

Phenol $-\text{C}_6\text{H}_5\text{O}$

Thiols $-\text{SH}$

Amines $-\text{NH}_2$

Ether $-\text{OR}$

Alkene $>\text{C}=\text{C}<$

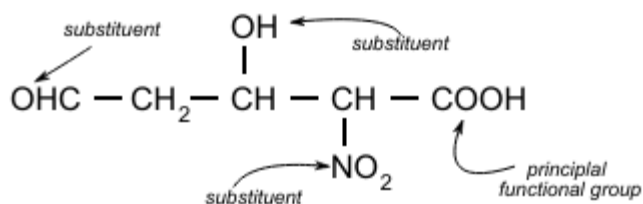
Alkyne $-\text{C}\equiv\text{C}-$

Some of the substituents with their prefixes are given below:

SUBSTITUENTS

SECONDARYFUNCTIONALGROUP	PREFIX
$-\text{X}(\text{F, Cl, Br, I})$	Halo (fluoro, chloro, bromo, iodo)
$-\text{OH}$	Hydroxy
$-\text{SH}$	Mercapto
$-\text{OR}$	Alkoxy
$-\text{NH}_2$	Amino
$-\text{CHO}$	Formyl or alkanoyl
$-\text{C}=\text{O}$	Keto or oxo
$-\text{COOH}$	Carboxy
$-\text{COOR}$	Alkoxy carbonyl or carbalkoxy
$-\text{COCl}$	Halocarbonyl or haloalkanoyl
$-\text{CN}$	Cyano
$-\text{CONH}_2$	Carbamoyl or Carboxamido

Example:



IUPAC RULES OF NOMENCLATURE:

Rule1: Identify the principle functional group

Rule 2: Give Numbering to the longest chain containing the principle functional group from the end closer to it.

Rule3: Write the parent name corresponding to the number of carbon atoms in the longest chain.

Rule4: Arrange the substituent names with position numbers in the alphabetical order

Rule5: Prefix the substituent names with the parent name.

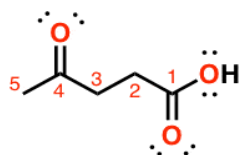
Rule 6: The remaining functional groups other than the principle functional group are named as substituents.

Rule 7: Carbon- Carbon double bond and Carbon –Carbon triple bond are given as *-ene* & *-yne* and are placed in the suffix. **Eg:** -enoic acid, -ynol

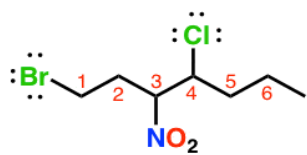
Rule8: Carbon-Carbon double bond and Carbon–Carbon triple bond are named as “Alkenynes” and the position numbers are placed before the *-ene* & *-yne*

Examples:

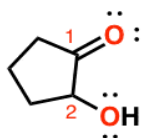
Applying the priorities (suffixes are highlighted)



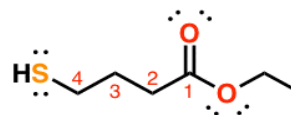
4-oxo-pentan**oic acid**



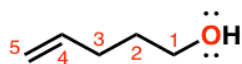
1-bromo-4-chloro-3-nitrohept**ane**



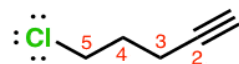
2-hydroxycyclopentan**one**



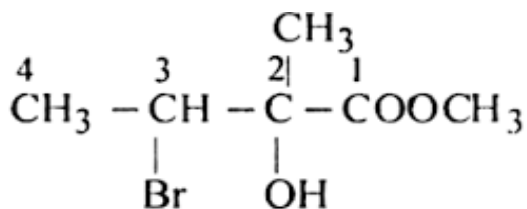
ethyl 4-mercaptobutan**oate**



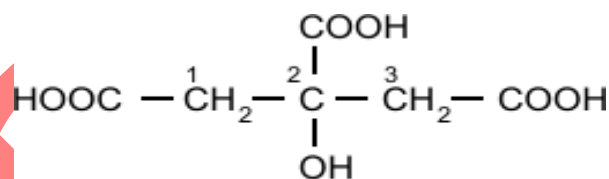
pent-4-en-1-ol
(4-penten**ol**)



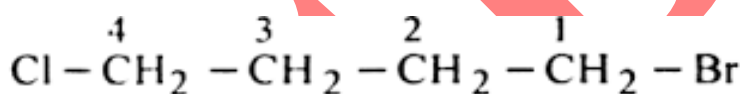
5-chloropent-1-**yne**



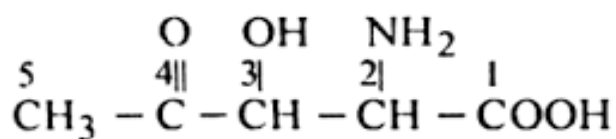
Methyl 3-bromo-2-hydroxy-2-methylbutan-1-oate



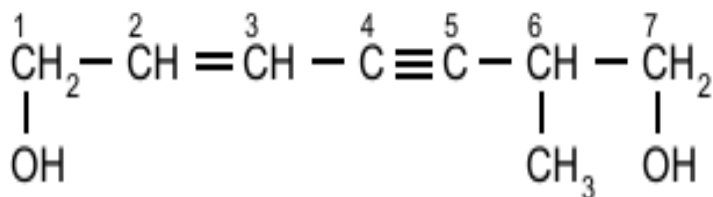
2-Hydroxypropane-1,2,3-tricarboxylic acid



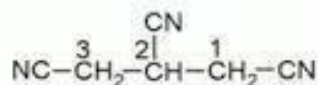
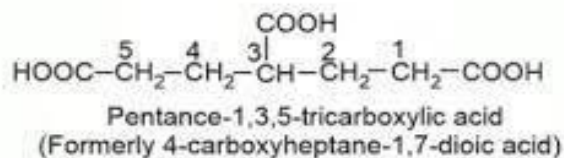
1-Bromo-4-chlorobutane



2-Amino-3-hydroxy-4-oxopentan-1-oic-acid



6-Methylhept-2-en-4-yne-1,7-diol

Propane-1,2,3-tricarbo nitrile
(Formely 3 cyanopentane 1, 5 dinitrile)Pentance-1,3,5-tricarboxylic acid
(Formerly 4-carboxyheptane-1,7-dioic acid)