

CHEMISTRY
MOLECULAR
Standard: #3-4

Name	E-Dot	Bonded / Non-bonded	Electron/Molecular Shape	Dipole moment	Symmetrical	IMF
1. NH_4^+ Ammonium	$\left[\begin{array}{c} \text{H} \\ \\ \text{H}-\text{N}-\text{H} \\ \\ \text{H} \end{array} \right]^+$	4/0	Tetrahedral Tetrahedral (M)	yes NO (zero)	yes	IMF Cation (Ionic) LDF
2. H_2S Hydrogen disulfide	$\text{H}-\ddot{\text{S}}-\text{H}$	2/2	Bent (molecular) Tetrahedral (electronic)	yes	NO	Dipole-Dipole LDF
3. SO_2 Sulfur dioxide	$\text{O}=\ddot{\text{S}}=\ddot{\text{O}}$	2/1	Trigonal Planar Bent (M)	yes	NO	Dipole-Dipole LDF
4. ICl_4 Iodine tetrachloride	$\text{Cl}-\text{I}(\text{Cl})_3$	4/2	- Octahedral - Square Planar (M)	NO	yes	LDF
5. NO_2^+ Nitrogen dioxide	$\text{O}=\ddot{\text{N}}=\ddot{\text{O}}$	2/0	- Linear - Linear (M)	NO	yes	LDF
6. NH_3 ammonia	$\text{H}-\ddot{\text{N}}-\text{H}$	3/1	Tetrahedral Trigonal pyramidal (M)	yes	NO	Hydrogen Bonding LDF
7. CO_3^{2-} Carbonate	$\left[\begin{array}{c} \text{O}=\text{C}=\ddot{\text{O}} \\ \\ \text{O} \end{array} \right]^{2-}$	3/0	Trigonal Planar (M) + (E)	NO	yes	LDF Cation (Ionic)