

NOMENCLATURE


⇒ $2^{\text{prefix}} + 1^{\text{prefix}} + \text{root word} + 1^{\text{suffix}} + 2^{\text{suffix}}$

↓ ↓ ↓ ↓ ↓

substituents cyclic No. of C's saturation F.G.

 nature

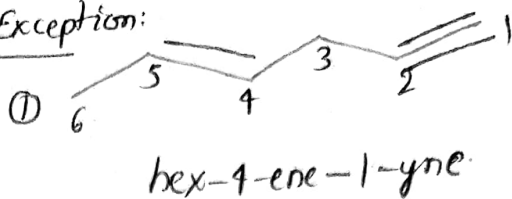
Functional Group	2 suffix	2 prefix	Based on priority order
1. -COOH Carboxylic acid	-oic acid	carboxy	<p>priority order</p> <p>↓</p>
2. $\text{-SO}_3\text{H}$ sulphonic acid	sulphonic acid	sulpho	
3. -C(=O)-O-C(=O)- anhydride	-oic anhydride	—	
4. R-C(=O)-O-R' (R'COOR) ester	-oate	alkoxy carbonyl	
5. R-C(=O)-Cl acid chloride	-oyl chloride	chloro formyl (&) chloro carbonyl	
6. R-C(=O)-NH_2 Amide	-amide	carbamyl	
7. R-CN → cyanide	-nitrile	cyano	
8. R-NC [isocyanide]	isomitrile (&) carbodi-amine	isocyano	
9. R-C(=O)-H [Aldehyde]	-al	formyl (&) aldo (&) oxo	
10. R-C(=O)-R [ketone]	-one	oxo (&) keto	
11. R-OH (alcohol)	-ol	hydroxy	
12. R-SH (thiol)	-thiol	mercapto	
13. R-NH_2	-amine	amino	
14. $\text{C}\equiv\text{C}$	-ene	—	
15. $\text{-C}\equiv\text{C-}$	-yne	—	
16. R-O-R ether	alkoxy alkane	—	

→ Always substituents $-X$ (halo), $-\text{NO}_2$ (nitro), $-\text{NO}$ (nitroso), $-\text{R}$ alkyl,
 $-\text{OR}$ -alkoxy ($-\text{OCH}_3, -\text{OC}_2\text{H}_5$),  epoxy; $-\text{O}-$ oxa, $-\text{N}-$ aza
 ~~$-\text{S}$ sulpha, $-\text{NH}_2$ amino, $-$~~

Rules

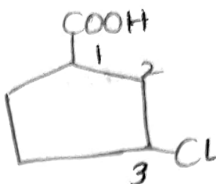
- Longest chain rule
- Lowest num rule
- alphabetical order

Exception:



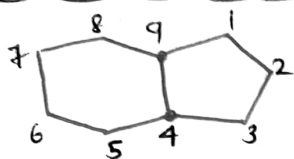
②

(due to $-COOH$ is directly on ring) as substituent



3-chlorocyclopentane carboxylic acid

Bicyclic compounds

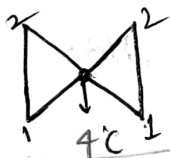


Bicyclo[4.3.0]nonane

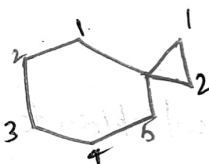


Bicyclo[2.2.1]heptane (ascending order)
bridge




Spiro compounds



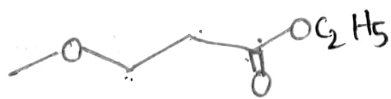
spiro[2.2]pentane



spiro[2.5]octane

	Cyclic	open chain
	3C	3C ✓
	3C ✓	2C
	3C	4C ✓

Ex:



→ 3-methoxy ethyl butanoate X

→ ethyl - 3-methoxy butanoate ✓