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.

<table>
<thead>
<tr>
<th># of Carbons</th>
<th>Prefix</th>
<th>Type of Carbons</th>
<th>Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Meth-</td>
<td>Single Bonded</td>
<td>-ane</td>
</tr>
<tr>
<td>2</td>
<td>Eth-</td>
<td>Double Bonded</td>
<td>-ene</td>
</tr>
<tr>
<td>3</td>
<td>Prop-</td>
<td>Triple Bonded</td>
<td>-yne</td>
</tr>
</tbody>
</table>

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 substituents have the lowest possible numbers.
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.

Examples

- 5-methyl-3-propylheptene
- 5-chlorohex-2-yne
- hex-1-en-5-yne

Note: The alkene was given the lower number, analogous to the substituents with alkanes.
Remember: List the substituents in alphabetical order.

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

Halogen:

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.

Examples

- 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-).