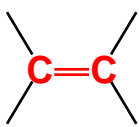
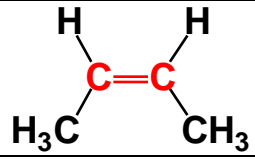
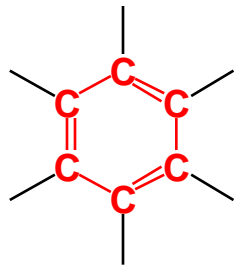
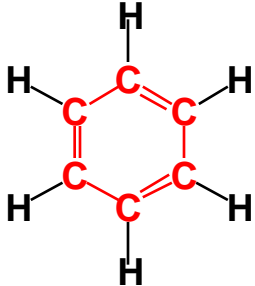
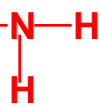
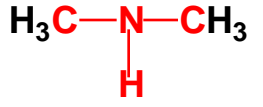
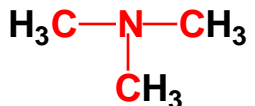
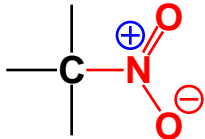
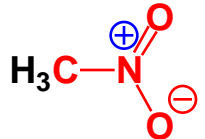
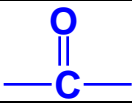
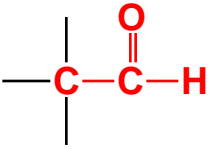
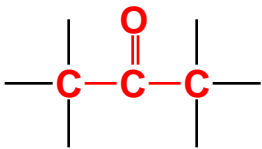
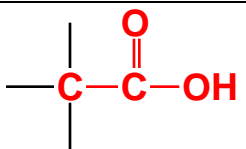
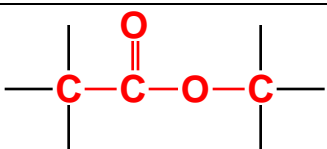
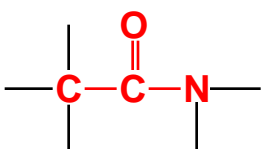


Functional Groups to Know and Love

Family Name	Functional group structure	Simple example
Alkane	Contains only C-H and C-C single bonds	$\text{H}_3\text{C}-\text{CH}_3$
Alkene		
Alkyne	$-\text{C}\equiv\text{C}-$	$\text{H}-\text{C}\equiv\text{C}-\text{H}$
Arene		
Halide	$-\text{C}-\text{X} \quad \text{X} = \text{F}, \text{Cl}, \text{Br}, \text{I}$	$\text{H}_3\text{C}-\text{Cl}$
Alcohol	$-\text{C}-\text{OH}$	$\text{H}_3\text{C}-\text{OH}$
Ether	$-\text{C}-\text{O}-\text{C}-$	$\text{H}_3\text{CH}_2\text{C}-\text{O}-\text{CH}_2\text{CH}_3$
Amine	$-\text{N}-$	$\text{H}_3\text{C}-\text{N}-\text{H}$ $\text{H}_3\text{C}-\text{N}-\text{CH}_3$   $\text{H}_3\text{C}-\text{N}-\text{CH}_3$ 
Nitrile	$-\text{C}-\text{C}\equiv\text{N}$	$\text{H}_3\text{C}-\text{C}\equiv\text{N}$
Nitro		

Family Name	Functional group structure	Simple example
Carbonyl		
Aldehyde		$\text{H}_3\text{C}-\text{C}(=\text{O})-\text{H}$
Ketone		$\text{H}_3\text{C}-\text{C}(=\text{O})-\text{CH}_3$
Carboxylic acid		$\text{H}_3\text{C}-\text{C}(=\text{O})-\text{OH}$
Ester		$\text{H}_3\text{C}-\text{C}(=\text{O})-\text{OCH}_3$
Amide		$\text{H}_3\text{C}-\text{C}(=\text{O})-\text{NH}_2$ $\text{H}_3\text{C}-\text{C}(=\text{O})-\text{NHCH}_3$ $\text{H}_3\text{C}-\text{C}(=\text{O})-\text{N}(\text{CH}_3)_2$