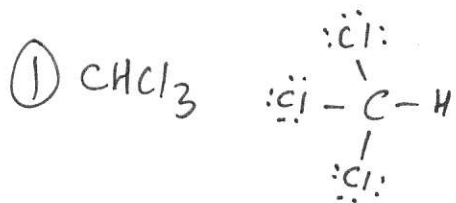
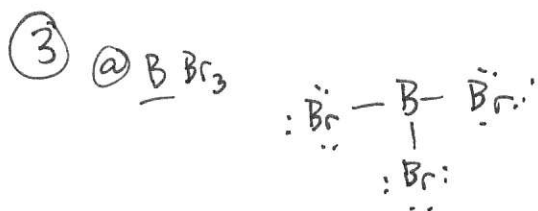


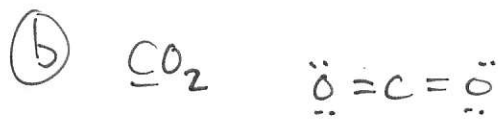
Ch 9



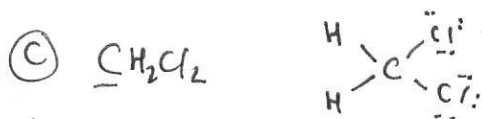
epg = tetrahedral
 molecular geometry = tetrahedral
 C-H bond: sp^3 hybrid from C + s from H
~~E-E~~
 C-Cl bond: sp^3 hybrid from C + sp^3 from Cl



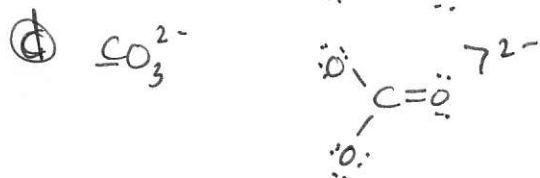
sp^2 hybridized
 EPG = trigonal planar
 molecular geometry = trig. planar



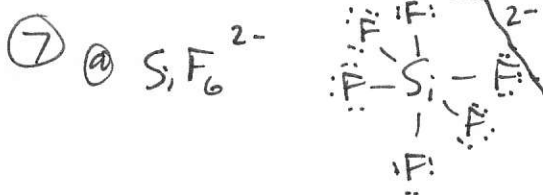
sp hybridized
 EPG = linear
 molec geom = linear



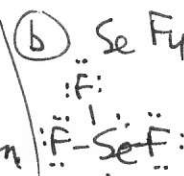
sp^3 hybrids. EPG & molec geom = tetrahedral



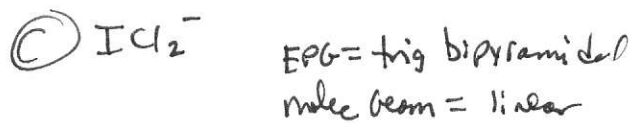
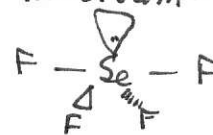
sp^2 hybrids
 EPG & molec geom = trig planar



octahedral EPG
 d^2sp^3 hybrids.
~~octahedral~~ molec. geom.



dsp^3
 EPG = Trig. Bipyramid.
 molec. geom = see saw



EPG = trig bipyramidal
 molec geom = linear

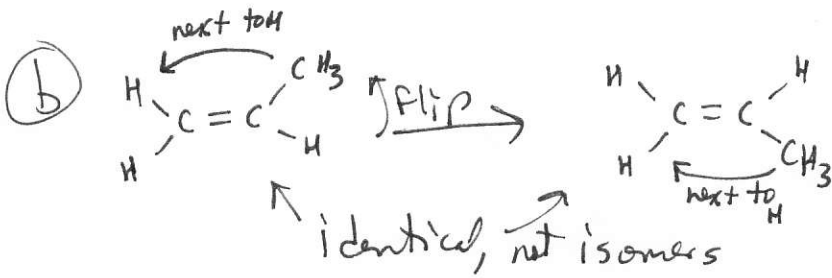
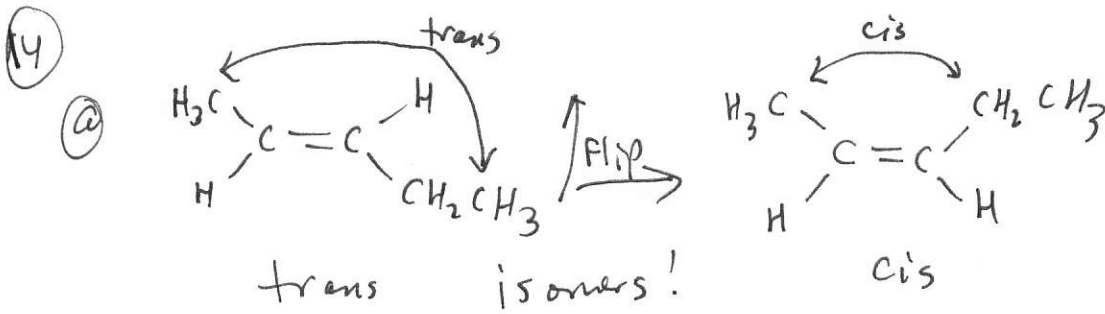
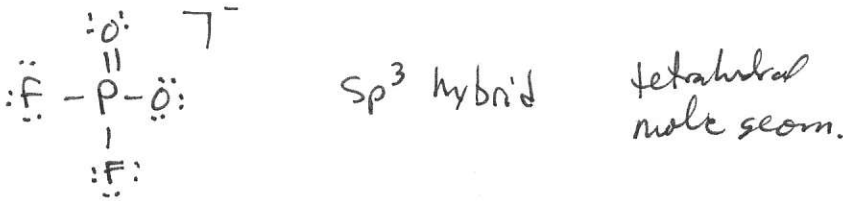
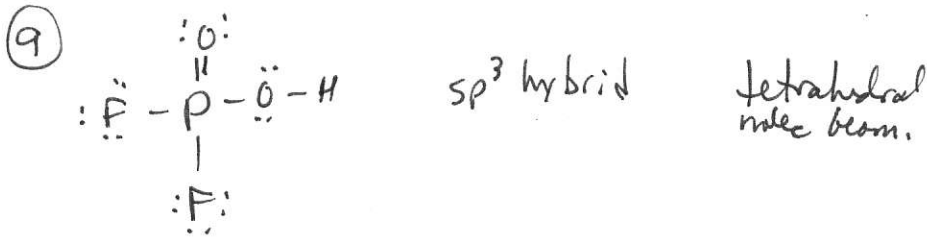
dsp^3 hybrid



d^2sp^3
 EPG = octahedral
 molec geom = sq. planar.

lone
~~E~~ pairs take up more space than
 bonding pairs

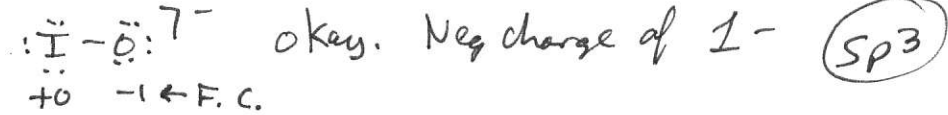
Ch 9



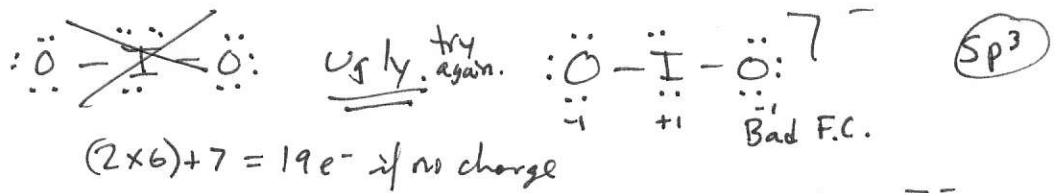
Ch 9

36 Oxoanions of I

IO^- ? dunno \rightarrow

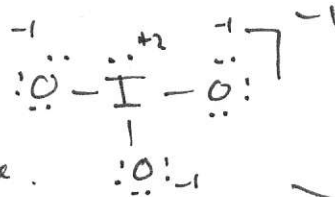


IO_2^- ? dunno \rightarrow

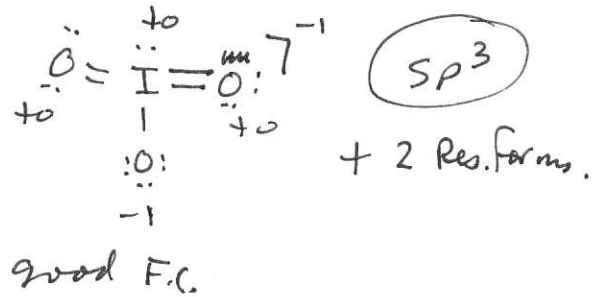
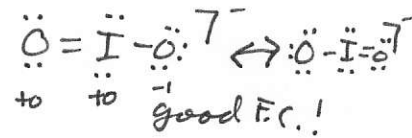


IO_3^- ? dunno \rightarrow

$(3 \times 6) + 7 = 25e^-$
 if no charge.

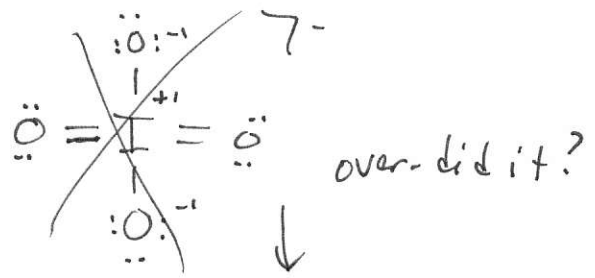
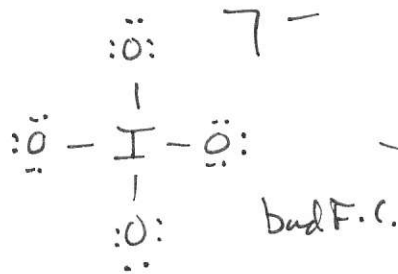


$26e^-$
 Bad F.C.

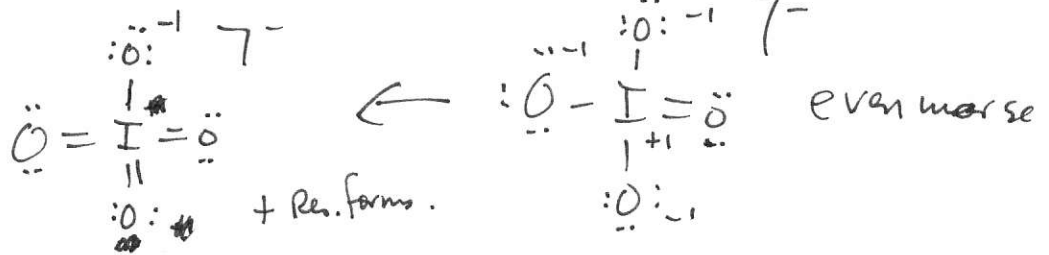


IO_4^- ?

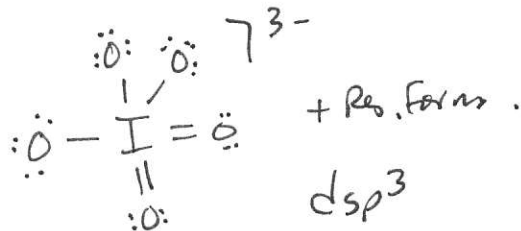
$4 \times 6 + 7 = 31e^-$
 if no charge



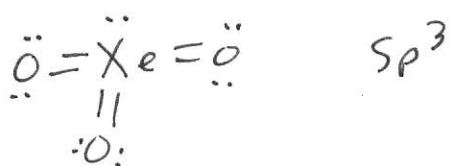
(sp^3)



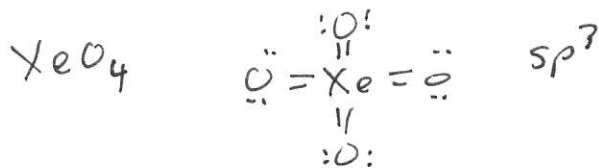
IO_5^{3-}



38 XeO₃

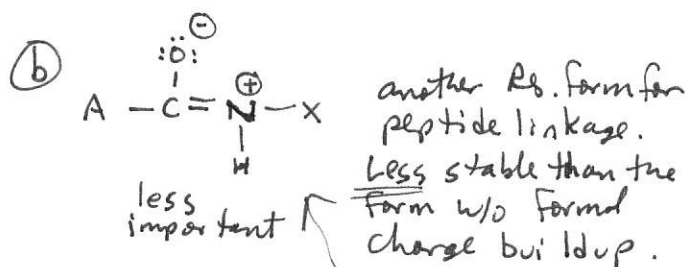
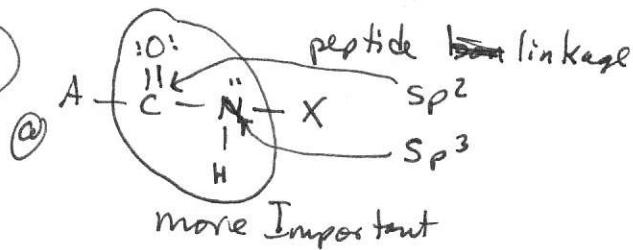


EPG = tetrahedral
mole geom = trig pyramid.

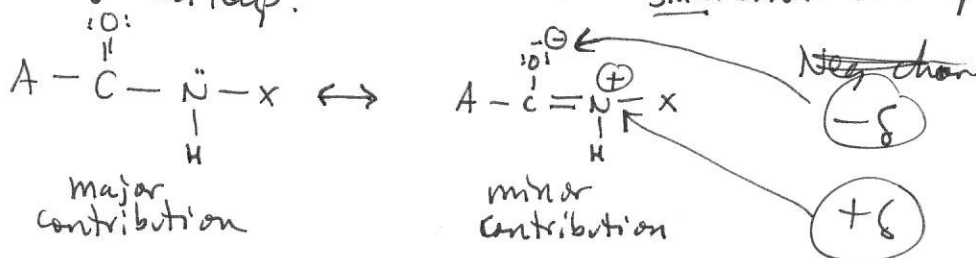


EPG & mole geom = tetrahedral

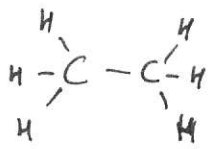
53



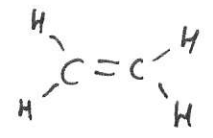
(c) The peptide linkage is flat due to ~~some~~ the small contribution of Res form w/ Formal charge buildup.



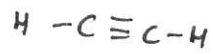
54



1.0
longest
smallest



2.0



3.0

shortest largest
Bond length
Bond Energy

BO

55 M.O. Theory is better ~~not~~ than VBT whenever ~~one~~ considering orbital energies. This is crucial for photon absorption ($\Delta E = h \frac{c}{\lambda}$), but also for some complex bonding situations. M.O. Theory is very good at predicting paramagnetism.

V.B.T. is very good at relating bonding to geometry.