

Basic Organic Chemistry

$$\begin{array}{l} x=1 \\ y=3 \\ z=0 \end{array} \left| \begin{array}{r} -3 \\ -5 \\ -2 \end{array} \right.$$

$$\begin{aligned} (1+x)(1+y) &= 1+x+y+xy = 1+1+3+3 \cdot 1 = 8 \\ (1+y)(1+z) &= 1+y+z+yz = 1+3+1+3 \cdot 1 = 4 \\ (1+x)(1+z) &= 1+x+z+xz = 1+1+1+1 \cdot 1 = 2 \end{aligned}$$

$$(1+x)^2(1+y)^2(1+z)^2 = 64$$

$$(1+x) \times 4 = \pm 8$$

$$1+x = \pm 2$$

$$x = 1, -3$$

$$(1+x)(1+y)(1+z) = \pm 8 \Rightarrow 8(1+z) = \pm 8$$

$$1+z = \pm 1$$

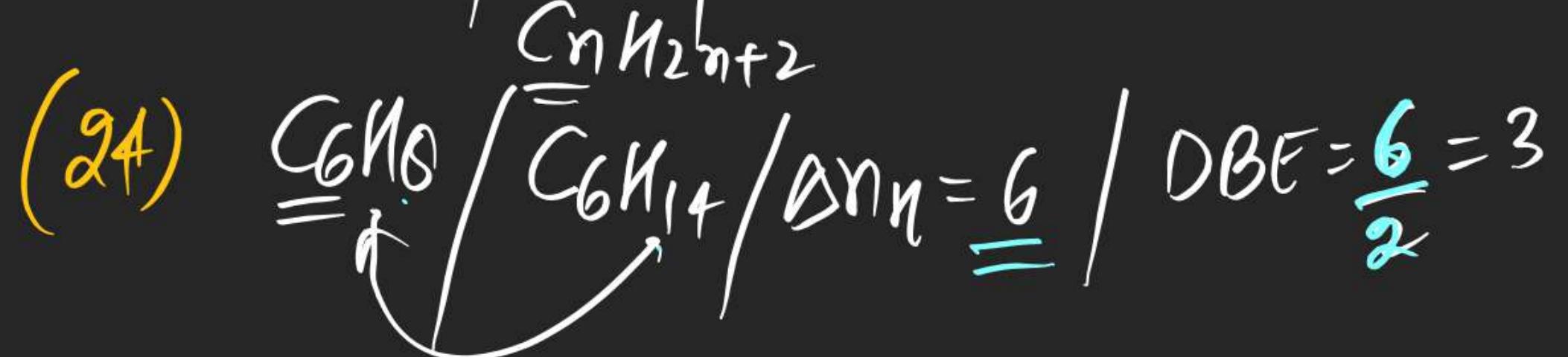
$$z = 0, -2$$

$$\begin{aligned} 2(1+y) &= \pm 8 \\ 1+y &= \pm 4 \Rightarrow y = 3, -5 \end{aligned}$$

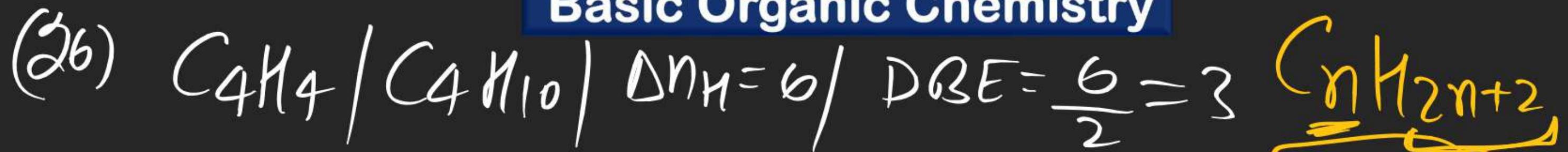
Basic Organic Chemistry

HW Discussion (Theory Copy)

IHD = Index of Hydrogen deficiency.
 DBE =



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(#) A Hydrocarbon alkane is having only C_8H_{10}
 1° & 4° carbon with 3 times more 1° carbon
than 4° carbon. Find molecular formula

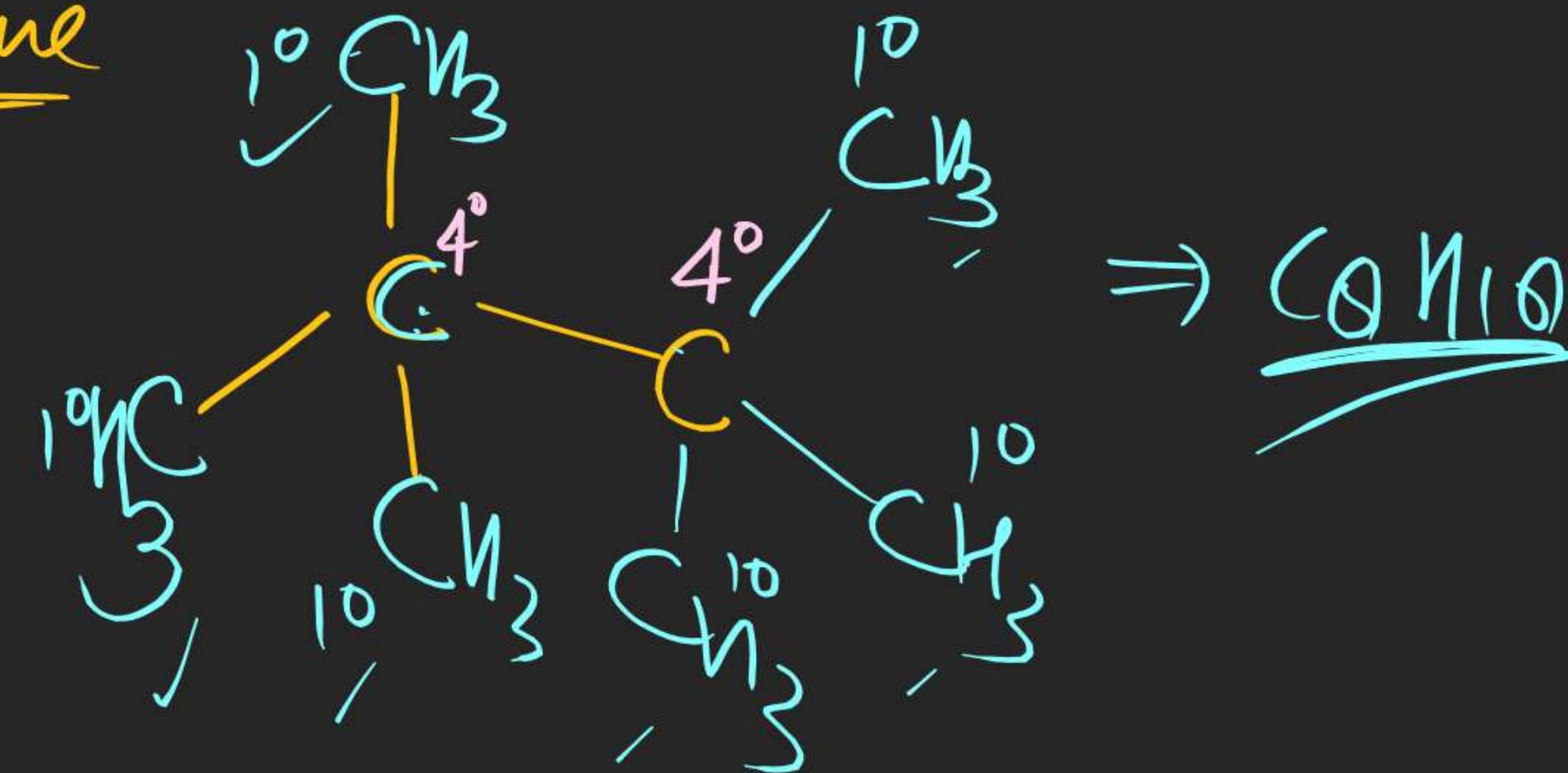
Soln:

$$\begin{aligned} \text{of Hydrocarbon} \quad & n_C \\ \begin{array}{l} 1^\circ C \xrightarrow{\textcircled{3}} x \\ 4^\circ C \xrightarrow{\quad} y \end{array} & \downarrow \\ & = x + y \\ & = \boxed{4y} \\ \boxed{x = 3y} & \end{aligned}$$

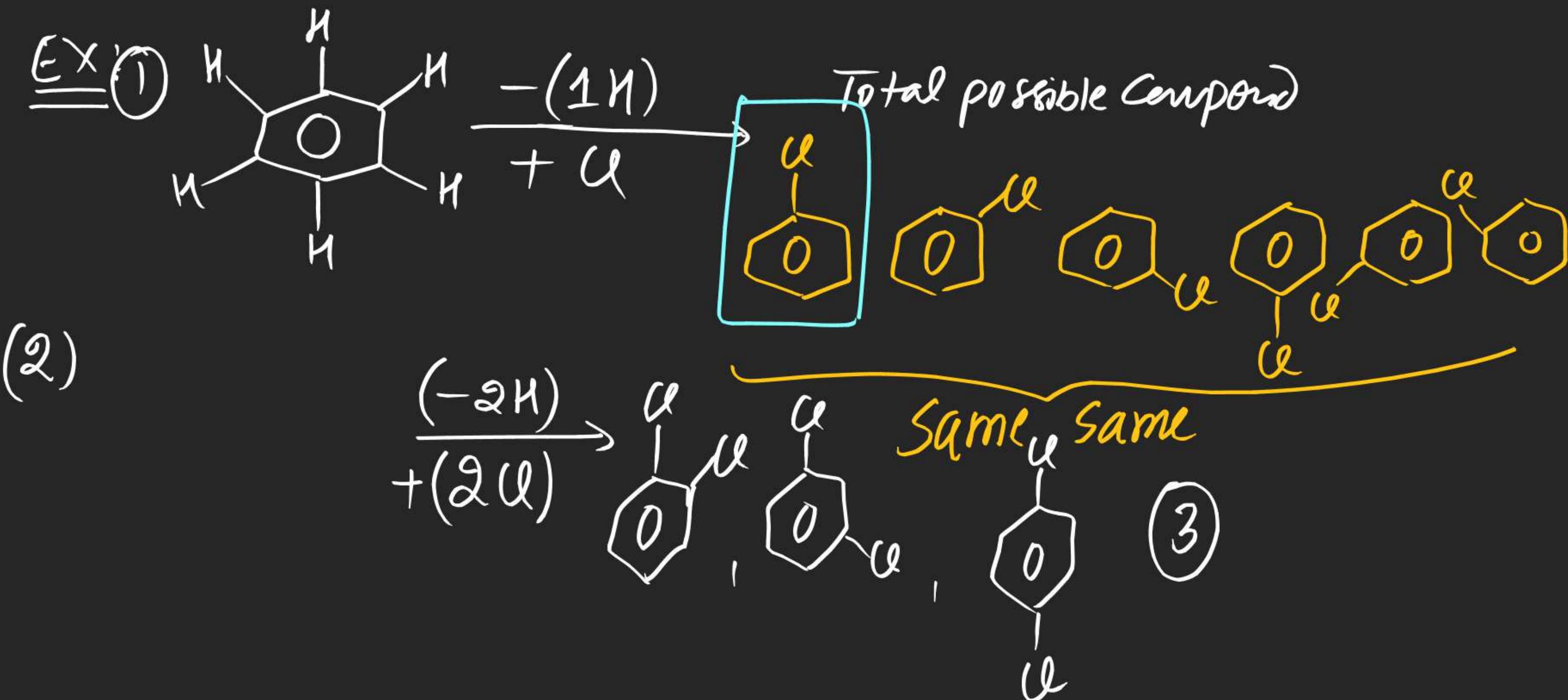
$$\left. \begin{aligned} & n_H \\ & 8y + 2 = gy \\ & 8y + 2 = 3x \\ & 8y + 2 = 3(4y) \\ & 8y + 2 = 12y \\ & 2 = 4y \\ & y = 2 \\ & x = 6 \end{aligned} \right\}$$

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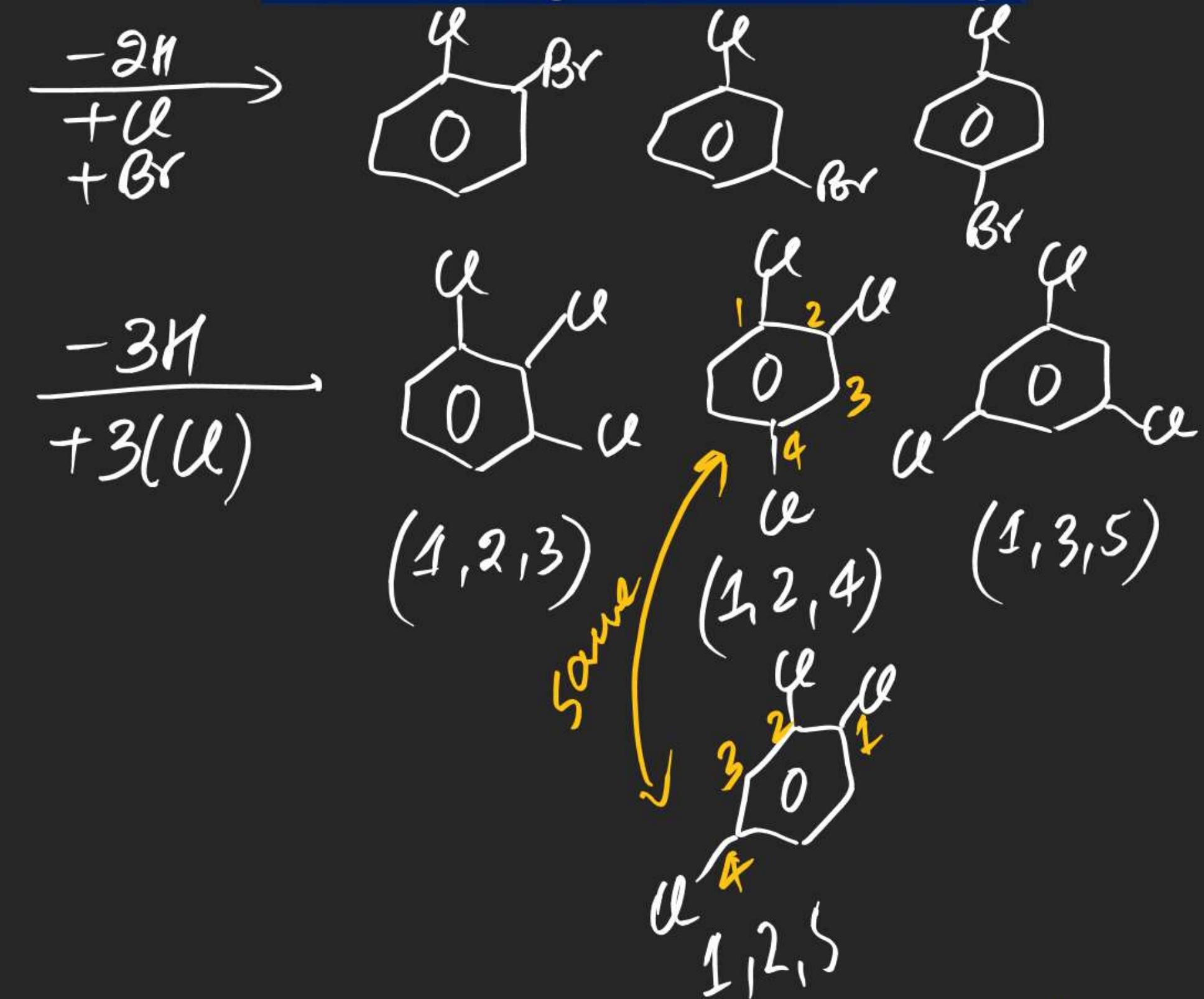
Alkane



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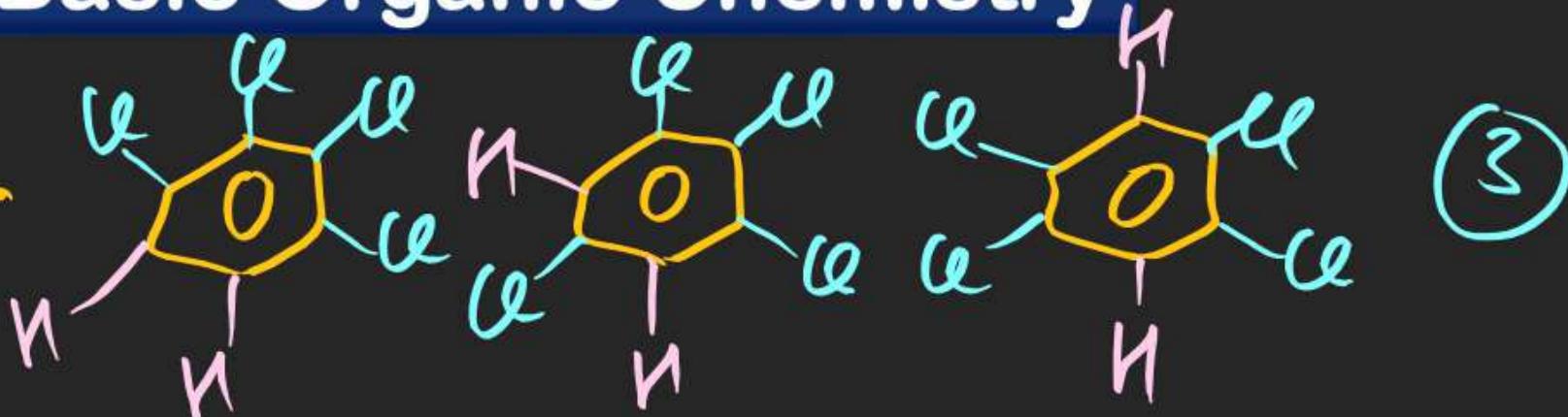
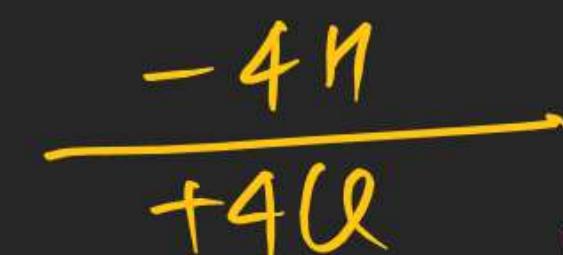


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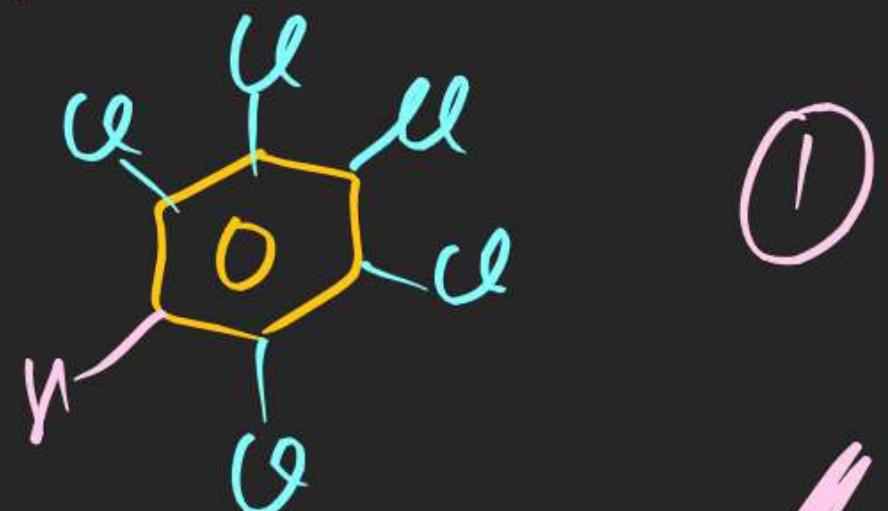
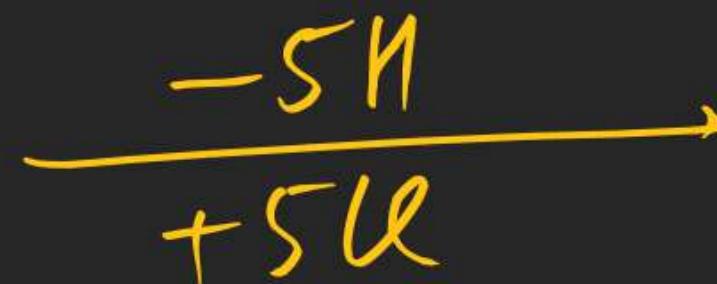


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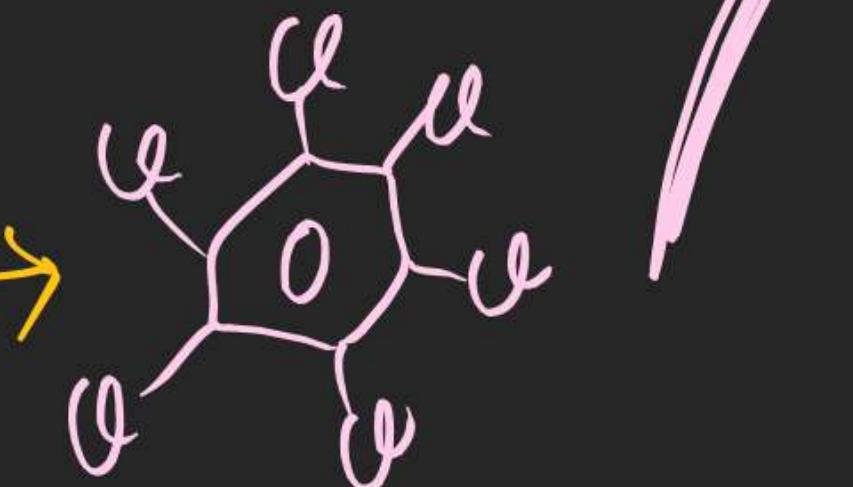
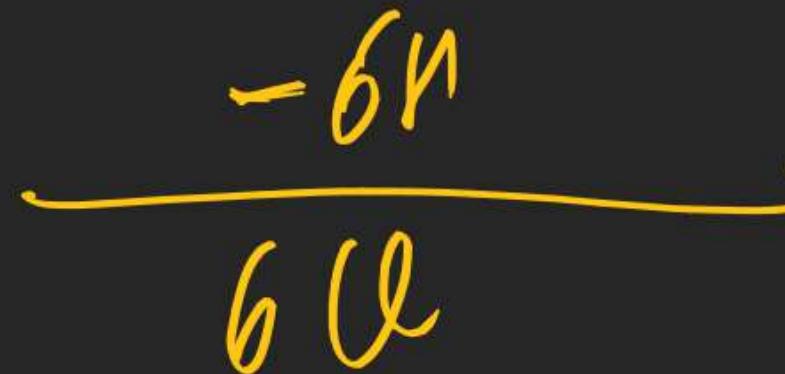
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Q



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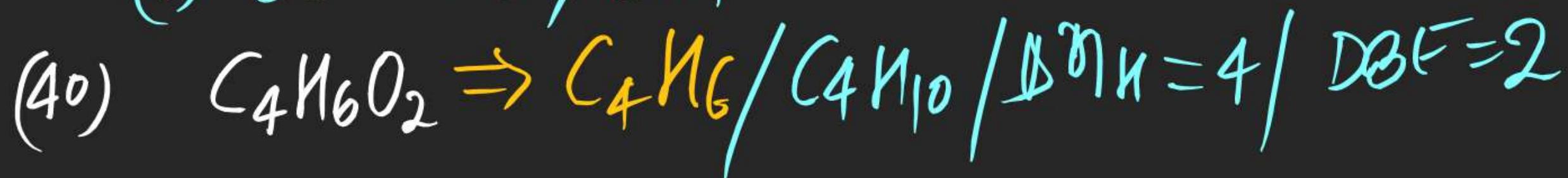
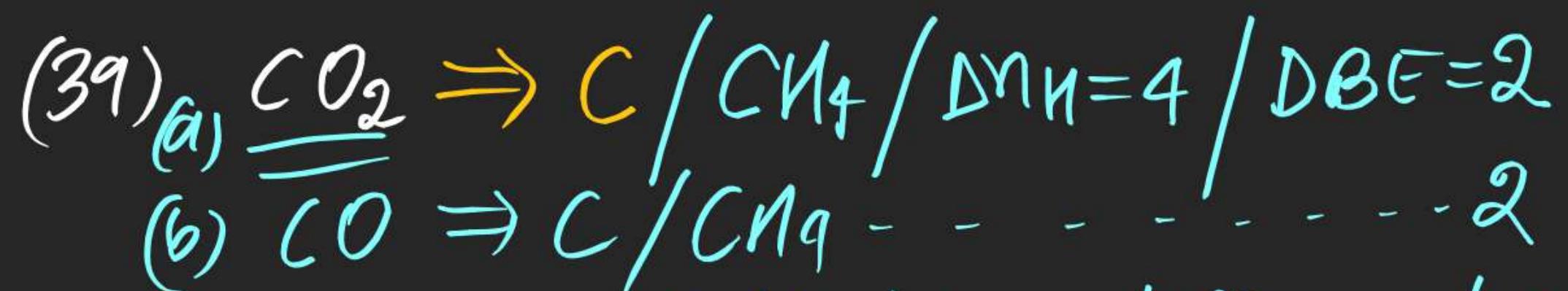
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D&E: Case(ii) In case of Bivalent atom (-o-)
Neglect "O"



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Case (iii) In Case of Trivalent atom like (--N--)



Bivalent (--NH--)

Trivalent
(N)

Neglect

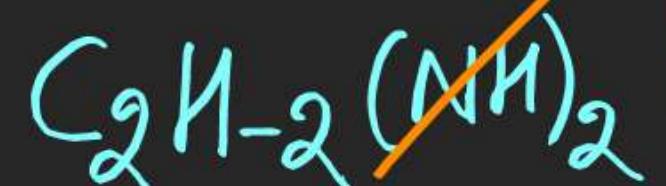
(42) $\text{C}_3\text{H}_7\text{N} / \text{C}_3\text{H}_6(\text{NH})$ / $\text{C}_3\text{H}_6 / \text{C}_3\text{H}_8 / \text{DNH} = 2 / \text{DBE} = 1$
 Neglect

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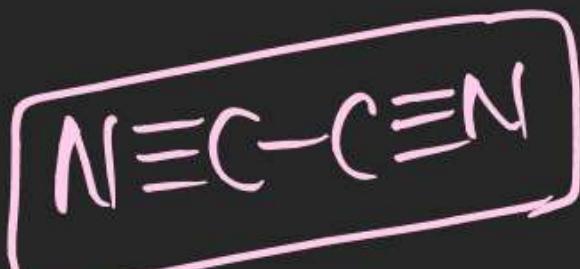
⋮

$(DBE = 4)$



$$\Delta n_H = 8$$

$$DBE = \frac{0}{2} = 4$$



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9:30 PM — 12:00 mid Night

12:00 mid Night — 6:30 AM (Sleeping Cycle)

6:30 AM — 7:30 AM (Ready, BF)

7:30 AM — 10:30 AM

10:30 AM — 1:30 PM