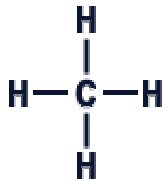
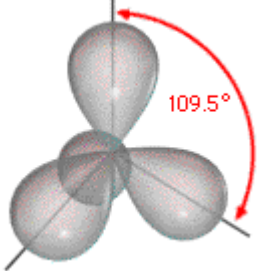
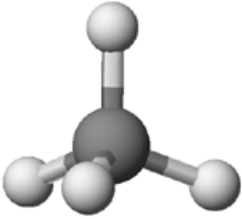
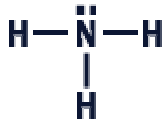
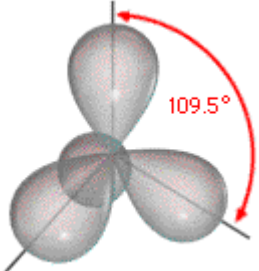


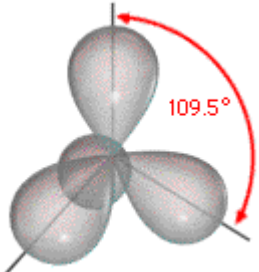
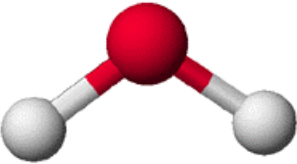
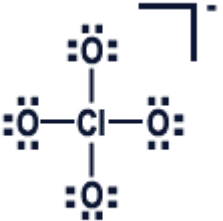
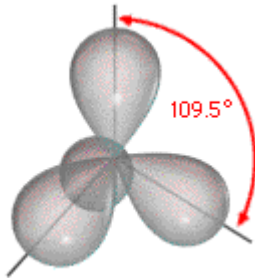
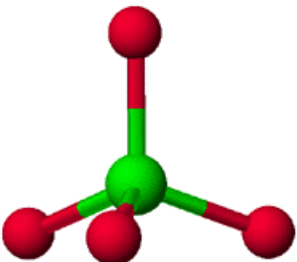
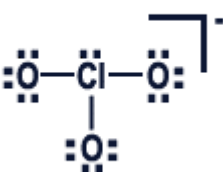
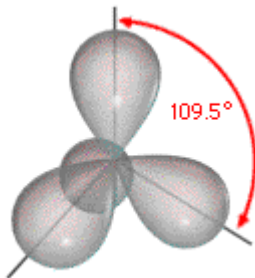
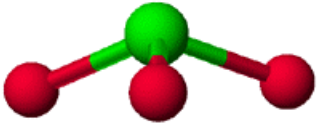
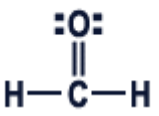
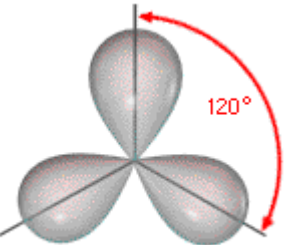
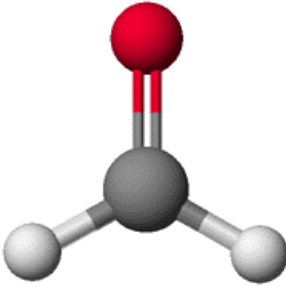


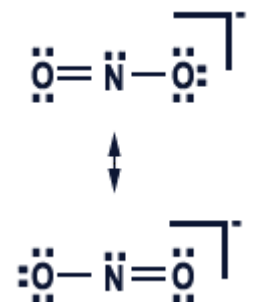
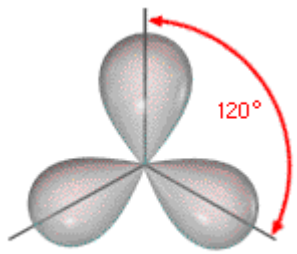
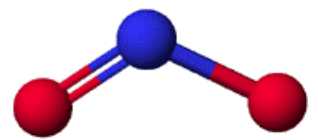
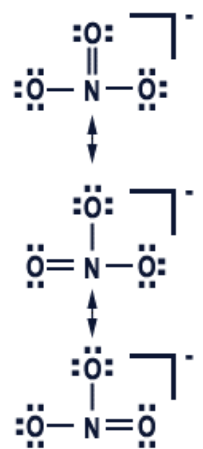
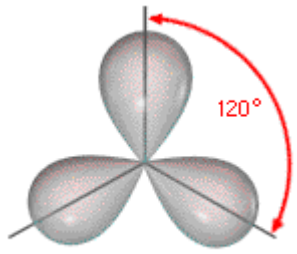
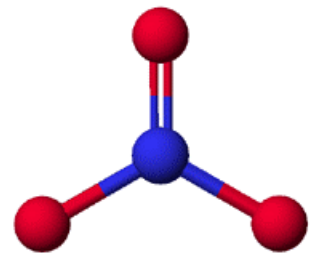
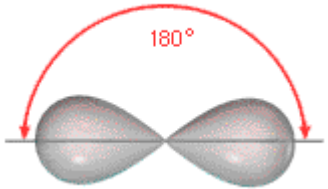

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Lewis Structure	Classification	Electron Pair Geometry (EPG)	Molecular Geometry (MG)	Bond Angle(s)	Polarity	Hybridization
<p>CH₄</p> 	<p>AX₄</p>	 <p>Tetrahedron</p>	 <p>Tetrahedron</p>	<p>~109</p>	<p>Non Polar</p>	<p>—</p>
<p>NH₃</p> 	<p>AX₃E</p>	 <p>Tetrahedron</p>	 <p>Trigonal pyramid</p>	<p>~109</p>	<p>Polar</p>	<p>—</p>
<p>H₂O</p> 	<p>AX₂E₂</p>	 <p>Tetrahedron</p>	 <p>Angular/Bent</p>	<p>~109</p>	<p>Polar</p>	<p>—</p>


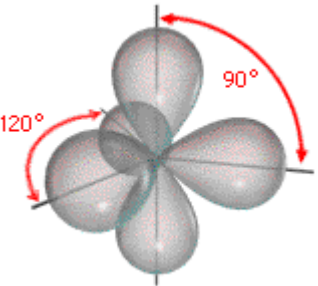
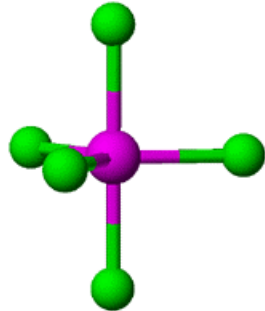

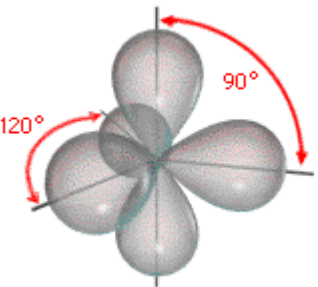
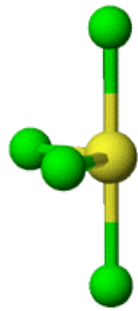
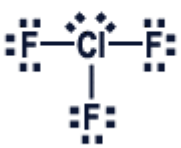
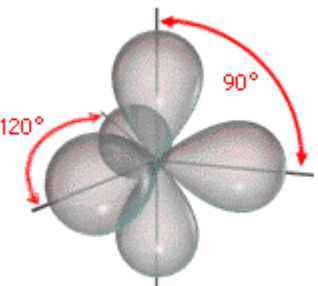
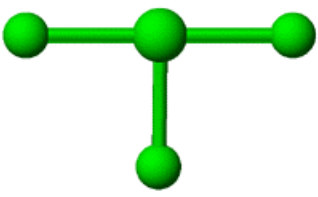
Molecular Geometry Worksheet ... Summer 2006 ... Whelan ... Page 2

Lewis Structure	Classification	Electron Pair Geometry (EPG)	Molecular Geometry (MG)	Bond Angle(s)	Polarity	Hybridization
<p>ClO_4^- - Class</p> 	<p>AX_4</p>	 <p>Tetrahedron</p>	 <p>Tetrahedron</p>	<p>~109</p>	<p>Non Polar</p>	<p>_____</p>
<p>ClO_3^- - Class</p> 	<p>AX_3E</p>	 <p>Tetrahedron</p>	 <p>Trigonal pyramid</p>	<p>~109</p>	<p>Polar</p>	<p>_____</p>
<p>H_2CO</p> 	<p>AX_3</p>	 <p>Trigonal Planar</p>	 <p>Trigonal Planar</p>	<p>120</p>	<p>Polar</p>	<p>_____</p>


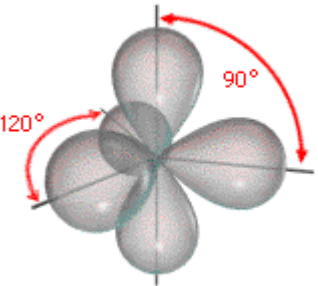


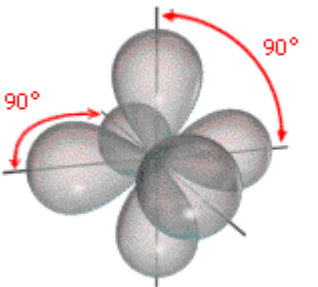
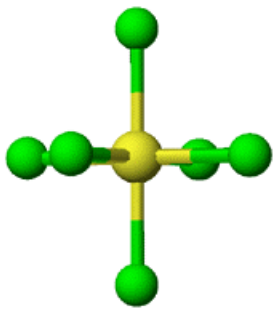

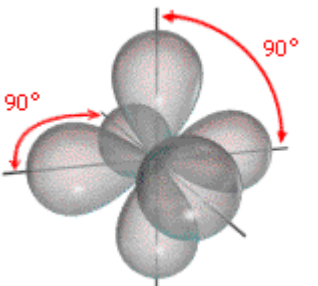
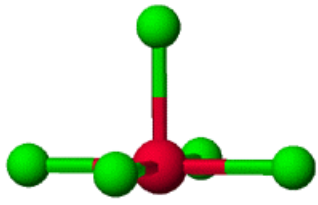
Molecular Geometry Worksheet ... Summer 2006 ... Whelan ... Page 3

Lewis Structure	Classification	Electron Pair Geometry (EPG)	Molecular Geometry (MG)	Bond Angle(s)	Polarity	Hybridization
NO_2^- 	<p>AX_2E</p> <p>AX_2E</p>	 <p>Trigonal Planar</p>	 <p>Angular/Bent</p>	~120	Polar	—
NO_3^- - Class 	<p>AX_3</p> <p>AX_3</p> <p>AX_3</p>	 <p>Trigonal Planar</p>	 <p>Trigonal Planar</p>	120	Non Polar	—
HCN $\text{H}-\text{C}\equiv\text{N}:$	<p>AX_2</p>	 <p>Linear</p>	 <p>Linear</p>	180	Polar	—


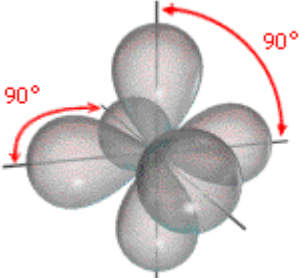

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Lewis Structure	Classification	Electron Pair Geometry (EPG)	Molecular Geometry (MG)	Bond Angle(s)	Polarity	Hybridization
<p>PF₅</p> 	<p>AX₅</p>	 <p>Trigonal bipyramid</p>	 <p>Trigonal bipyramid</p>	<p>90 120</p>	<p>Non Polar</p>	<p>_____</p>
<p>SF₄</p> 	<p>AX₄E</p>	 <p>Trigonal bipyramid</p>	 <p>See-saw</p>	<p>90 120</p>	<p>Polar</p>	<p>_____</p>
<p>ClF₃</p> 	<p>AX₃E₂</p>	 <p>Trigonal bipyramid</p>	 <p>T-shaped</p>	<p>90 (180)</p>	<p>Polar</p>	<p>_____</p>

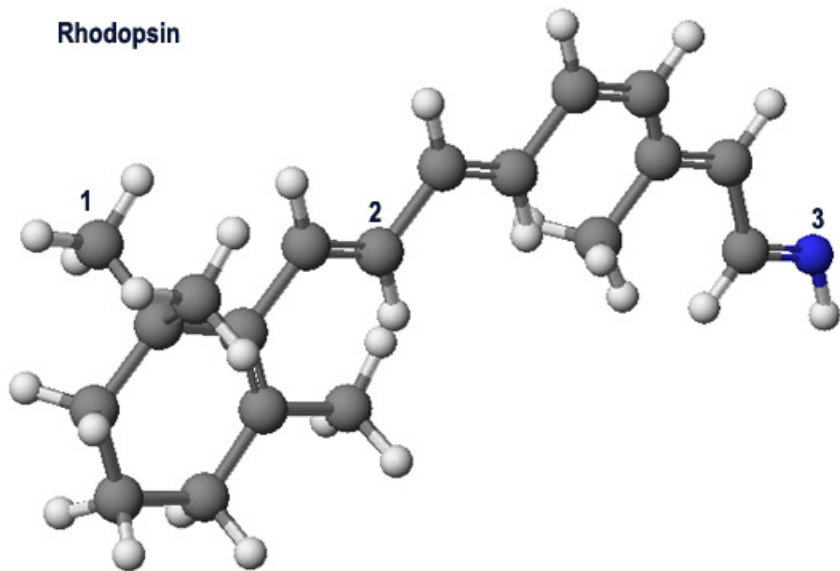
Molecular Geometry Worksheet ... Summer 2006 ... Whelan ... Page 5

Lewis Structure	Classification	Electron Pair Geometry (EPG)	Molecular Geometry (MG)	Bond Angle(s)	Polarity	Hybridization
<p>XeF₂</p> 	<p>AX₂E₃</p>	 <p>Trigonal bipyramid</p>	 <p>Linear</p>	<p>180</p>	<p>Non Polar</p>	<p>_____</p>
<p>SF₆</p> 	<p>AX₆</p>	 <p>Octahedron</p>	 <p>Octahedron</p>	<p>90</p>	<p>Non Polar</p>	<p>_____</p>
<p>BrF₅</p> 	<p>AX₅E</p>	 <p>Octahedron</p>	 <p>Square Pyramid</p>	<p>90</p>	<p>Polar</p>	<p>_____</p>

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Lewis Structure	Classification	Electron Pair Geometry (EPG)	Molecular Geometry (MG)	Bond Angle(s)	Polarity	Hybridization
<p>XeF₄</p> 	<p>AX₄E₂</p>	 <p>Octahedron</p>	 <p>Square planar</p>	<p>90</p>	<p>Non Polar</p>	<p>_____</p>

Rhodopsin

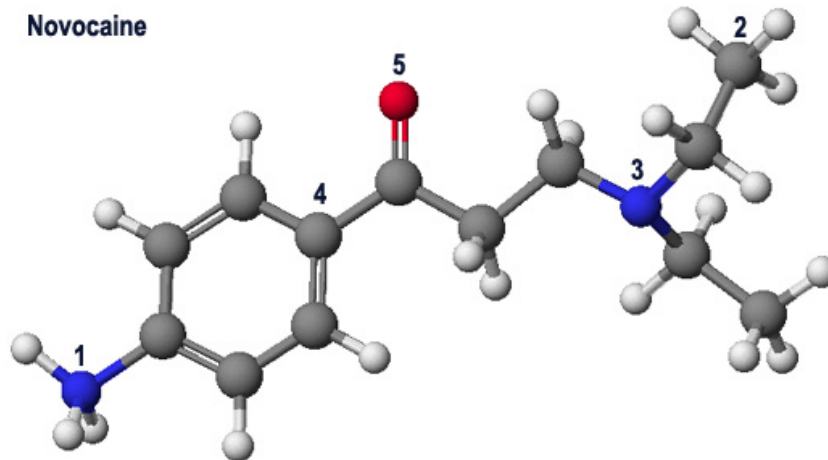


Bond Angles

C-1 109 C-2 120

N-3 120

Novocaine



Bond Angles

N-1 109 C-2 109

N-3 109 C-4 120

O-5 120 (O lps - O - C Angle)