

Alky groups (R)

Refers to an “alkane” that is part of another organic compound, where the name of the alkyl group is obtained by replacing **-ane** with **-yl**, e.g. methane → methyl. Also, there are the following prefixes:

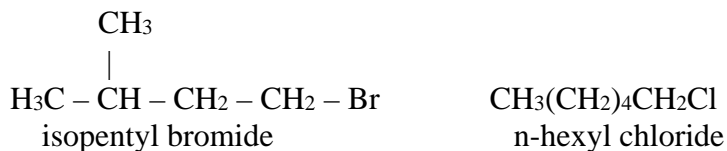
n: normal; an alkyl group, where all carbons form a continuous chain and it is attached at the very end of the chain.

iso: alkyl group with less than 6 carbons and a methyl group on the next-to-last carbon of the chain and the alkyl group is attached at the opposite end of the chain.

sec: secondary; alkyl group, where it is attached to carbon with *two* carbons attached to it.

Tert: tertiary; alkyl group, where it is attached to carbon with *three* carbons attached to it.

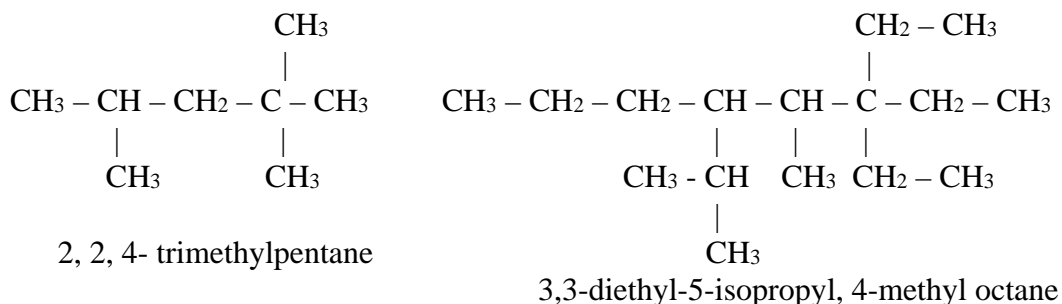
Examples:



Alkanes

- Use the name of the longest continuous chain
- number the carbon in this chain, such that any alkyl group(s) attached to the chain has the lowest number and use the numbers to refer to the location of the alkyl group(s)
- use di, tri, tetra, etc. as needed

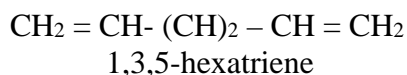
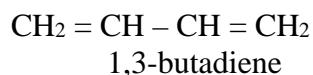
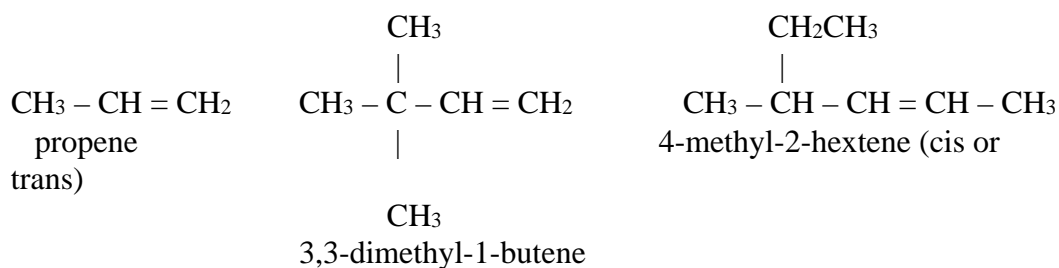
Examples



Alkenes

- use the name of the longest continuous chain that contains the double bond and change the corresponding name of the alkane by replacing the **-ane** by **-ene**
- number the carbon in this chain, such that the first carbon involving the double bond has the lowest number and refer to any alkyl group(s) attached to the chain. use the numbers to refer to the location of the alkyl group(s) and the double bond
- use *cis*- (“on the same side of the double bond”) or *trans*- (“on the opposite side of the double bond”) when there is a common species attached to the carbon atoms in the double bond
- use di, tri, tetra, etc. as needed

Examples



Alkynes

- use the name of the longest continuous chain that contains the double bond and change the corresponding name of the alkane by replacing the **-ane** by **-yne**
- number the carbon in this chain, such that the first carbon involving the triple bond has the lowest number and refer to any alkyl group(s) attached to the chain. use the numbers to refer to the location of the alkyl group(s) and the triple bond

Examples



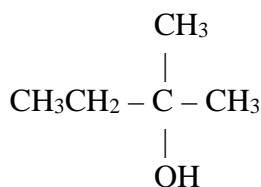
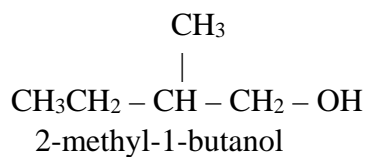
1-butyne

4-methyl-2-pentyne

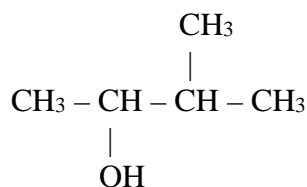
Alcohols

- use the name of the longest continuous chain that contains the hydroxide group and change the corresponding name of the alkane by replacing the **-ane** by **-ol**
- number the carbon in this chain, such that the carbon with the hydroxide group has the lowest number and refer to any alkyl group(s) attached to the chain. use the numbers to refer to the location of the alkyl group(s) and the hydroxide group
- compounds with 2 hydroxide groups are glycols; or use suffix: “diol”

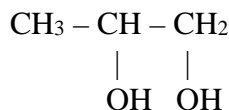
Examples



2-methyl-2-butanol



3-methyl-2-butanol

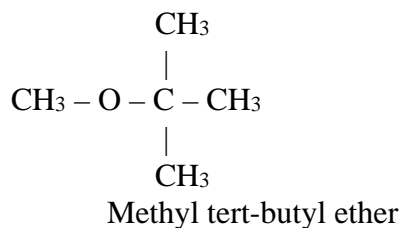
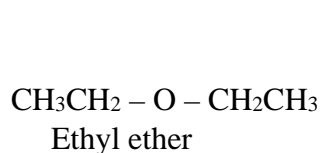


propylene glycol (or 1,2-propanediol)

Ethers

- name of two groups attached to oxygen, followed by “ether”

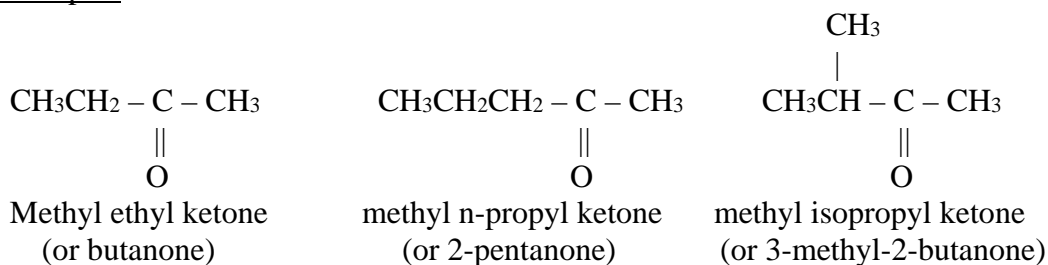
Examples



Ketones

- name of two groups attached to the carbonyl group, followed by “ketone”
or
- use the name of the longest continuous chain that contains the carbonyl group and change the corresponding name of the alkane by replacing the **-e** by **-one**
- number the carbon in this chain, such that the carbon with the carbonyl group has the lowest number and refer to any alkyl group(s) attached to the chain.
use the numbers to refer to the location of the alkyl group(s) and the carbonyl group

Examples



Amines

- name of alkyl group(s) attached to nitrogen, followed by “amine”
- for more complicated amines, use the prefix: “amino”

Examples

