

# Nomenclature



## Alkanes

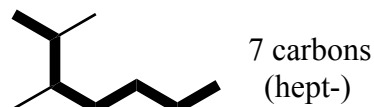
In Chemistry carbon chains are numbered using the following terms  
The prefix denotes the number of carbons while the suffix denotes the type of carbons

# of Carbons	Prefix
1	Meth-
2	Eth-
3	Prop-
4	But-
5	Pent-
6	Hex-
7	Hept-
8	Oct-
9	Non-
10	Dec-

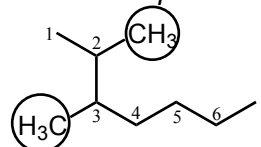
Type of Carbons	Suffix
Single Bonded	-ane
Double Bonded	-ene
Triple Bonded	-yne

Examples	
Butane	
Propene	
Ethyne	

When alkanes branch,  
1) find the longest continuous chain and use that root word (followed by -ane for alkanes)



2) number the chain so the the substituents have the lowest possible numbers

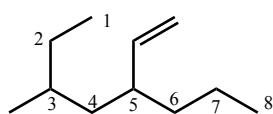


2,3-dimethylheptane

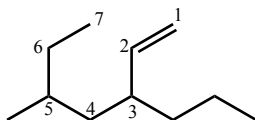
3) with multiple substituents, list alphabetically with their position along the longest chain (use di, tri, and tetra for identical branches)

## Alkenes/Alkynes

Most of the rules for naming alkene are the same as alkanes with one key difference  
The root word is based on the longest carbon chain **WITH THE ALKENE**.



Not oct-,  
But sept-

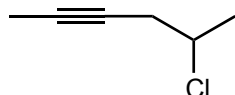


5-methyl-3-propylheptene

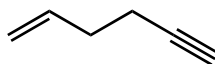
**Note:** The alkene was given the lower number, analogous to the substituents with alkanes.

**Remember:** List the substituents in alphabetical order

## Examples



5-chlorohex-2-yne

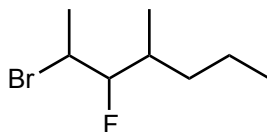


hex-1-en-5-yne

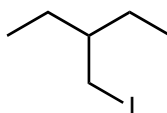
**Note:** When the molecule has both an alkene and an alkyne the alkene will get priority

## Halogens

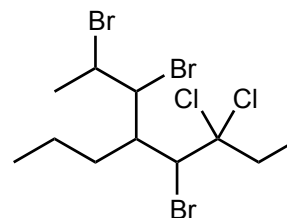
Molecules with halogens (and later, other groups) use the same numbering system as alkanes and alkenes.  
The halogen substituents are named fluoro, chloro, bromo, and iodo.



2-bromo-3-fluoro-4-methylheptane



3-(iodomethyl)pentane



2,3,5-tribromo-6,6-dichloro-4-propyloctane

**Note:** Even though there are two possible longest carbon chains, the parent one is the one with more substituents  
**Remember:** The side chains are listed alphabetically by the prefix (bromo-, chloro-, propyl-)

