

ORGANIC NOMENCLATURE

Halogens	Side chains	Number of carbons in main chain	Single-double-triple bonds	Functional group
F: -fluoro Cl: -chloro Br: -bromo I: -iodo	-CH ₃ : -methyl- -CH ₂ CH ₃ : -ethyl- -CH ₂ CH ₂ CH ₃ : -propyl- -CH ₂ CH ₂ CH ₂ CH ₃ : -butyl-	1: -meth- 2: -eth- 3: -prop- 4: -but- 5: -pent- 6: -hex- 7: -hept- ...	Only single bonds: -an- One double bond: -en- One triple bond: -yn-	Hydrocarbons: -e Alcohols: -ol Ethers: -yl ether Aldehydes: -al Ketones: -one Carboxylic acids: -oic acid Esters: -oate Amines: -amine
If there are two: di-	If there are two: di-			
<u>Examples:</u> CH ₃ Br Bromomethane CH ₂ Br ₂ Dibromomethane CH ₃ CCl ₂ CH ₂ CH ₃ 2,2-dichlorobutane	<u>Examples:</u> CH ₃ CH(CH ₃)CH ₃ Methylpropane CH ₃ C(CH ₃) ₂ CH ₃ Dimethylpropane CH ₃ CH(C ₂ H ₅)CH ₂ CH ₃ 2-ethylbutane	<u>Examples:</u> CH ₄ : methane CH ₃ CH ₃ : ethane CH ₃ CH ₂ CH ₃ : propane	<u>Examples:</u> CH ₂ CH ₂ : ethene CH ₂ CHCH ₃ : propene CH ₂ CHCH ₂ CH ₃ : butene CH ₃ CHCHCH ₃ : 2-butene	

- Main chain is the longer chain of carbons
- We start counting the main chain carbons from the edge closer to the functional group/side chain/double(triple) bond
- If there is only one possible structure we omit number for the position of halogens/side chain/double(triple) bond

FUNCTIONAL GROUPS

Class	Functional group	General formula	Examples	
Alcohols	-OH	R-OH	CH ₃ OH CH ₃ CH ₂ OH CH ₃ CH ₂ CH ₂ OH CH ₃ CH(OH)CH ₃	Methanol Ethanol Propanol 2-propanol or isopropyl alcohol
Ethers	-O-	R-O-R'	CH ₃ OCH ₃ CH ₃ CH ₂ OCH ₃	Dimethyl ether Ethyl methyl ether
Aldehydes	-COH	R-COH	CH ₂ O CH ₃ CHO CH ₃ CH ₂ CHO	Methanal Ethanal Propanal
Ketones	-CO-	R-CO-R'	CH ₃ COCH ₃ CH ₃ COCH ₂ CH ₃ CH ₃ CH ₂ COCH ₂ CH ₃	Propanone or acetone 2-butanone 3-pentanone
Carboxylic acids	-COOH	R-COOH	CH ₃ COOH CH ₃ CH ₂ COOH	Ethanoic acid Propanoic acid
Esters	-COO-	R-COO-R'	CH ₃ COOCH ₂ CH ₃ CH ₃ COOCH ₂ CH ₂ CH ₃ CH ₃ CH ₂ COOCH ₂ CH ₃	Ethyl ethanoate Propyl ethanoate Ethyl propanoate
Amines	-NH ₂	R-NH ₂	CH ₃ NH ₂ CH ₃ CH ₂ NH ₂	Methylamine Ethylamine

- R and R' represent hydrocarbon fragments
- Classes in each pair are isomers