

Symmetry in Nature, Applications of Symmetry

Homework Assignment Week 7

Determine the point group of each of the following molecules. When applicable, identify the primary axis of rotation. Use words to describe the position of the primary axis of rotation, as shown in the example.

Molecule	Point group	Primary axis	Description of the primary axis
H ₂ O	C _{2v}	C ₂	Passing through the O atom, on the plane of the molecule, bisecting the HOH angle
AlCl ₃			
N ₃ ⁻ ion			
PH ₃			
HCN			
XeF ₄			
PCl ₃			
H ₂ S			
NO ₂ ⁻ ion			
SeO ₃			
SeCl ₆			
NH ₃			
GeH ₄			
XeF ₂			
XeOF ₄			
XeF ₄			
NH ₄ ⁺ ion			
CBrClH			