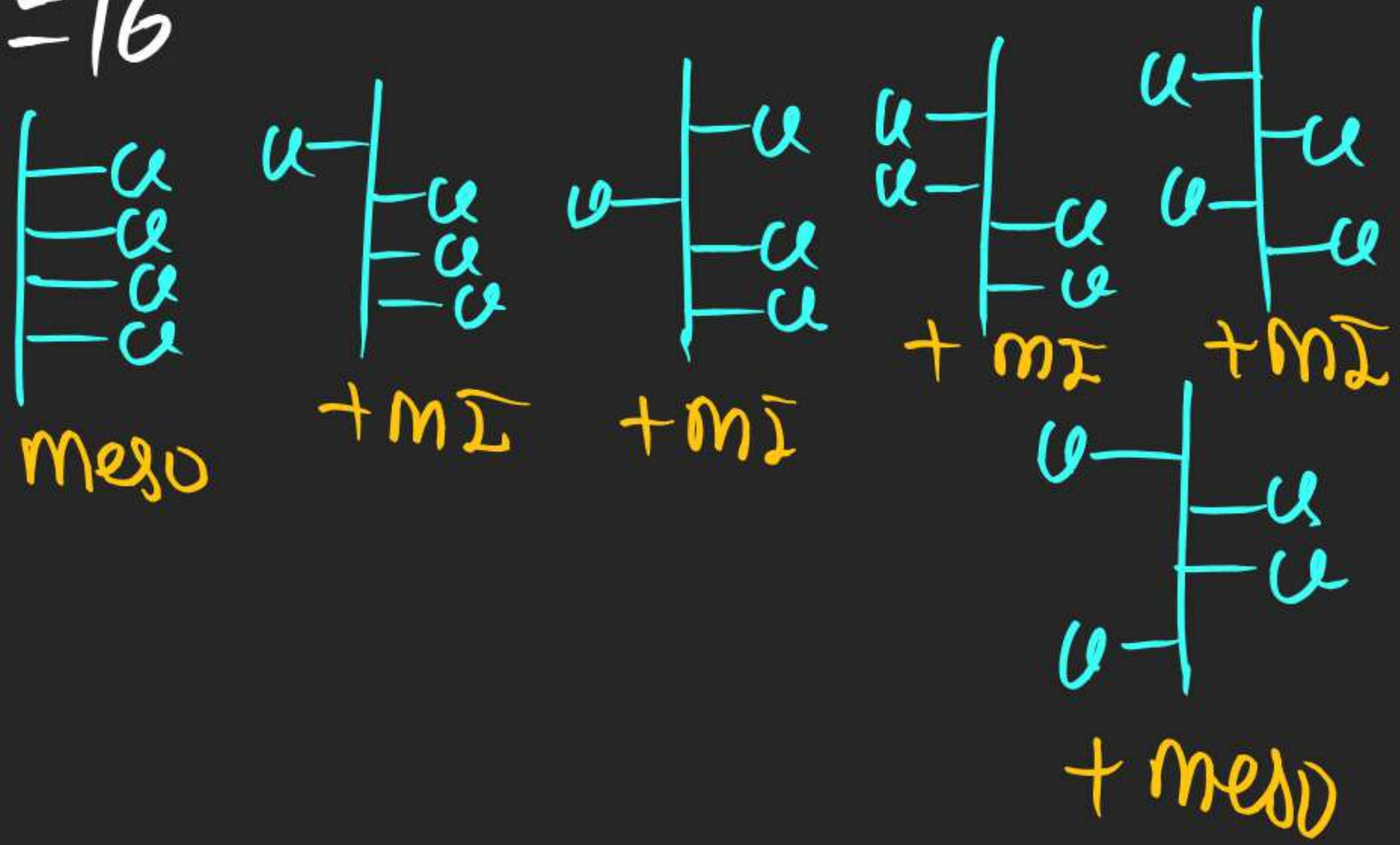
$T = 16$

(5)



(n=4)

$\boxed{a=8,\ m=2,\ EP=4,\ T=10}$



(6) $Ph-\left(\underset{|}{CH}\atop{CH_3}\right)_3-CH_3$

(n=3)

$a = 2^3 = 8$

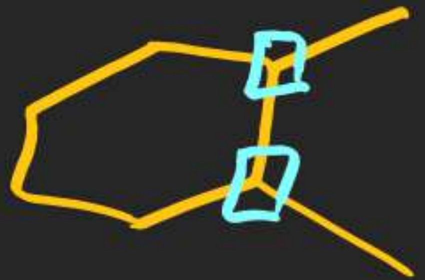
$m = 0$

$EP = 4$

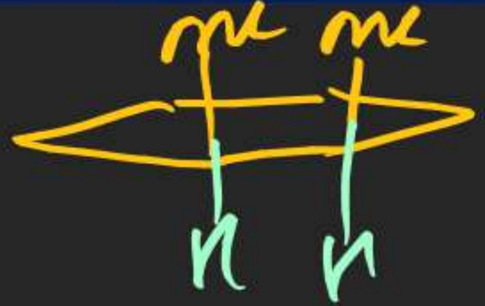
$T = 8$

STEREOISOMERISM

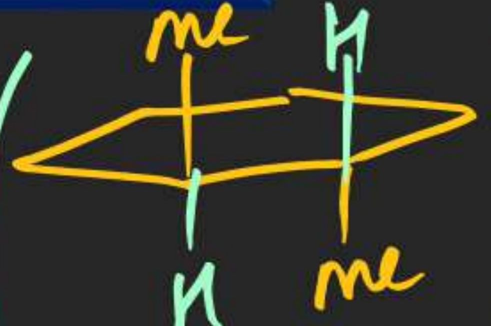
(7)



$(n=2)$



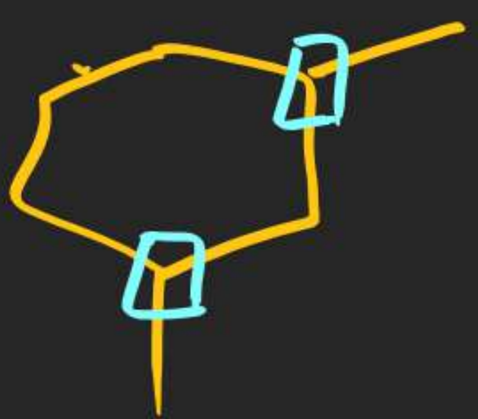
meso



$+ mI$

$a = 2$
$m = 1$
$EP = 1$
$T = 3$

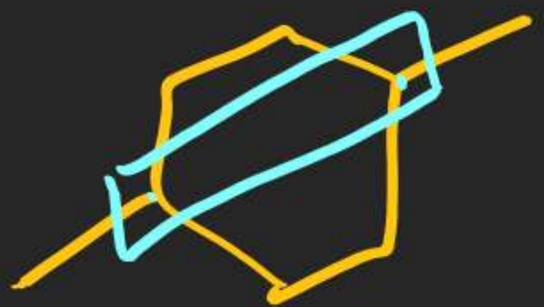
(8)



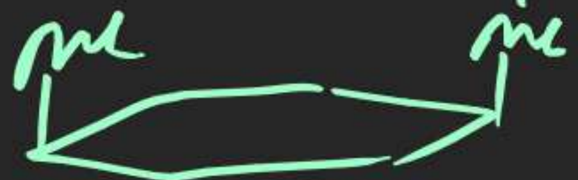
$(n=2)$

Same like (7)

(9)



$(n=1)$

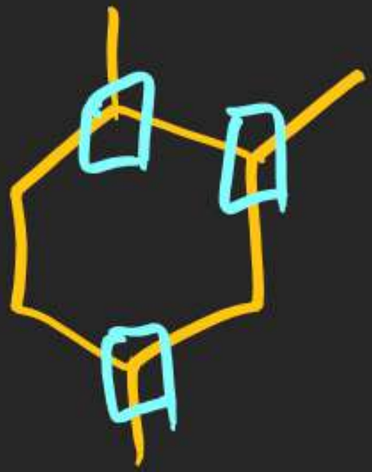


"single"

"single"

$\boxed{TSI = 2}$

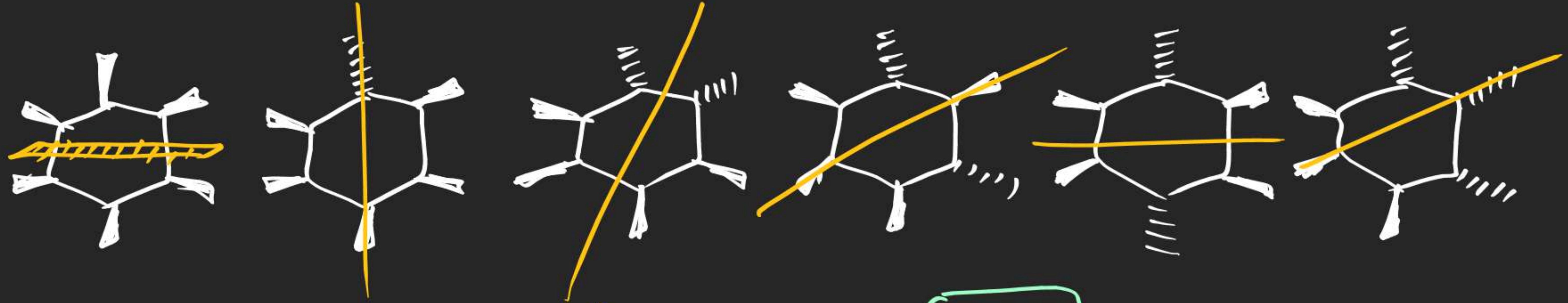
(10)

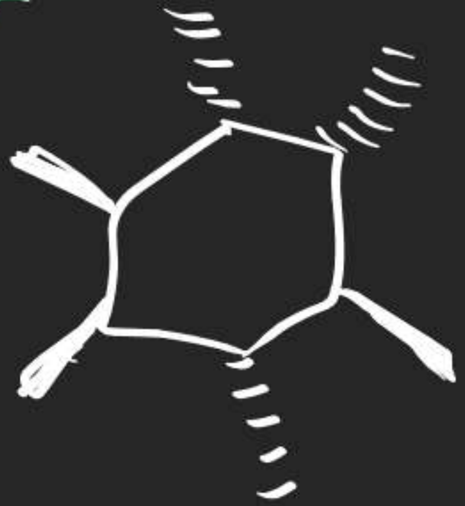


$(n=3)$

$a = 2^3 = 8$
$m = 0$
$EP = 4$
$T = 8$

Sol^n 16





+ mirror image

$a = 2$
$m = 7$
$\epsilon p = 1$
$T = 9$

$\frac{a}{2} = a + m$

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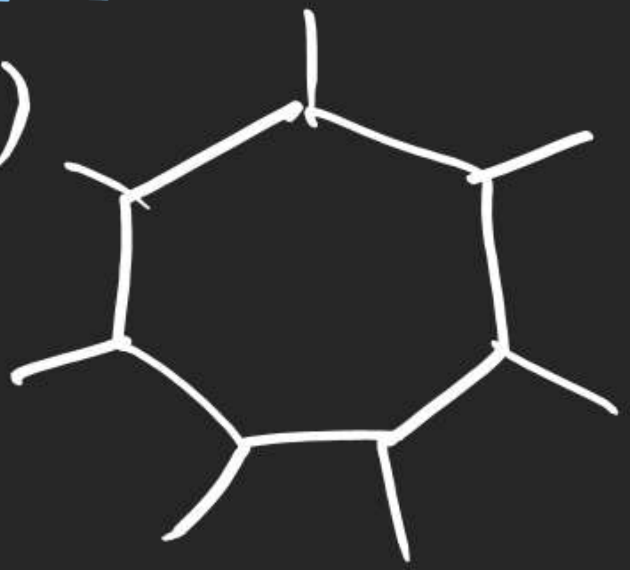
STEREOISOMERISM

(17)



⇒ All wedge — 1 Case

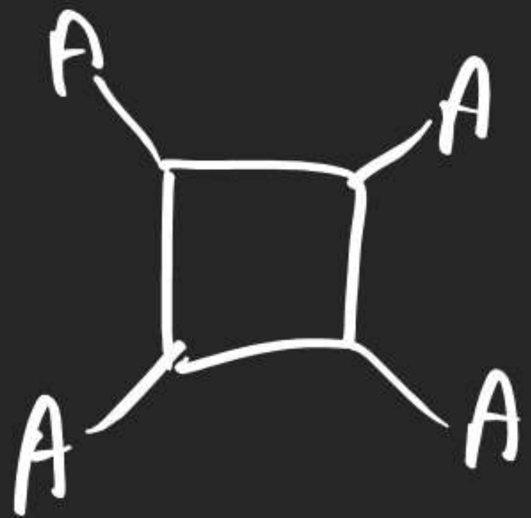
1 Dash — 1 Case

2 Dash — 3 Case (1,2 / 1,3 / 1,4)

3 Dash — 4 Case (1,2,3 / 1,2,4 +MI / 1,2,5 / 1,3,5 /

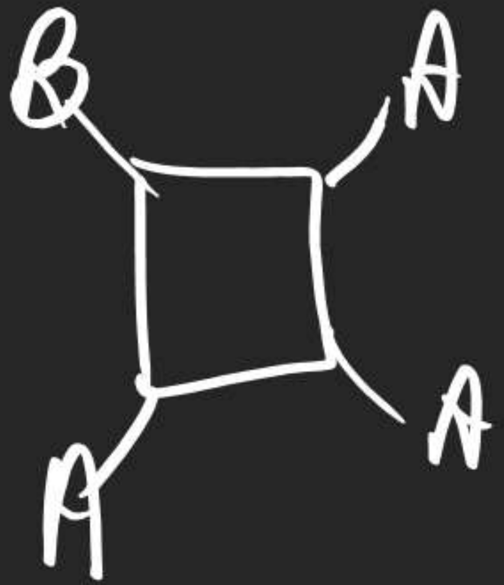
a = 2
m = 8
EP = 1
T = 10

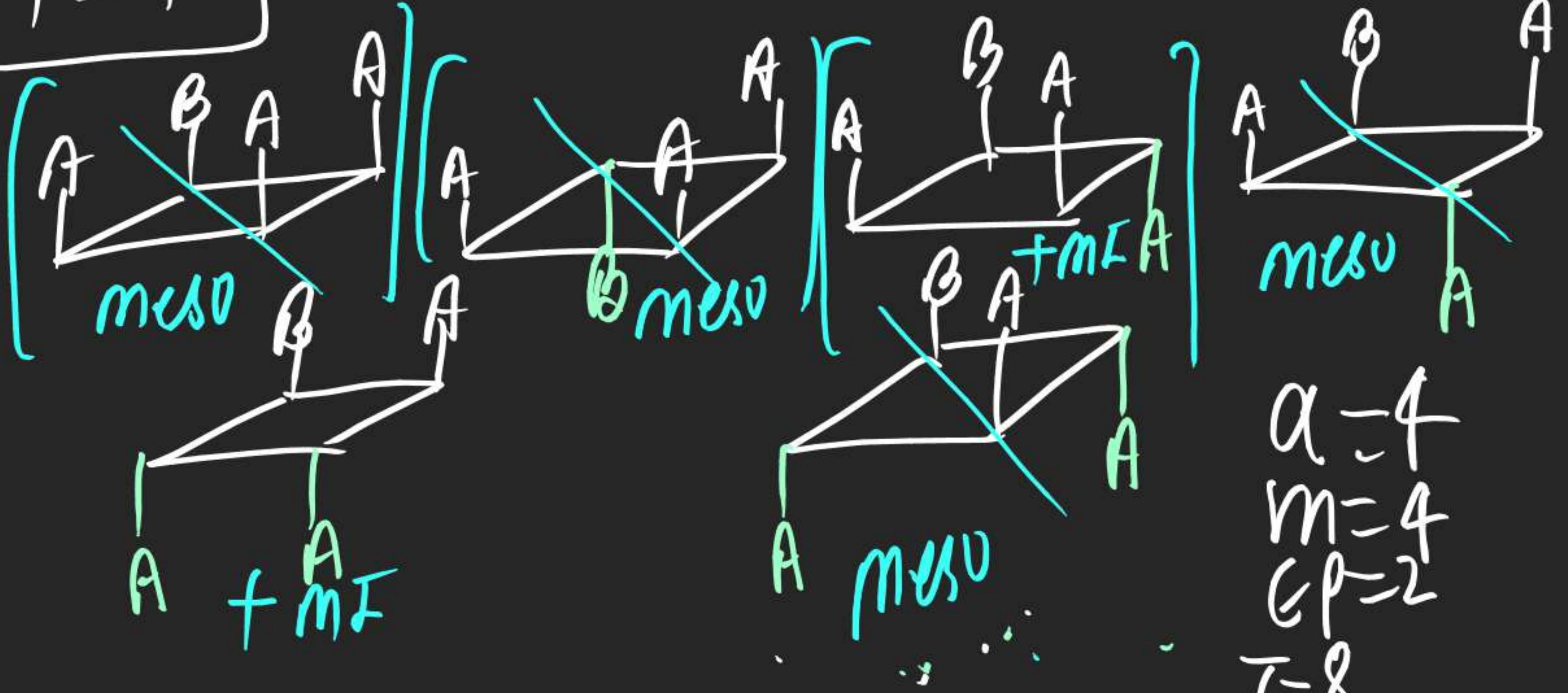
(18)



$\boxed{T = 4}$

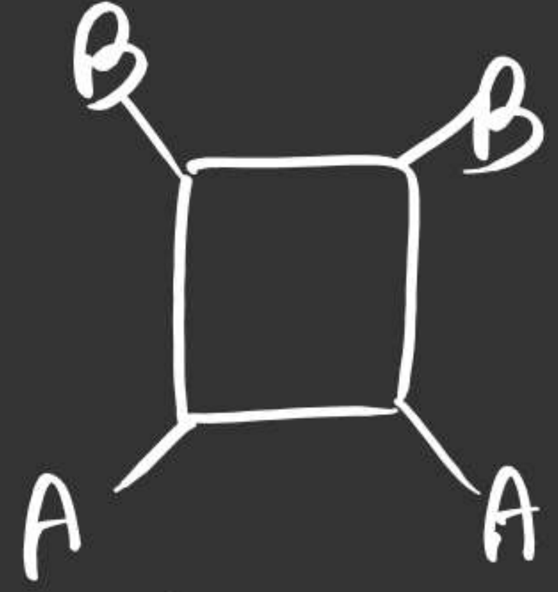
(19)



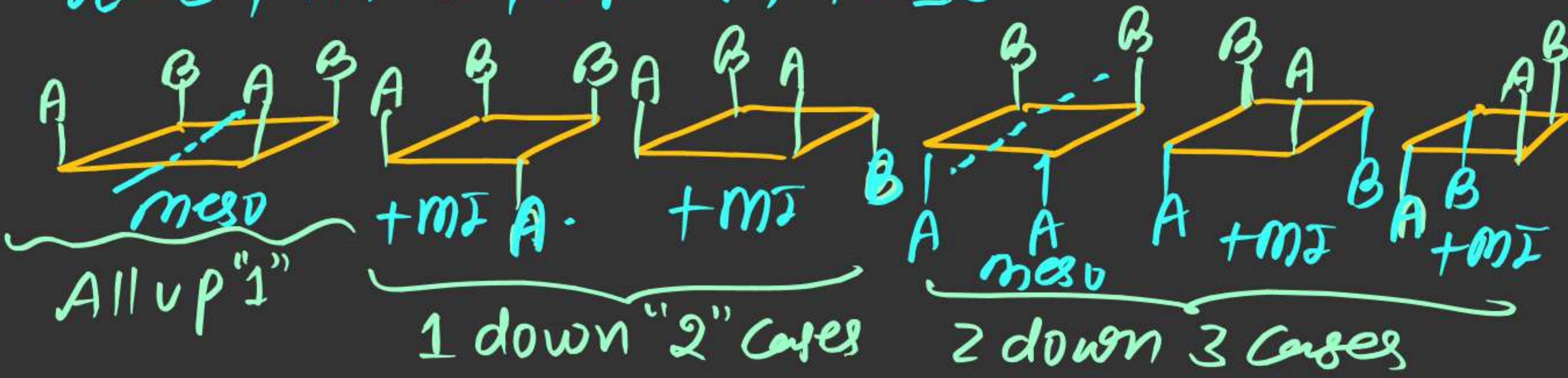


a = 4
m = 4
EP = 2
T = 8

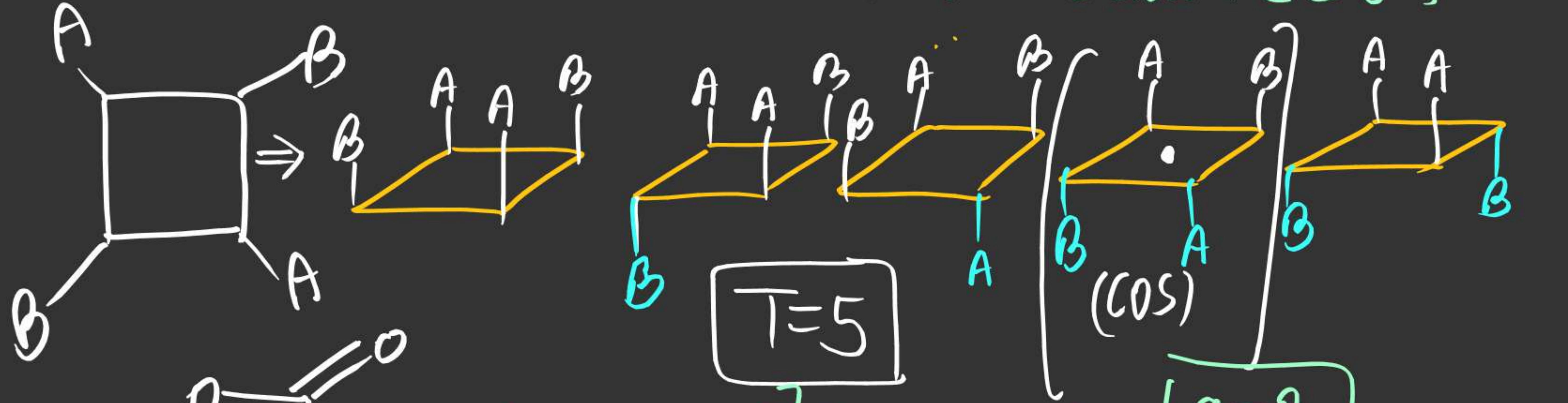
(20)



$a=8, \; m=2, \; EP=4, \; T=10$

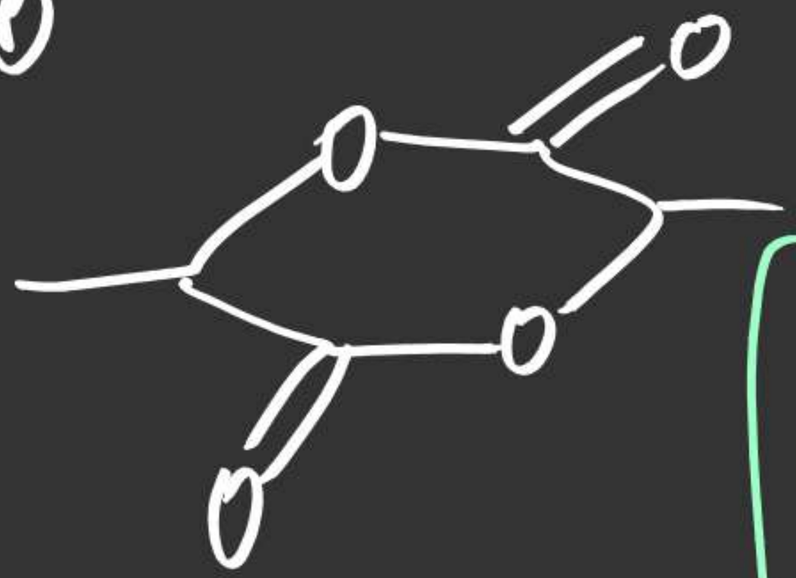


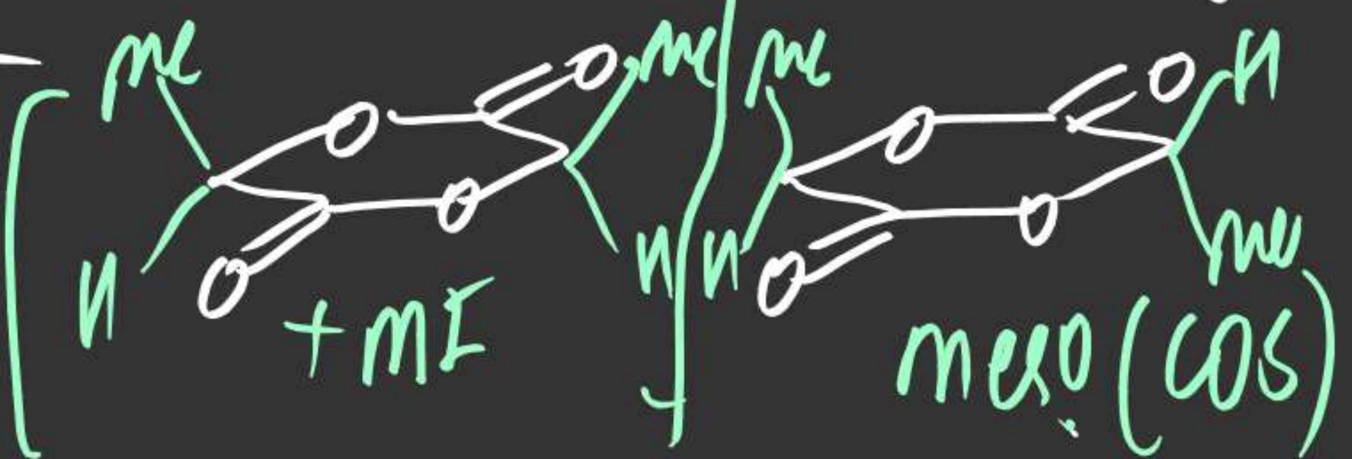
(21)



$\boxed{T=5}$

(22)





$a=2$
$m=1$
$EP=1$
$T=3$

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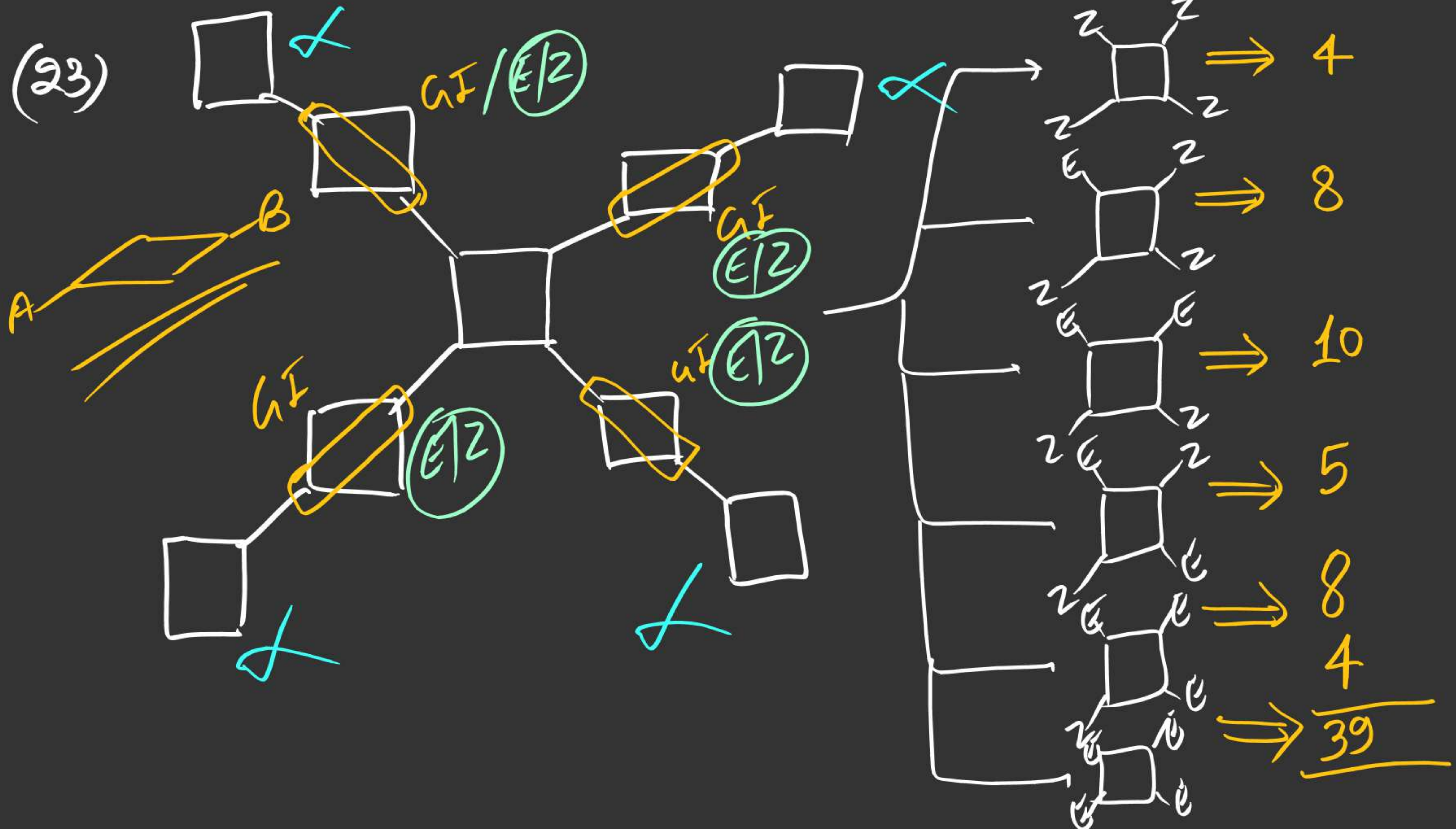
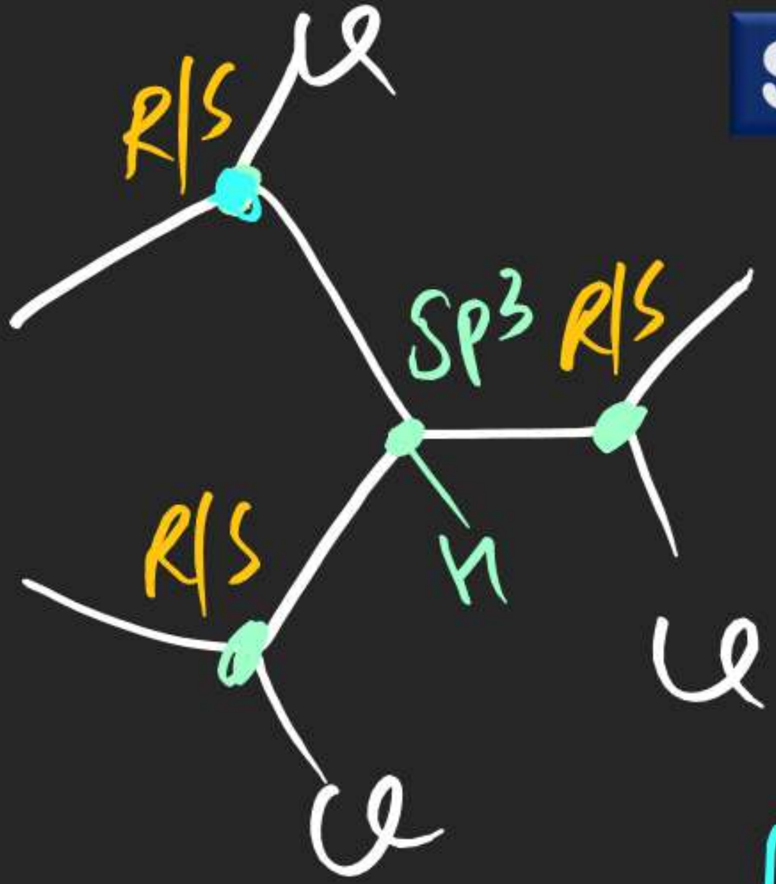
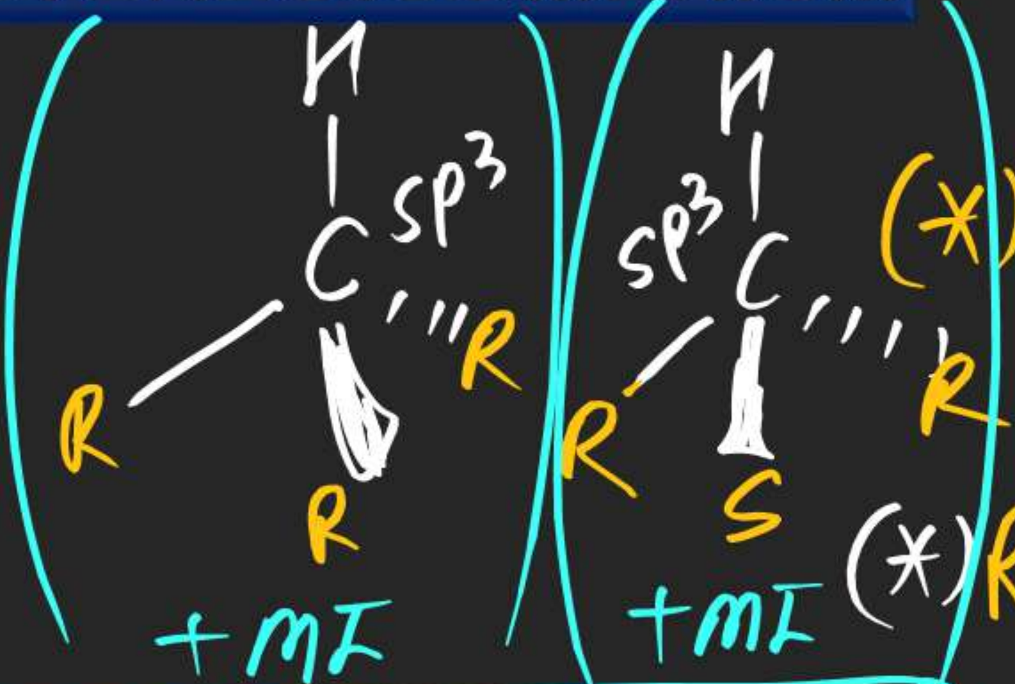
(23)



STEREOISOMERISM

(27)



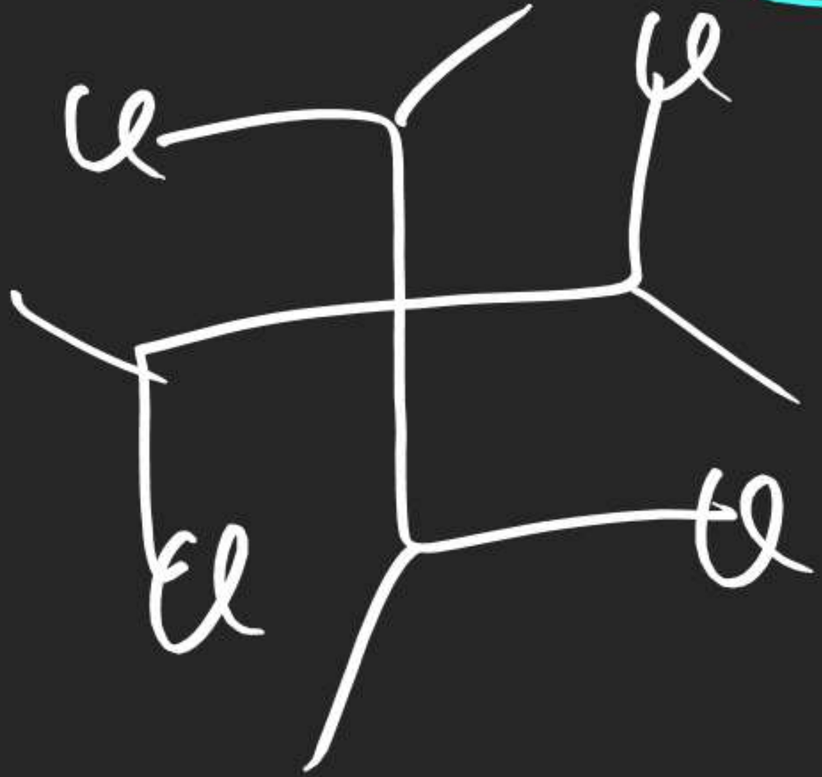


$\boxed{a=4,\ m=0,\ EP=2,\ T=4}$

(*) R की Mirror image "S" होती है

(*) R/S के Through POS नहीं डाल सकते क्योंकि ये Chiral centre पर होते हैं

(28)



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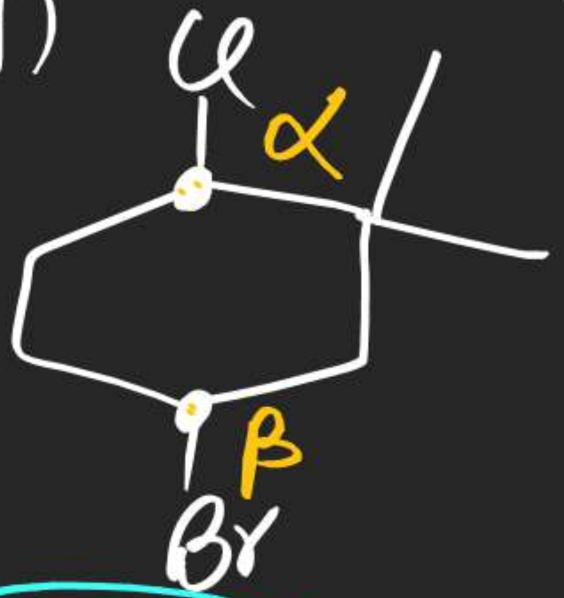
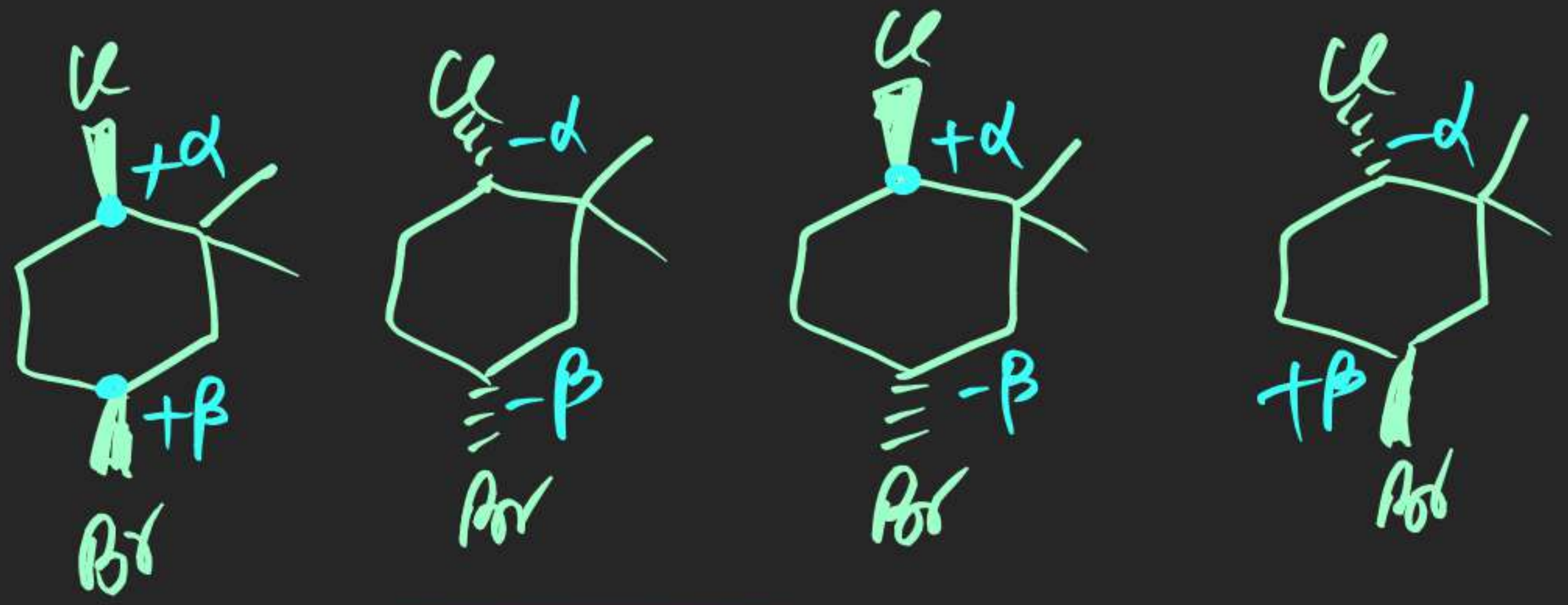
(29)



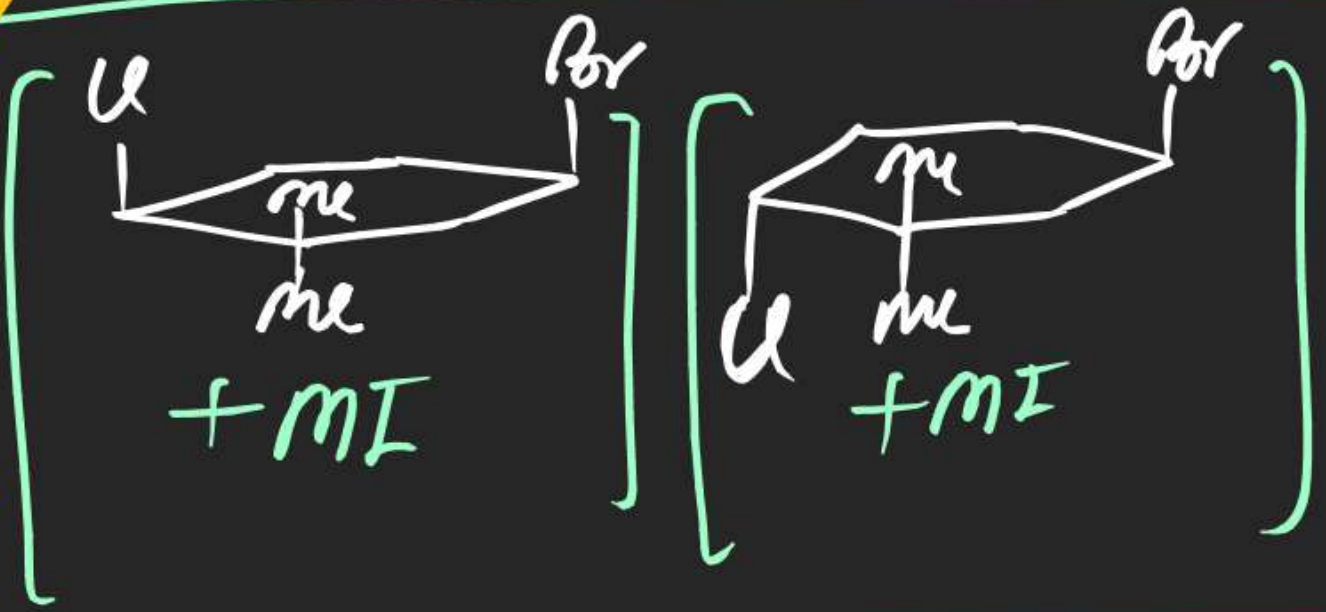
$CC=2$



$a=4$
$m=0$
$ep=2$
$T=4$

$+\alpha$	$+\alpha$	$-\alpha$	$-\alpha$
$+\beta$	$-\beta$	$+\beta$	$-\beta$
$\alpha+\beta$	$+\alpha-\beta$	$-\alpha+\beta$	$-\alpha-\beta$

$T=4$
$a=4$
$m=0$
$ep=2$



$a=4$
$m=0$
$ep=2$
$T=4$

$a=2^2=4,\ m=0,\ ep=2,\ T=4$

(30)

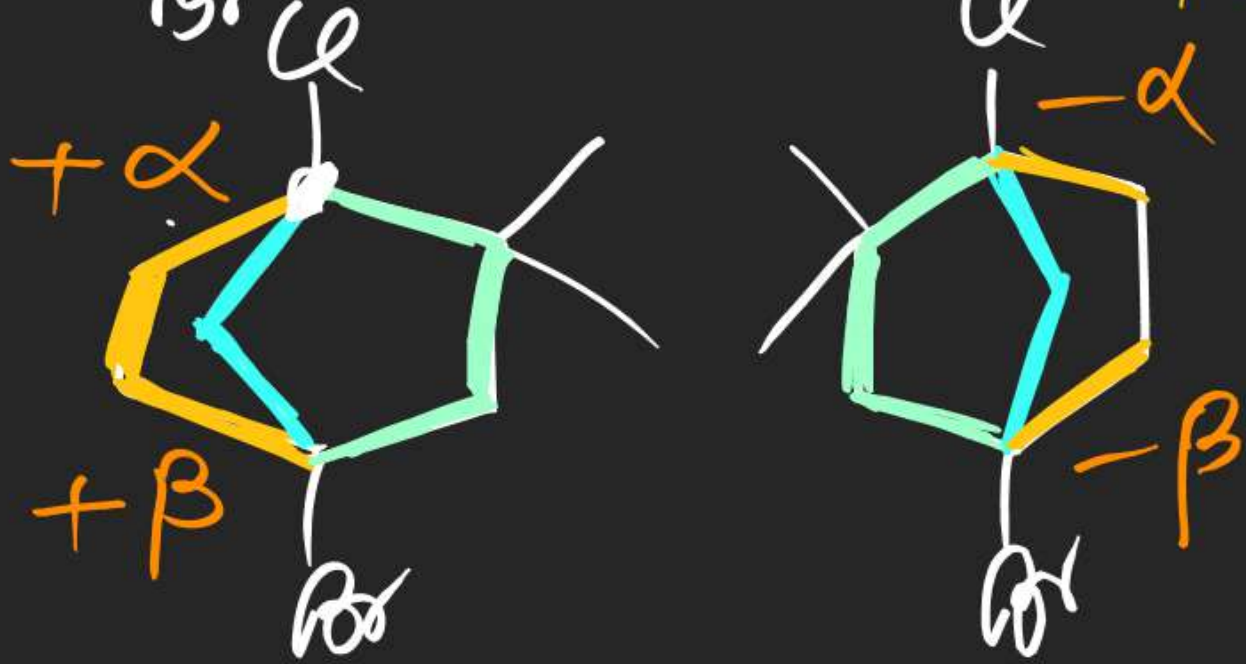
$\boxed{CC=2}$

$a=2$

$m=0$

$ep=1$

$T=2$

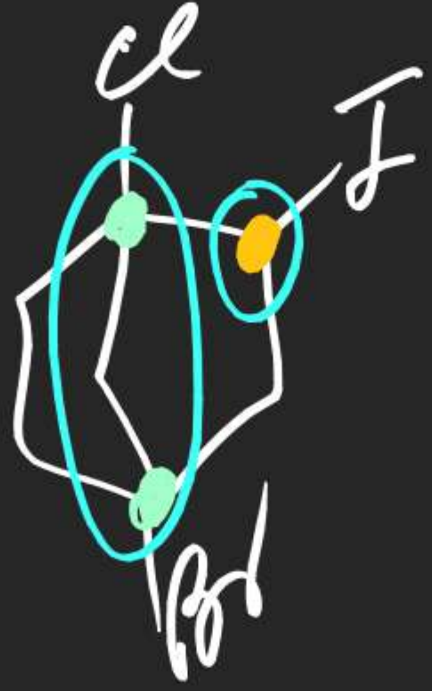


$+\alpha$
$-\beta$

$-\alpha$
$+\beta$

✗ ✗

(31)



$CC=3$

$TSI=2^2$

$=4$

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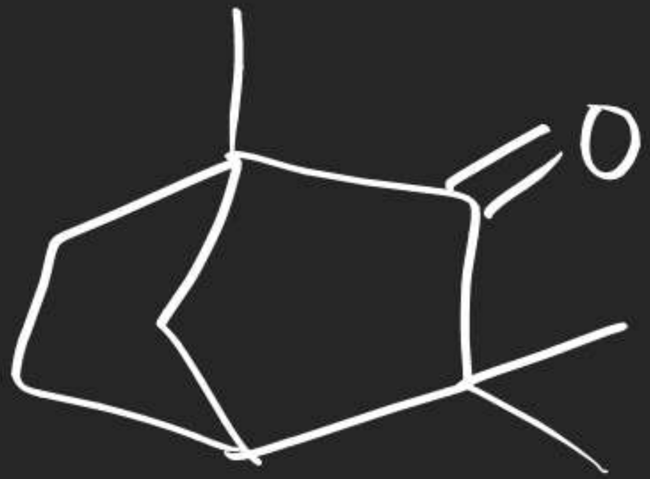
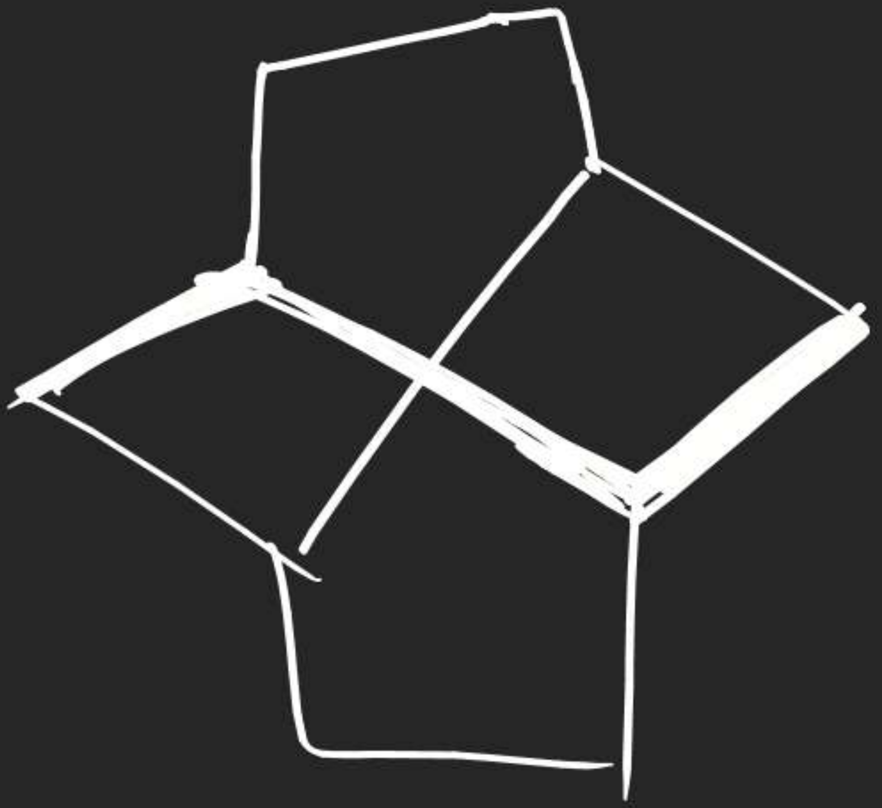
(32)



(33)



(34)