

BONDING REVIEW

If bonding is covalent, state the shape, polarity, IMF and hybridization

Formula	Dot Diagram	Type of Bonding Ionic or Covalent	Shape of Molecule	Polarity	Inter-molecular Attraction	Hybrid
HI	$\text{H} \times \overset{\cdot\cdot}{\underset{\cdot\cdot}{\text{I}}}$	polar covalent	Linear	polar	dipole-dipole + dispersion	/
Cl ₄	$\begin{array}{c} \cdot\cdot \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \end{array}$	polar covalent	tetrahedral	nonpolar	dispersion	sp ³
BF ₃	$\begin{array}{c} \cdot\cdot \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \end{array}$	polar covalent	trigonal planar	nonpolar	dispersion	sp ²
NH ₃	$\begin{array}{c} \cdot\cdot \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \times \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \end{array}$	polar covalent	trigonal pyramidal	Polar	hydrogen bonds + dispersion	/
H ₂	$\text{H} \times \text{H}$	nonpolar covalent	linear	nonpolar	dispersion	/

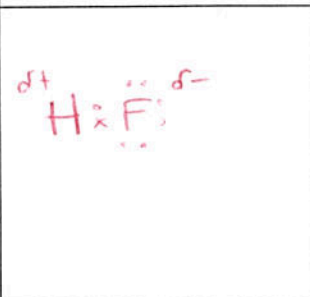
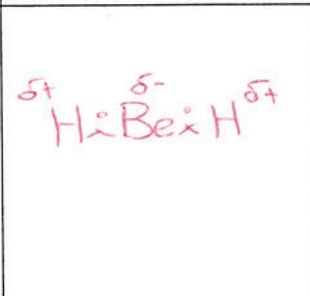
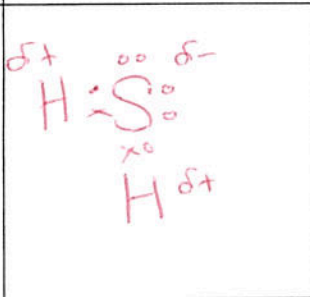
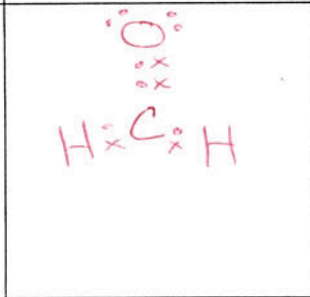
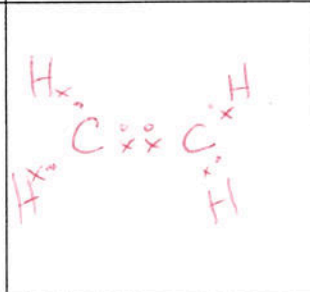
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CH ₃ Cl		polar covalent	tetrahedral	polar	dipole-dipole + dispersion	
H ₂ O		polar covalent	bent	polar	hydrogen bonds + dispersion	
O ₂		nonpolar covalent	linear	nonpolar	dispersion	
SiO ₂		polar covalent	linear	nonpolar	dispersion	
N ₂		nonpolar covalent	linear	nonpolar	dispersion	

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HF	$\delta^+ \text{H} \times \text{F} \delta^-$ 	polar Covalent	Linear	polar	dispersion + dipole dipole	
BeH ₂	$\delta^+ \text{H} \times \text{Be} \times \text{H} \delta^+$ 	polar Covalent	Linear	nonpolar	dispersion	Sp
H ₂ S	$\delta^+ \text{H} \times \text{S} \times \text{H} \delta^+$ 	polar Covalent	bent	polar	dispersion dipole	
CH ₂ O	$\text{H} \times \text{C} \times \text{H}$ 	polar Covalent	planar	polar		
C ₂ H ₄	$\text{H} \times \text{C} \times \text{C} \times \text{H}$ 	polar Covalent	planar			

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C ₂ H ₂	$\text{H}:\text{C}::\text{C}:\text{H}$	polar covalent	linear	nonpolar	dispersion	
H ₃ O ⁺	$\left[\begin{array}{c} \text{H}:\ddot{\text{O}}:\text{H} \\ \times \\ \text{H} \end{array} \right]^+$	covalent	pyramidal	polar		
NaBr	$[\text{Na}]^+ [\ddot{\text{Br}}:]^-$	ionic	N/A			
MgO	$[\text{Mg}]^{2+} [\ddot{\text{O}}:]^{2-}$	ionic	N/A			
K ₃ P	$3 [\text{K}]^+ [\ddot{\text{P}}:]^{3-}$	ionic	N/A			