

## ORGANIC CHEMISTRY BASICS

**PROPERTIES OF CARBON:**

FUNCTIONAL GROUP	DRAWING/FORMULA	PROPERTIES
Hydroxyl		
Carbonyl		

FUNCTIONAL GROUP	DRAWING/FORMULA	PROPERTIES
<b>Carboxyl</b>		
<b>Amino</b>		
<b>Sulfhydryl</b>		
<b>Phosphate</b>		
<b>Methyl</b>		

**QUESTION: CIRCLE AND IDENTIFY THE FUNCTIONAL GROUP(S) FOUND IN EACH OF THE FOLLOWING MOLECULES.**

<p style="text-align: center;"><b>Molecule #1</b></p> $  \begin{array}{c}  \text{H} & \text{H} & \text{O} \\    &   & // \\  \text{H}-\text{N}-\text{C}-\text{C} \\    &   & \backslash \\  \text{H} & \text{R} & \text{O}-\text{H}  \end{array}  $	<p style="text-align: center;"><b>Molecule #2</b></p> $  \begin{array}{c}  \text{HO} & \text{O} & \text{OH} \\    &    &   \\  \text{H}-\text{C}-\text{C}-\text{C}-\text{H} \\    & &   \\  \text{H} & & \text{H}  \end{array}  $
<p style="text-align: center;"><b>Molecule #3</b></p> $  \begin{array}{c}  \text{O} & \text{OH} & \text{OH} \\     &   &   \\  \text{C}-\text{C}-\text{C}-\text{H} \\    &   &   \\  \text{H} & \text{H} & \text{H}  \end{array}  $	<p style="text-align: center;"><b>Molecule #4</b></p> $  \begin{array}{c}  \text{H} & \text{O} \\    & // \\  \text{H}_2\text{N}-\text{C}-\text{C} \\    & \backslash \\  \text{CH}_2 & \text{OH} \\    \\  \text{SH}  \end{array}  $
<p><b>Molecule #5</b></p> $  \begin{array}{c}  \text{CH}_2-\overset{+}{\text{N}}(\text{CH}_3)_2 \\    \\  \text{CH}_2 \\    \\  \text{O} \\    \\  \text{O}=\text{P}-\text{O}^- \\    \\  \text{O} \\    \\  \text{CH}_2-\text{CH}-\text{CH}_2 \\    \quad   \\  \text{O} \quad \text{O} \\    \quad   \\  \text{C}=\text{O} \quad \text{C}=\text{O} \\    \quad   \\  (\text{CH}_2)_8 \quad (\text{CH}_2)_7 \\    \quad // \\  \text{CH}_3 \quad \text{CH} \\  \quad \quad   \\  \quad \quad (\text{CH}_2)_7 \\  \quad \quad \quad   \\  \quad \quad \quad \text{CH}_3  \end{array}  $	