

Exercises

1. Complete the table below. The first one has been done as an example.

| Formula | Total Number of Valence Electrons | Lewis Structure | Shape Around Central Atom | Ion, polar molecule, nonpolar molecule | Dominant Attractive Force |
|--|-----------------------------------|-----------------|---------------------------|--|---------------------------|
| CF ₄ | 32 | | tetrahedral | nonpolar molecule | London |
| SO ₄ ²⁻ | 32 | | tetra-hedral | ion | ionic |
| CH ₂ S | 12 | | trig. planar | polar | dip dip |
| CH ₃ OH (C & O are bonded) | 14 | | C: tetrahed O: bent | polar | H bond |
| PH ₃ | 8 | | trig pyramidal | polar | dip dip |

$$\begin{array}{r} S = 6 \\ O = 4(6) \\ - 2 = 2 \\ \hline 32e^- \end{array}$$

$$\begin{array}{r} C = 4 \\ H = 2(1) \\ S = 6 \\ \hline 12e^- \end{array}$$

$$\begin{array}{r} C = 4 \\ H = 4(1) \\ O = 6 \\ \hline 14e^- \end{array}$$

$$\begin{array}{r} P = 5 \\ H = 3(1) \\ \hline 8 \end{array}$$