

Lecture 24.2 Alkane Nomenclature

Note Title

4/3/2012

Organic Nomenclature. Systematic naming system that addresses the complexity of organic molecules.
International Union of pure & applied Chemists IUPAC

Substituents

Common Alkyl Groups		Know These	
Condensed Structural Formula	Name	Condensed Structural Formula	Name
$-\text{CH}_3$	Methyl	$\begin{array}{c} -\text{CHCH}_3 \\ \\ \text{CH}_3 \end{array}$	Isopropyl
$-\text{CH}_2\text{CH}_3$	Ethyl	$\begin{array}{c} -\text{CH}_2\text{CHCH}_3 \\ \\ \text{CH}_3 \end{array}$	Isobutyl
$-\text{CH}_2\text{CH}_2\text{CH}_3$	Propyl	$\begin{array}{c} -\text{CHCH}_2\text{CH}_3 \\ \\ \text{CH}_3 \end{array}$	sec-Butyl
$-\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$	Butyl	$\begin{array}{c} \text{CH}_3 \\ \\ -\text{CCH}_3 \\ \\ \text{CH}_3 \end{array}$	tert-Butyl

Name

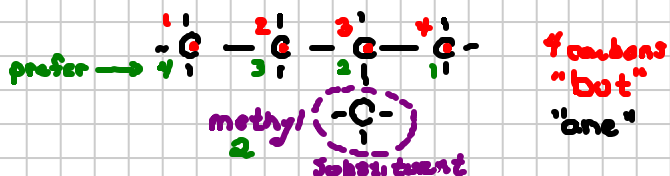
- prefix
- group location
- group Name

- + root (e)
- 1...meth
- 2...eth
- 3...prop
- 4...but
- 5...pent
- 6...hex
- 7...hept
- 8...oct
- 9...non
- 10...dec

+ ending

- "ane" alkanes
single bonded C
- "ene" alkenes
double bonded C
- "yne" alkynes
triple bonded C

Example: Name the molecule below.



2-methyl butane

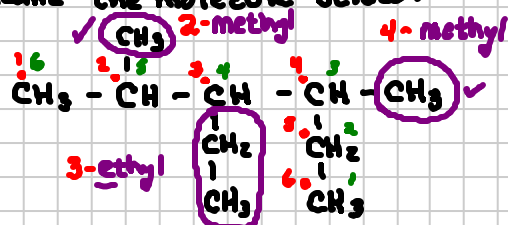
1) I.O. Longest carbon chain

2) Number longest chain...
Assigne Lowest number for first branch point

3) Name & locate substituents

4) Write name

Example. Name the molecule below:



3-ethyl-2,4-dimethyl hexane

1) I.O. Longest carbon chain
6 carbons: hexane

2) Number longest chain...
Assigne Lowest number for first branch point

3) Name & locate substituents

4) Write name

Example. Draw the structure for

4-isopropyl hexane

