

$\begin{array}{c} \text{H} \\   \\ \text{R}-\text{C}-\text{H} \\   \\ \text{H} \end{array}$	$\text{R}^1-\text{O}-\text{R}^2$	$\begin{array}{c} \text{H} \qquad \qquad \text{H} \\   \qquad \qquad \diagup \\ \text{R}-\text{N}-\text{C}-\text{N} \\ \qquad \qquad \parallel \qquad \diagdown \\ \qquad \qquad \text{N}^+ \\ \diagup \qquad \qquad \diagdown \\ \text{H} \qquad \qquad \text{H} \end{array}$
$\begin{array}{c} \text{Methyl} \\   \qquad   \\ \text{H} \qquad \text{H} \\   \qquad   \\ \text{R}-\text{C}-\text{C}-\text{H} \\   \qquad   \\ \text{H} \qquad \text{H} \end{array}$	<p>Ether</p> $\text{R}^1-\text{C}(=\text{O})-\text{O}-\text{R}^2$	<p>Guanidinium</p> $\begin{array}{c} \text{R}-\text{C}=\text{CH} \\   \qquad   \\ \text{HN} \qquad \text{N} \\ \diagdown \qquad \diagup \\ \text{C} \\   \\ \text{H} \end{array}$
$\begin{array}{c} \text{Ethyl} \\   \qquad   \\ \text{H} \qquad \text{H} \\   \qquad   \\ \text{R}-\text{C}-\text{C}-\text{CH} \\ \diagdown \qquad \diagup \\ \text{C} \qquad \text{C} \\   \qquad   \\ \text{H} \qquad \text{H} \end{array}$	<p>Ester</p> $\text{R}-\text{O}-\text{C}(=\text{O})-\text{CH}_2-\text{H}$	<p>Imidazole</p> $\text{R}-\text{S}-\text{H}$
<p>Phenyl</p> $\text{R}-\text{C}(=\text{O})-\text{H}$	<p>Acetyl</p> $\text{R}^1-\text{C}(=\text{O})-\text{O}-\text{C}(=\text{O})-\text{R}^2$	<p>Sulfhydryl</p> $\text{R}^1-\text{S}-\text{S}-\text{R}^2$
<p>Carbonyl (aldehyde)</p>	<p>Anhydride (two carboxylic acids)</p> $\begin{array}{c} \text{H} \\   \\ \text{R}-\text{N}^+-\text{H} \\   \\ \text{H} \end{array}$	<p>Disulfide</p> $\text{R}^1-\text{C}(=\text{O})-\text{S}-\text{R}^2$
$\text{R}^1-\text{C}(=\text{O})-\text{R}^2$	<p>Amino (protonated)</p> $\begin{array}{c} \text{H} \\   \\ \text{R}-\text{C}-\text{N} \\ \parallel \qquad   \\ \text{O} \qquad \text{H} \end{array}$	<p>Thioester</p> $\begin{array}{c} \text{O}^- \\   \\ \text{R}-\text{O}-\text{P} \\ \parallel \qquad   \\ \text{O} \qquad \text{OH} \end{array}$
$\text{R}-\text{C}(=\text{O})-\text{O}^-$	<p>Amido</p> $\begin{array}{c} \text{H} \\   \\ \text{R}-\text{C}-\text{N} \\ \parallel \qquad   \\ \text{O} \qquad \text{H} \end{array}$	<p>Phosphoryl</p>
<p>Carboxyl</p>	$\text{R}-\text{O}-\text{H}$	$\begin{array}{c} \text{O}^- \qquad \text{O}^- \\   \qquad   \\ \text{R}^1-\text{O}-\text{P}-\text{O}-\text{P}-\text{O}-\text{R}^2 \\ \parallel \qquad \parallel \\ \text{O} \qquad \text{O} \end{array}$
<p>Hydroxyl (Alcohol)</p>	<p>Imine</p> $\begin{array}{c} \text{R}^3 \\   \\ \text{N} \\ \parallel \\ \text{R}^1-\text{C}-\text{R}^2 \end{array}$	<p>Phosphoanhydride</p>
$\begin{array}{c} \text{O}-\text{H} \\   \\ \text{R}-\text{C}=\text{C} \\ \diagup \qquad \diagdown \\ \text{H} \qquad \text{H} \end{array}$	<p>N-Substituted imine</p>	$\begin{array}{c} \text{O}^- \\   \\ \text{R}-\text{C}(=\text{O})-\text{O}-\text{P} \\ \parallel \qquad \parallel \\ \text{O} \qquad \text{OH} \end{array}$
<p>Enol</p>		<p>Mixed anhydride</p>

Table 1: Some common functional groups of biomolecules.