

Lewis Structure, VSEPR Theory and VB Hybridization

Determine the Lewis structure, VSEPR electronic geometry, VSEPR molecular geometry, Polarity, VB hybridization for the following molecules using **ONLY** your periodic table as a guide.

Molecule	Lewis Structure	Electronic Geometry	Molecular Geometry	Is the molecule polar?	What is the VB hybridization of the central atom(s)?
BF ₃					
CO ₂					
IF ₆					
SiF ₄					

SbCl_5					
SeCl_4					
ICl_4^-					
H_2O					
XeF_2					

SO_3^{2-}					
BrF_5					
ClF_3					
C_2H_4					
IF					

Are all five possible electronic geometries represented in this set of molecules? If not, which ones are missing? You can use the Electronic and Molecular Geometries Help Sheet posted on the website on the VSEPR page.

Are all fifteen possible molecular geometries represented in this set of molecules? If not, which ones are missing? You can use the Electronic and Molecular Geometries Help Sheet posted on the website on the VSEPR page.