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Class - 10

Chapter - 4

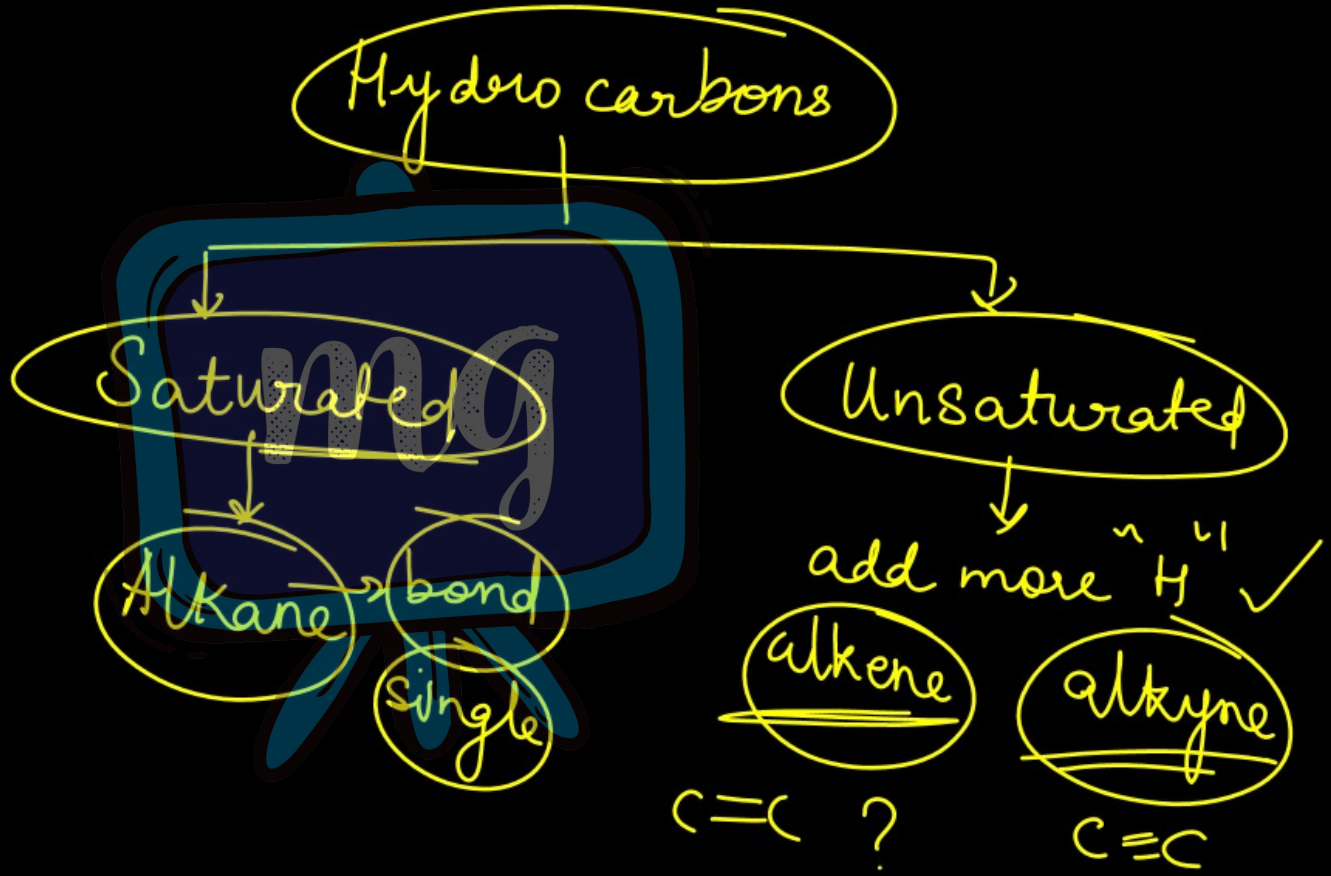
Carbon and its Compound

Part-4

Hydrocarbons

Disha Didi (DD)

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Alkanes

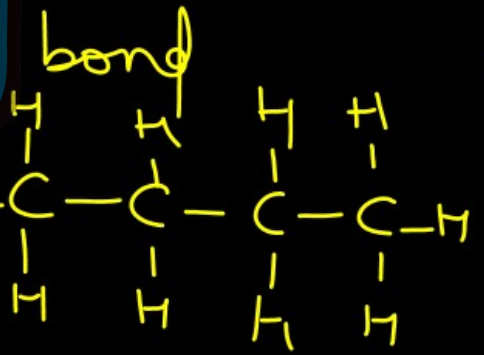
C_4H_{10}

C_nH_{2n+2}

Butane

4) Butane → single bond

But = 4



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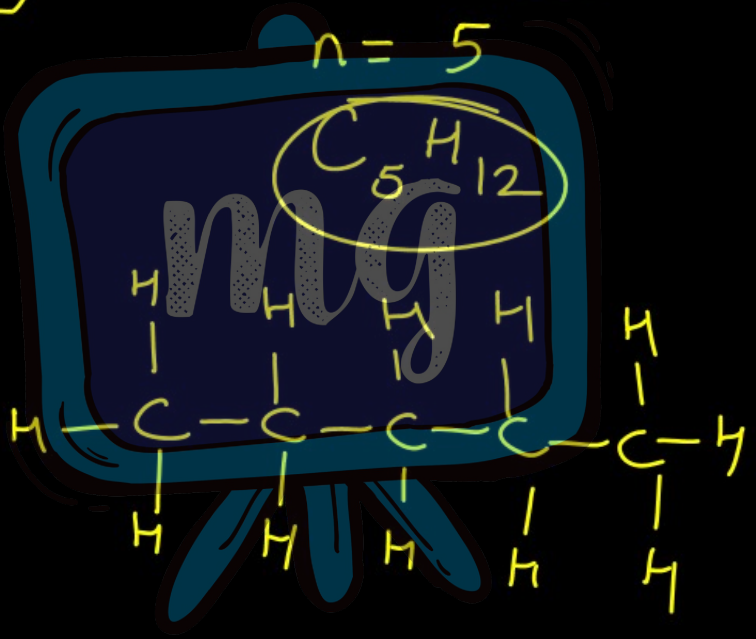
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5. Pentane → alkane

$n = 5$

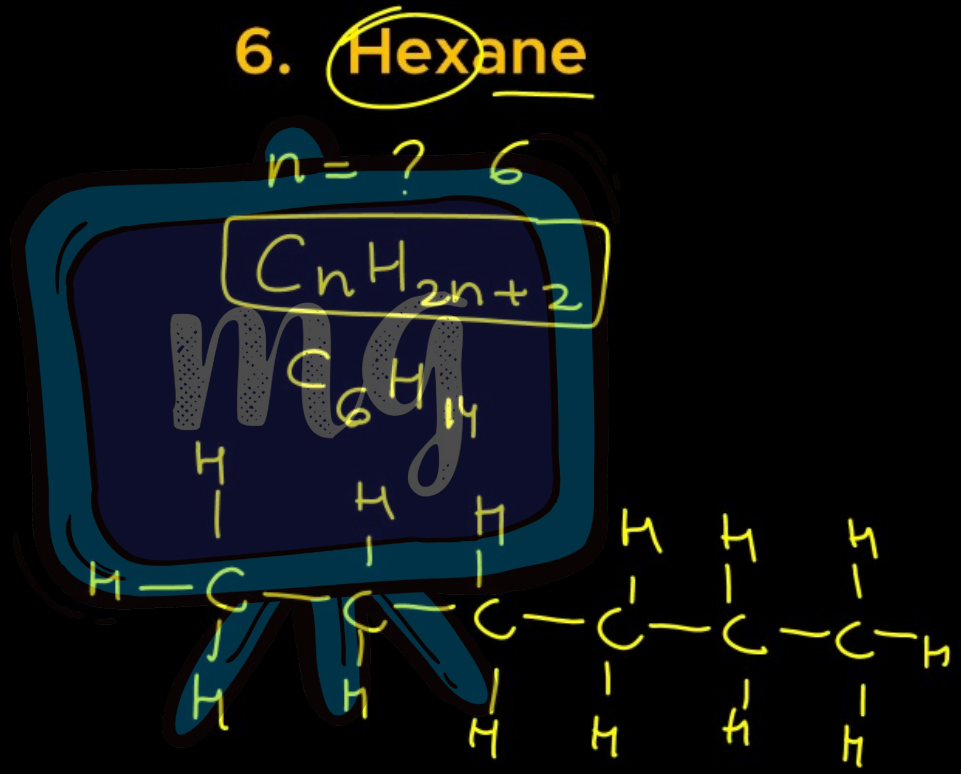
C_5H_{12}



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6. Hexane



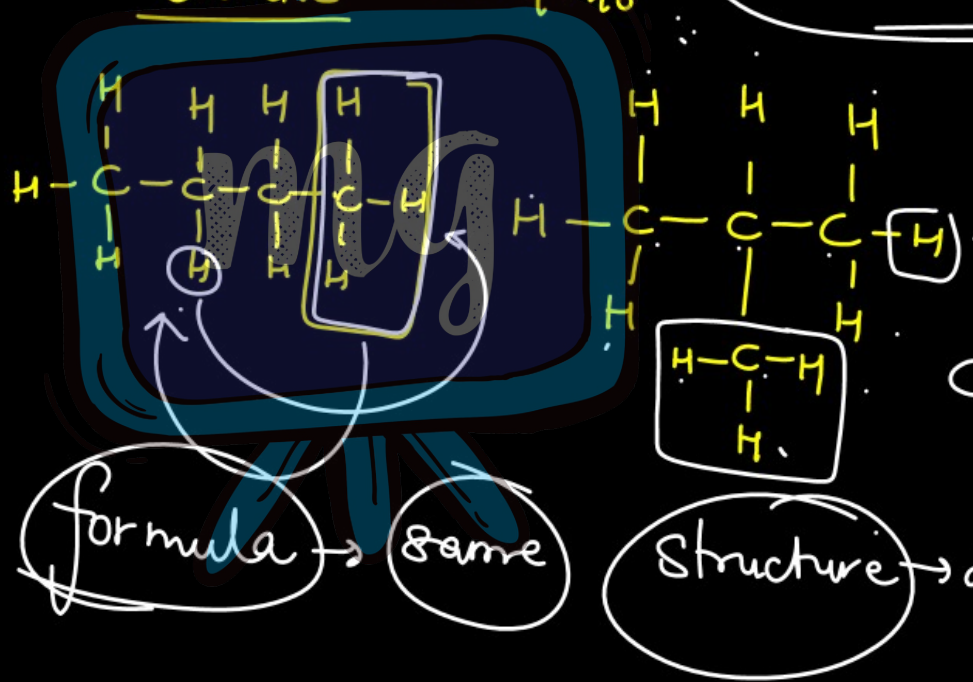
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Structural Isomers

Straight Chain



Butane : C_4H_{10}



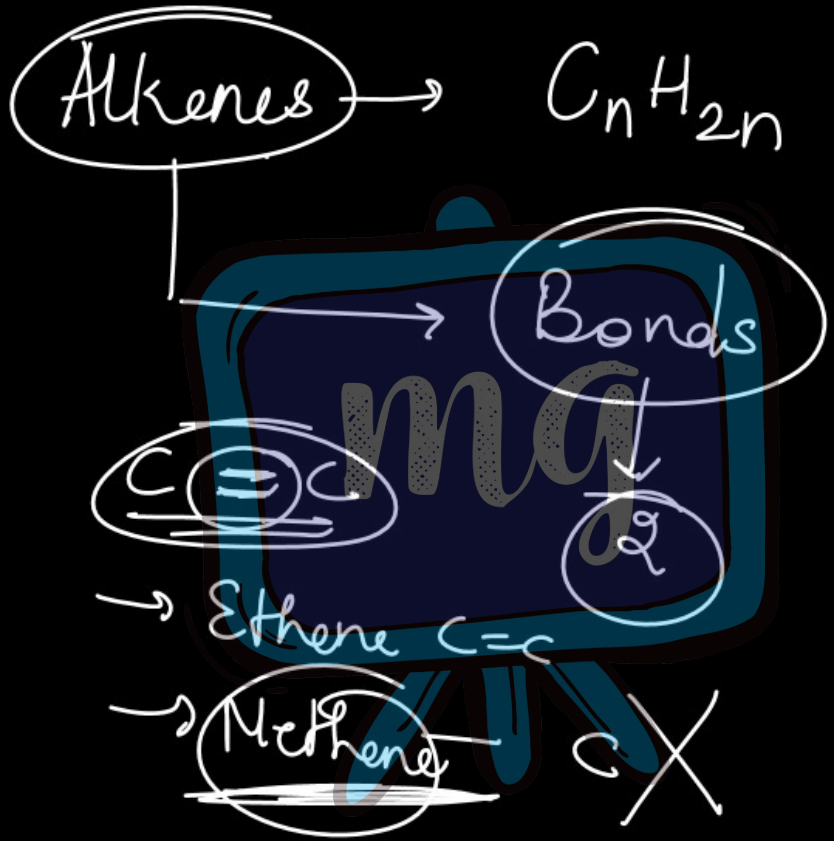
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Q: Pentane → Structural Isomers ?



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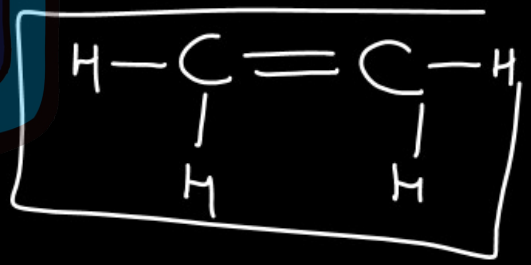
Alkenes — (=)ene

C_nH_{2n} (Unsaturated)

1. Ethene :

$n = 2$

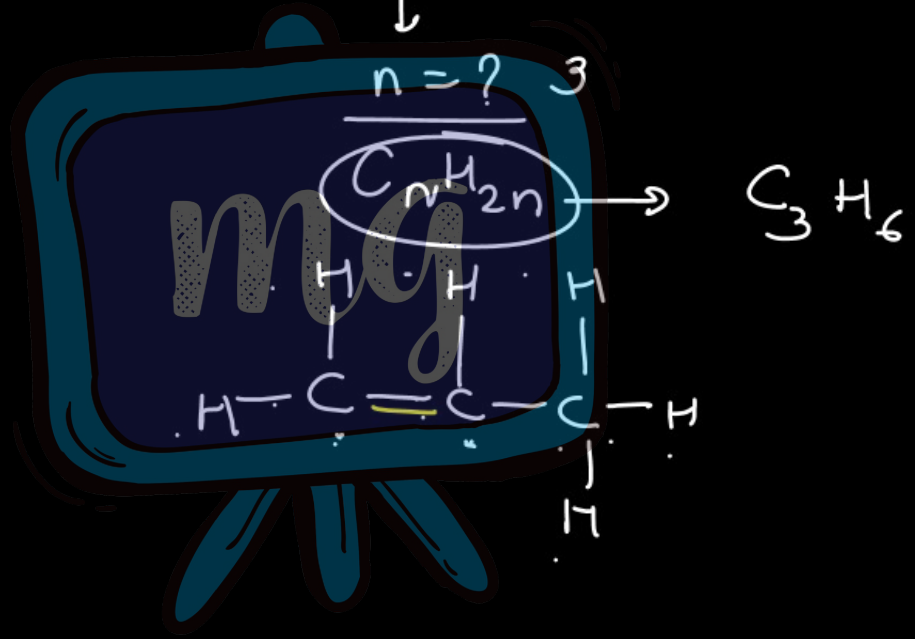
C_2H_4



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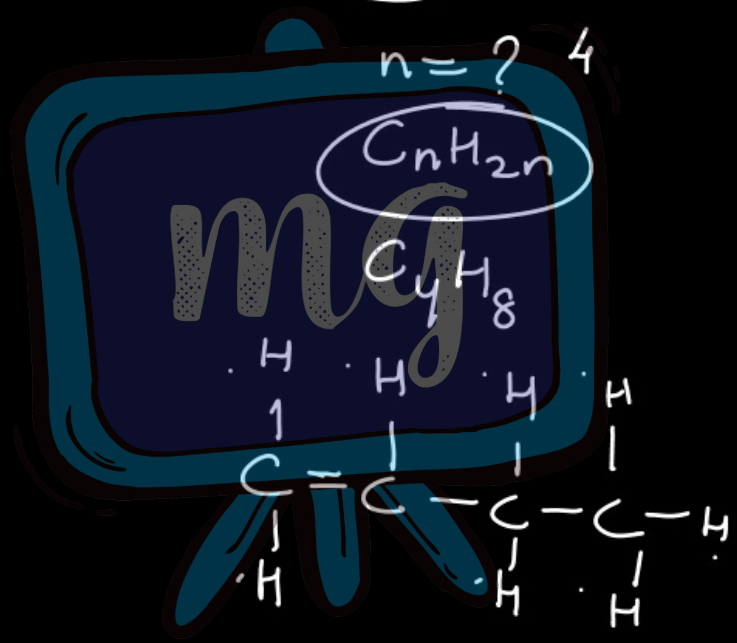
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2. Propene :



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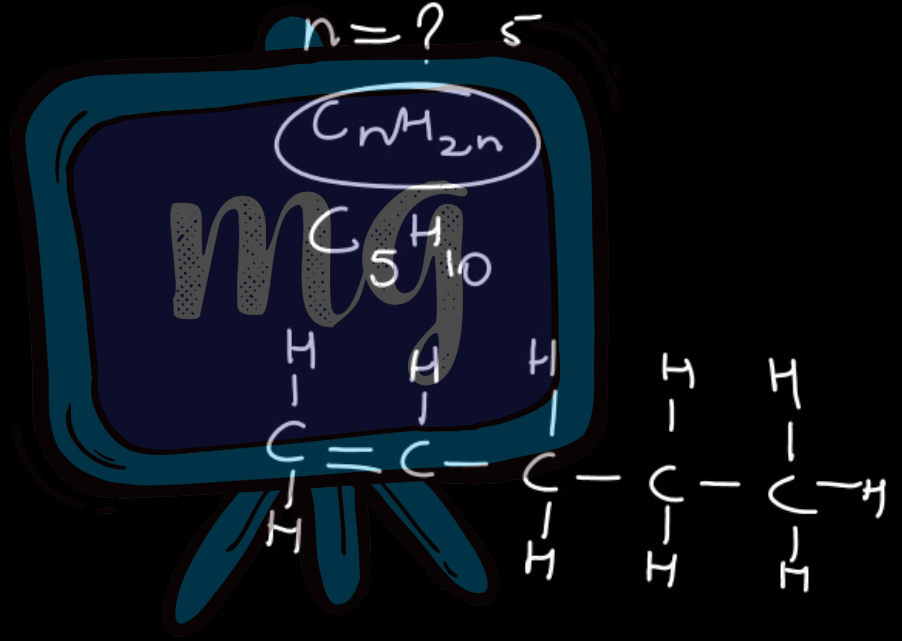
3. Butene



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4. Pentene



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5. Hexene

Unsaturated

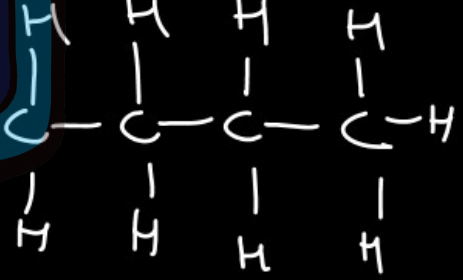
Alkene ✓

Alkynes ✓

$n = ? \; 6$

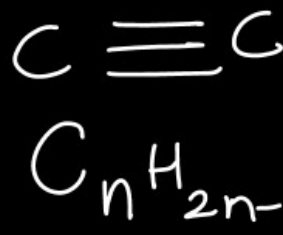
C_nH_{2n}

C_6H_{12}



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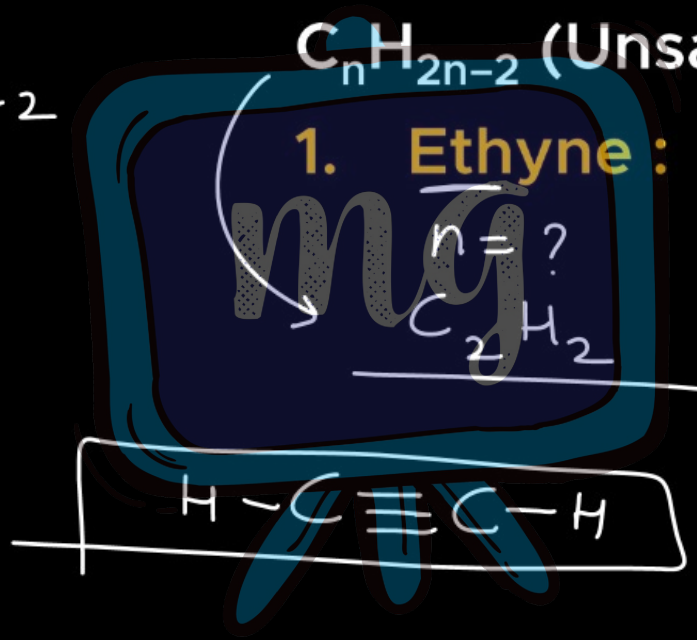
Alkynes — (≡)yne

C_nH_{2n-2} (Unsaturated)

1. Ethyne :

$n = ?$

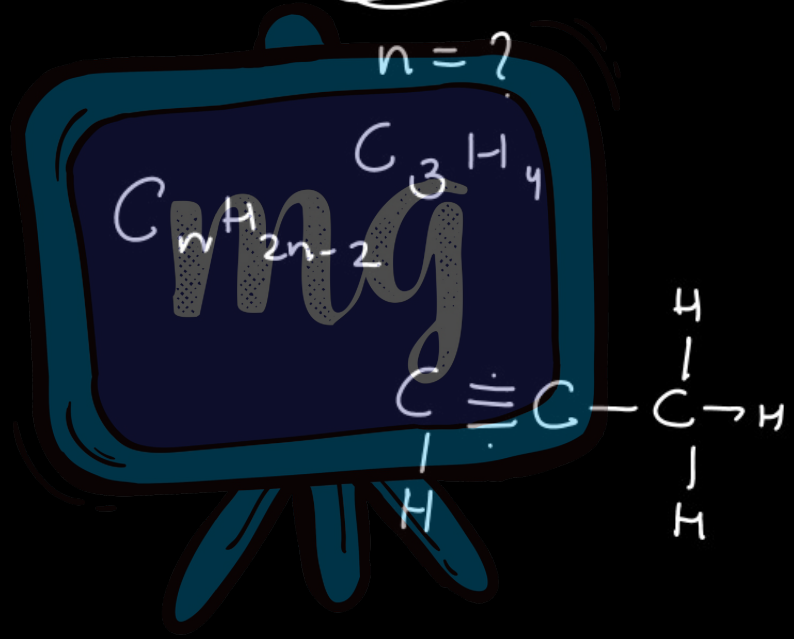
C_2H_2 ?



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2. Propyne :



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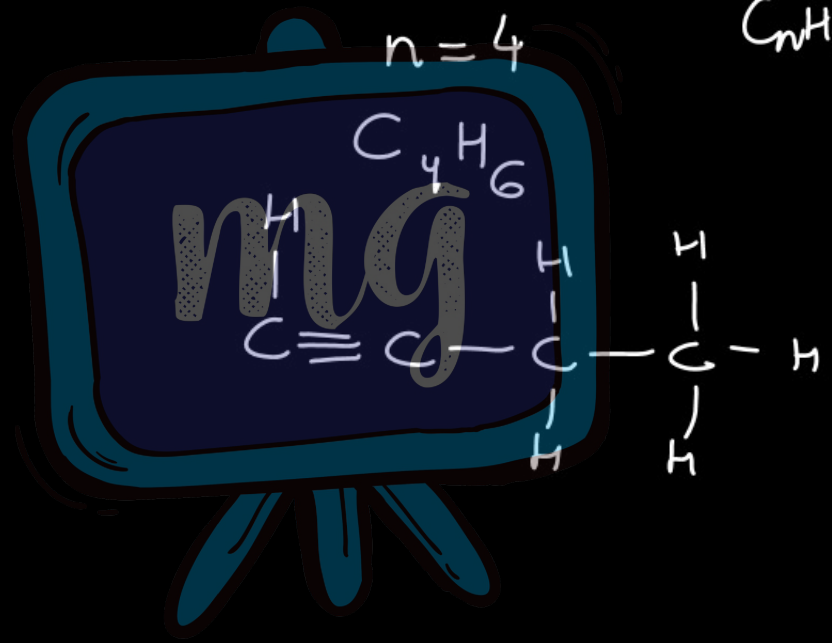
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3. Butyne

C_nH_{2n-2}

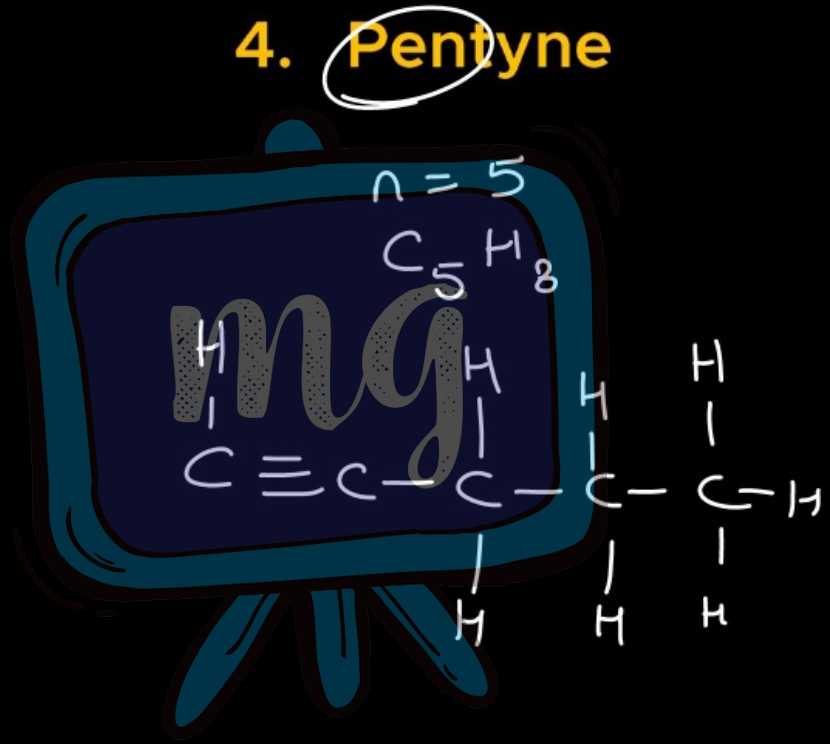
$n = 4$

C_4H_6



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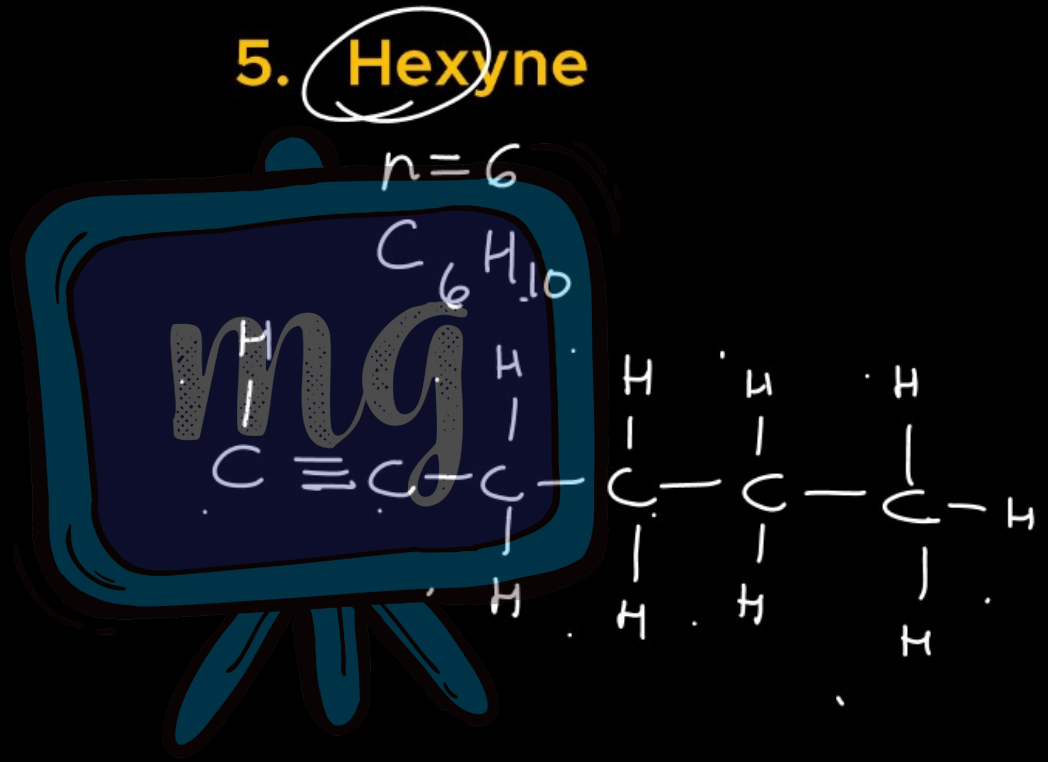
4. Pentyne



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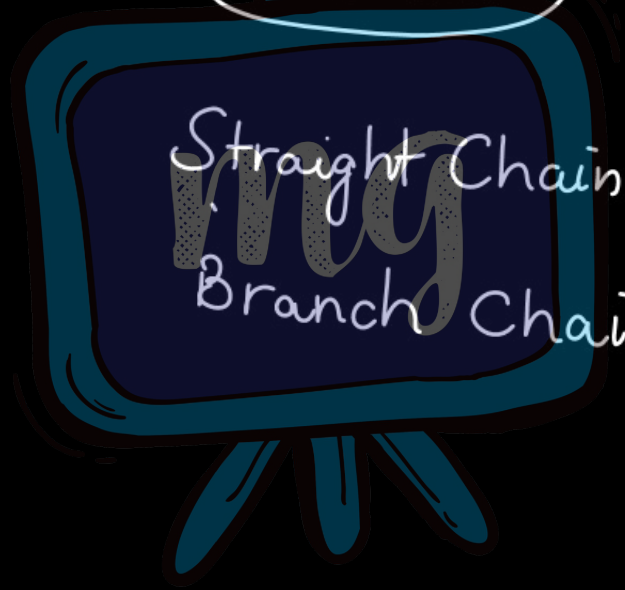
5. Hexyne



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Hydrocarbons :

↳ alkanes



Straight Chain : 1–2–3–4–5–6

Branch Chain :

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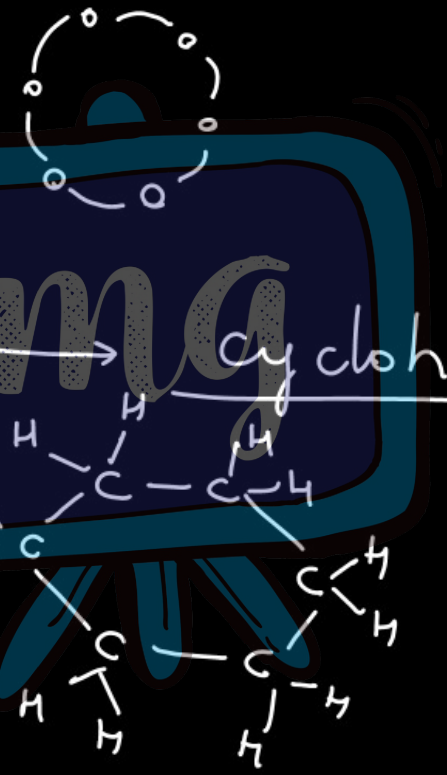
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Cycloalkane

Cycle

C_nH_{2n}





Hexane → cyclohexane

alkene = C_nH_{2n}

C_6H_{12}