

Lap 8 - MOLECULAR GEOMETRY

Part A: Lewis Structures

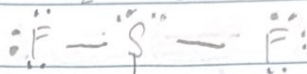
CO_2 : 16 Ve^-



S#: 2, 0 LP, linear

Zero Dipole

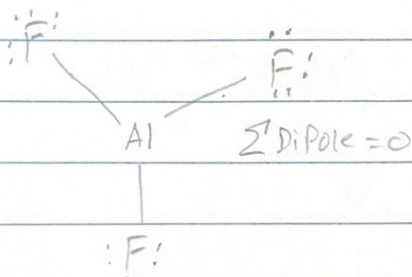
SF_2 : 20 Ve^-



S#: 4, 2 LP, tetrahedral, bent

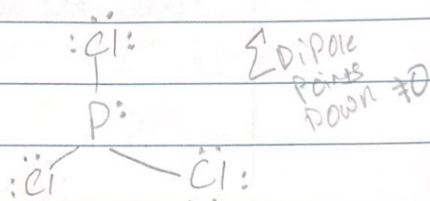
Σ Dipole vector

AlF_3 : 24 Ve^-



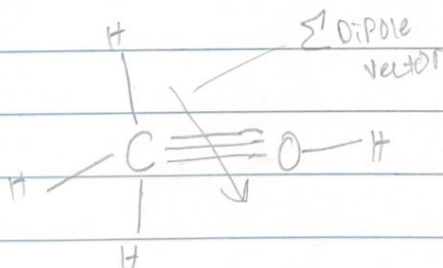
S#: 3, 0 LP, Trigonal Planar

PCl_3 : 26 Ve^-



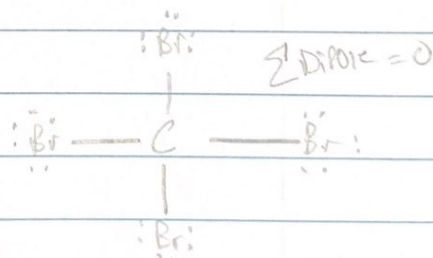
S#: 4, 1 LP, tetrahedral, Trigonal Pyramidal

CH_3OH : 14 Ve^-

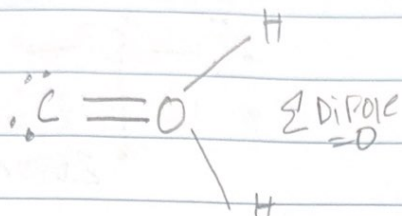
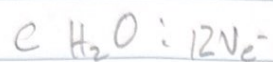


S#: 4, 0 LP, tetrahedral

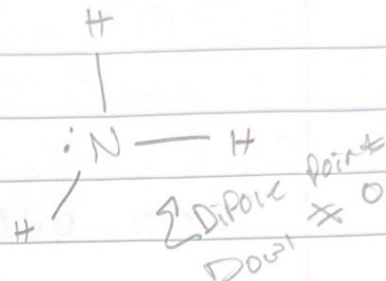
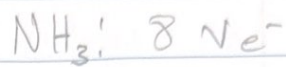
CBr_4 : 32 Ve^-



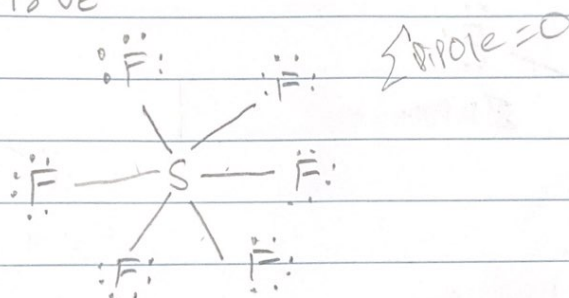
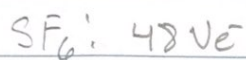
S#: 4, 0 LP, tetrahedral



S#: 3, 0LP, trigonal planar



S#: 4, 1LP, tetrahedral
trigonal pyramidal



S#: 6, 0LP, octahedral

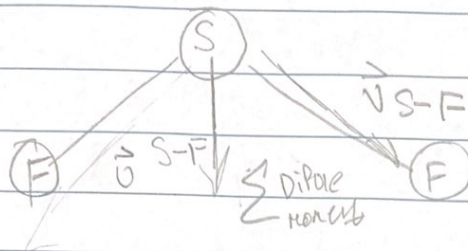
Part C: Dipole moment

CO_2



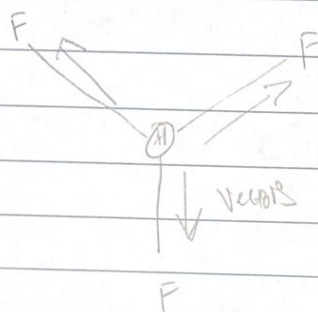
- Vectors cancel since Antilinear $\therefore \sum \text{Dipole moment} = 0$

SF_2

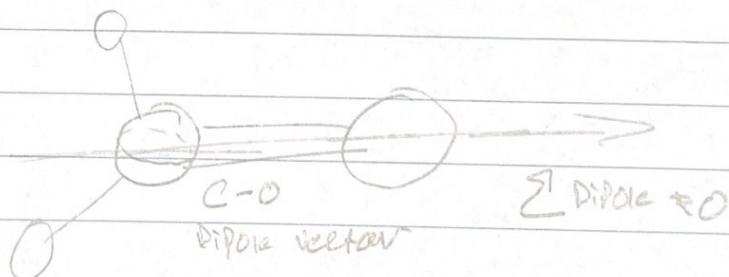
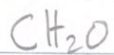
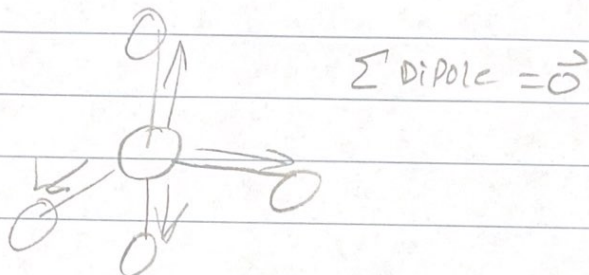
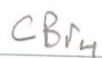
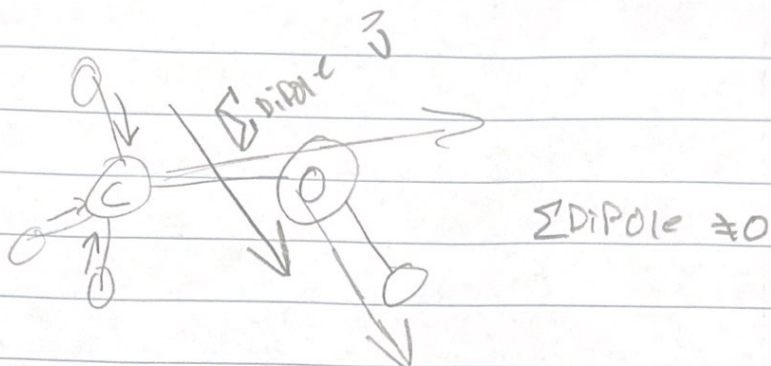
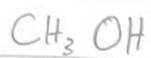
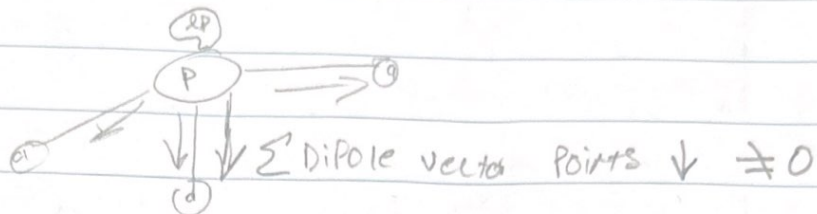
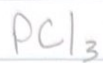


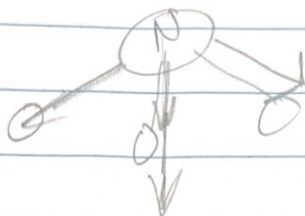
- $\sum \text{Dipole moment} \neq 0$

AlF_3

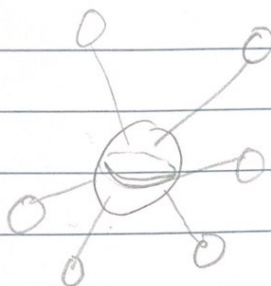


$\sum \text{Dipole} = 0$





$\sum \text{Dipole} \downarrow \neq 0$



$\sum \text{Dipole} = 0$

NO DIPOLES BETWEEN
S-F BOND

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