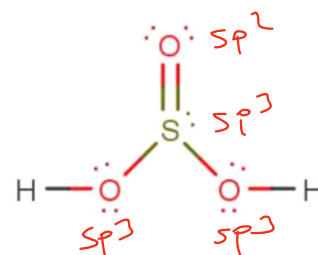
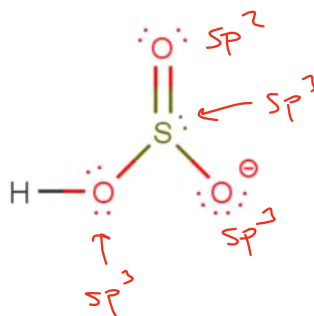
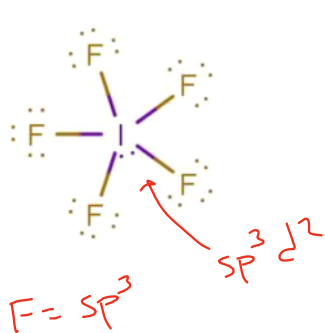
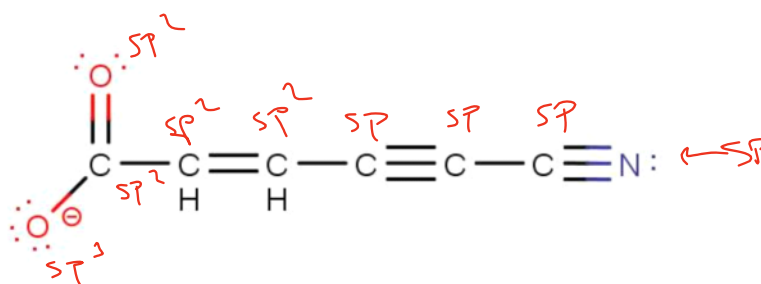
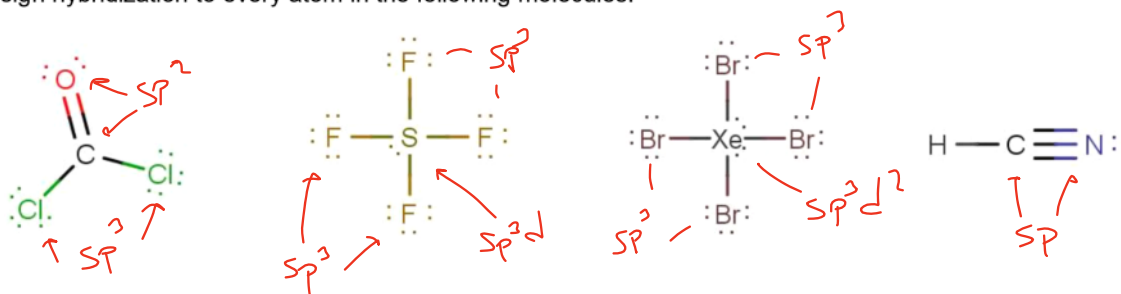


Hybridization and bonding

Assign hybridization to every atom in the following molecules:



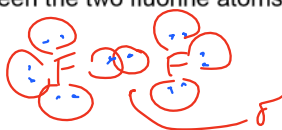
Determine the electron geometry for each of the following hybridizations:

sp	sp ²	sp ³	sp ³ d	sp ³ d ²
linear	trigonal planar	tetrahedral	trigonal bipyramidal	octahedral

How many sigma bonds and how many pi bonds exist in each of the following:

Bond Order	Sigma bonds	Pi bonds
1	1	0
2	1	1
3	1	2

Sketch the bond that forms between the two fluorine atoms in F₂. Label all sigma and pi bonds.



Sketch the bond that forms between the two oxygen atoms in O₂. Label all sigma and pi bonds.



Using hybridization theory, sketch an energy diagram for the bond that forms between carbon and oxygen atoms in:

