
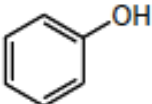
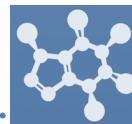


CHE 2060: Common functional groups & naming them

alkane	$\begin{array}{c} \text{H} \quad \text{H} \\ \quad \\ \text{H}-\text{C}-\text{C}-\text{H} \\ \quad \\ \text{H} \quad \text{H} \end{array}$	- ane suffix	<u>ethane</u>
alkene	$\begin{array}{c} \text{H} \quad \quad \text{H} \\ \diagdown \quad / \\ \text{C}=\text{C} \\ / \quad \diagdown \\ \text{H} \quad \quad \text{H} \end{array}$	- ene suffix	1- <u>ethene</u>
alkyne	$\text{H}-\text{C}\equiv\text{C}-\text{H}$	- yne suffix	1- <u>ethyne</u>
aromatic hydrocarbon		Root name is benzene, phenol, or toluene.	benzene
alkyl halide	$\begin{array}{c} \text{H} \\ \\ \text{H}-\text{C}-\text{Cl} \\ \\ \text{H} \end{array}$	halo-	<u>1-chloromethane</u>
alcohol	$\begin{array}{c} \text{H} \\ \\ \text{H}_3\text{C}-\text{C}-\text{OH} \\ \\ \text{H} \end{array}$	- ol suffix	1- <u>ethanol</u>
thiol	$\begin{array}{c} \text{H} \\ \\ \text{H}_3\text{C}-\text{C}-\text{SH} \\ \\ \text{H} \end{array}$	- thiol suffix	ethan <u>thiol</u>
amine	$\begin{array}{c} \text{H} \\ \\ \text{H}_3\text{C}-\text{C}-\text{NH}_2 \\ \\ \text{H} \end{array}$	- amine suffix	ethyl <u>amine</u>
ether	$\text{H}_3\text{C}-\text{O}-\text{CH}_3$	Name the group on each side of the O.	<u>dimethylether</u>
sulfide	$\text{H}_3\text{C}-\text{S}-\text{CH}_3$	Name the group on each side of the S.	<u>dimethylthioether</u>
phenol		Add substituents to phenol root name.	phenol



ketone	$\begin{array}{c} \text{O} \\ \parallel \\ \text{H}_3\text{C}-\text{C}-\text{CH}_3 \end{array}$	- one suffix	2-propan <u>one</u>
aldehyde	$\begin{array}{c} \text{O} \\ \parallel \\ \text{H}_3\text{C}-\text{C}-\text{H} \end{array}$	- al suffix	ethan <u>al</u>
imine (Schiff base)	$\begin{array}{c} \text{CH}_3 \\ \diagup \\ \text{N} \\ \parallel \\ \text{H}_3\text{C}-\text{C}-\text{CH}_3 \end{array}$	- imine suffix	<i>never mind!</i>
carboxylic acid	$\begin{array}{c} \text{O} \\ \parallel \\ \text{H}_3\text{C}-\text{C}-\text{OH} \end{array}$	- oic acid suffix	ethan <u>oic acid</u> (common: acetic acid)
ester	$\begin{array}{c} \text{O} \\ \parallel \\ \text{H}_3\text{C}-\text{C}-\text{O}-\text{CH}_3 \end{array}$	- oate suffix	<u>methyl ethanoate</u>
thioester	$\begin{array}{c} \text{O} \\ \parallel \\ \text{H}_3\text{C}-\text{C}-\text{S}-\text{CH}_3 \end{array}$	- thioate suffix	<u>methyl ethylthioate</u>
amide	$\begin{array}{c} \text{O} \\ \parallel \\ \text{H}_3\text{C}-\text{C}-\text{N}-\text{CH}_3 \\ \\ \text{H} \end{array}$	- amide suffix	N-methylethan <u>amide</u>
acyl phosphate	$\begin{array}{c} \text{O} \\ \parallel \\ \text{H}_3\text{C}-\text{C}-\text{O}-\text{P}(\text{O})_2\text{O}^\ominus \end{array}$	NA	
acid chloride	$\begin{array}{c} \text{O} \\ \parallel \\ \text{H}_3\text{C}-\text{C}-\text{Cl} \end{array}$	- oyl halide suffix	ethanoyl chloride
phosphate ester	$\begin{array}{c} \text{O} \\ \parallel \\ \text{O}^\ominus-\text{P}-\text{OCH}_3 \\ \\ \text{O}^\ominus \end{array}$	NA	
phosphate diester	$\begin{array}{c} \text{O} \\ \parallel \\ \text{O}^\ominus-\text{P}-\text{OCH}_3 \\ \\ \text{OCH}_3 \end{array}$	NA	