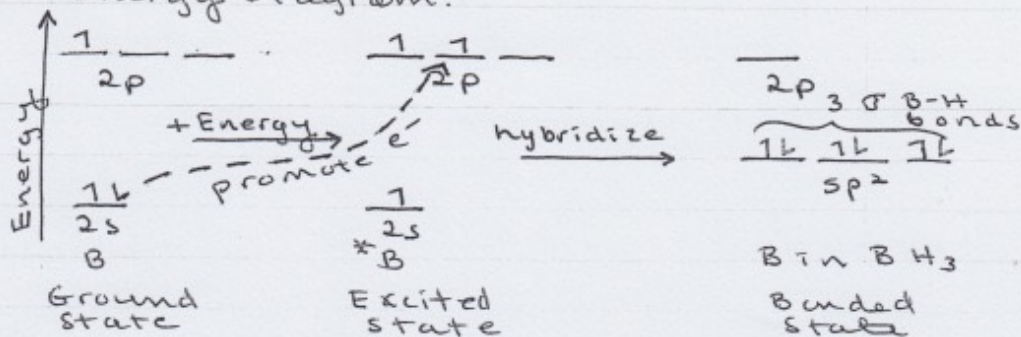


Chem 112

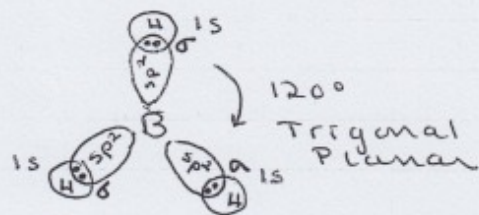
VBT

1. BH_3

Energy Diagram:

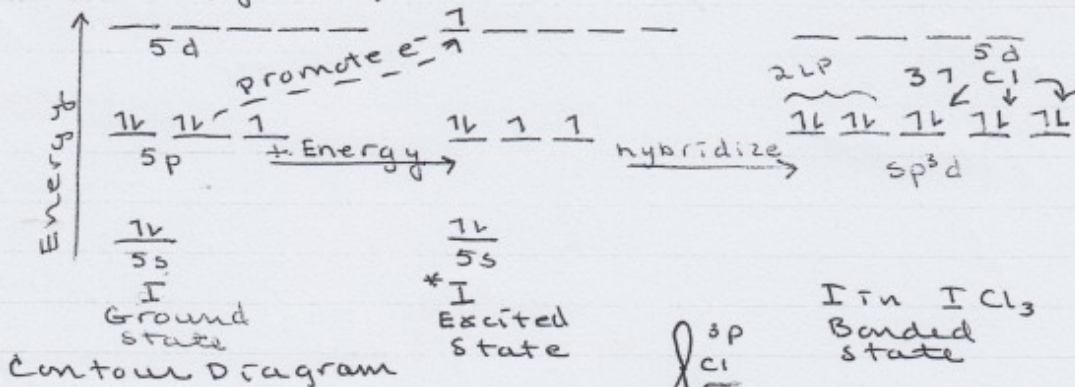


Contour Diagram:

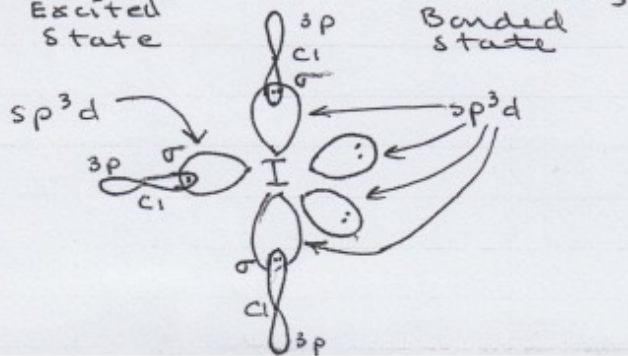


2. ICl_3

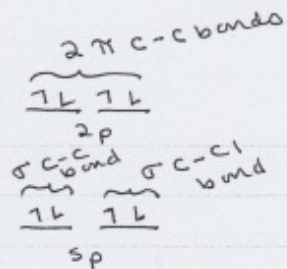
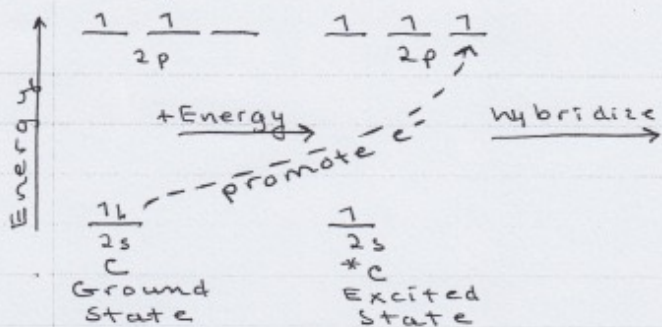
Energy Diagram



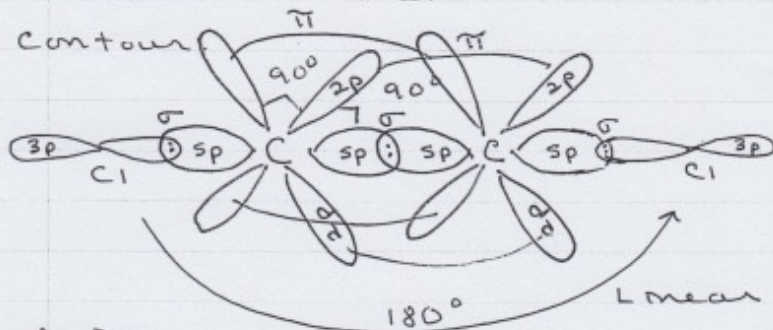
Contour Diagram



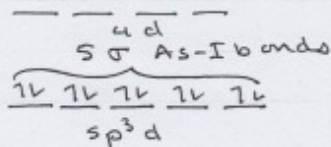
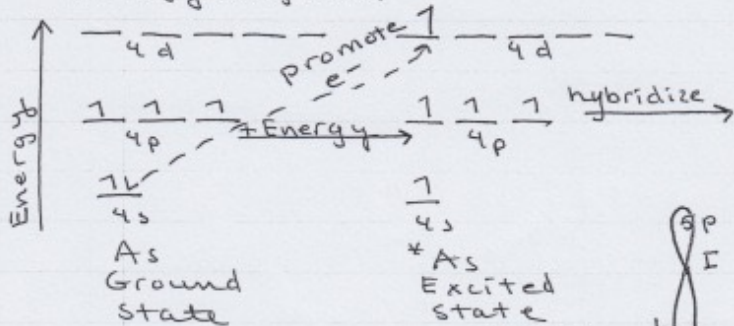
3. C_2Cl_2
Energy Diagram:



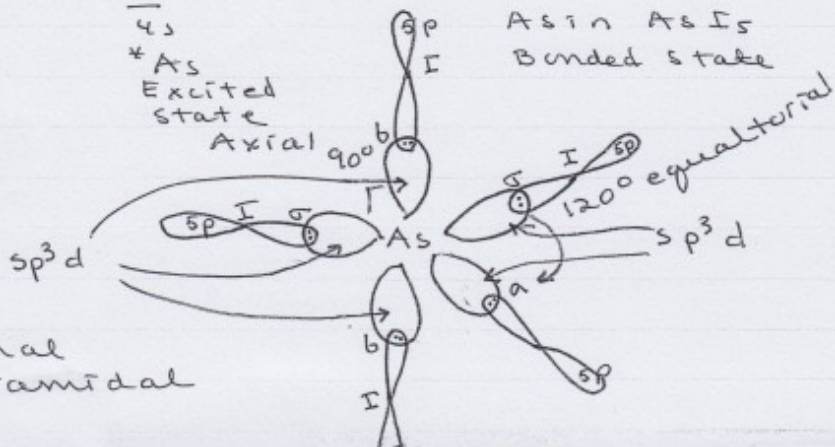
C in C_2Cl_2
Banded State



4. AsI_5
Energy Diagram:



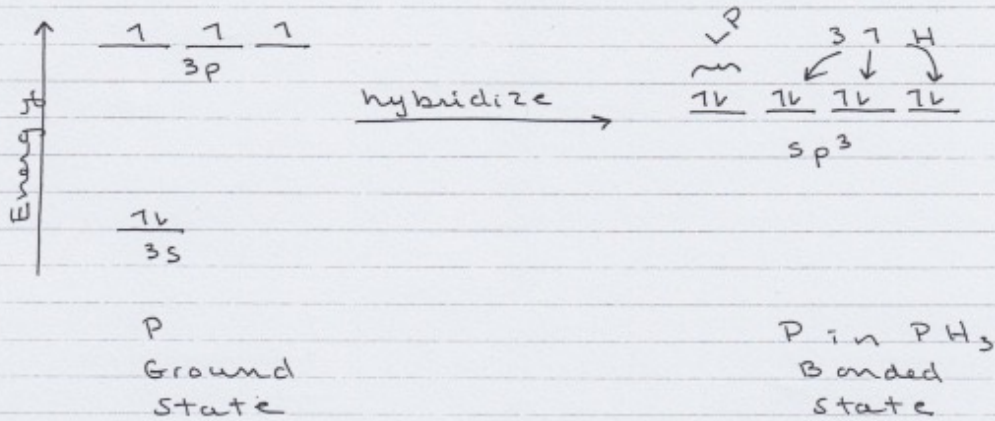
As in AsI_5
Banded state



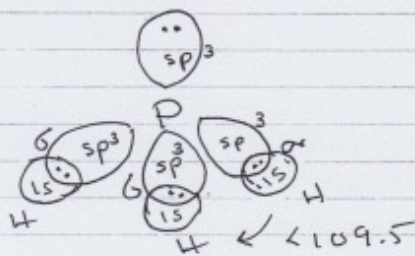
5. PH_3



Energy Diagram:



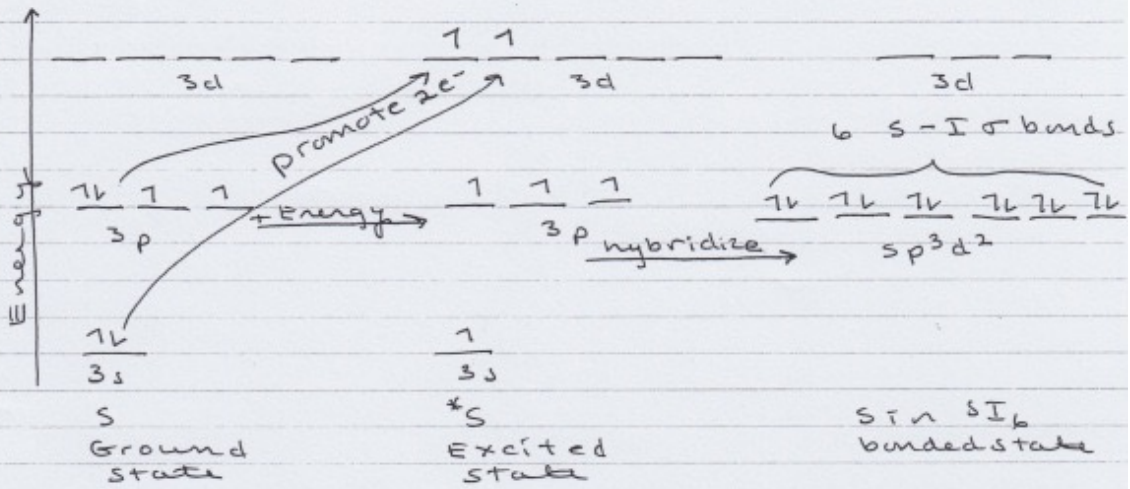
Contour Diagram:



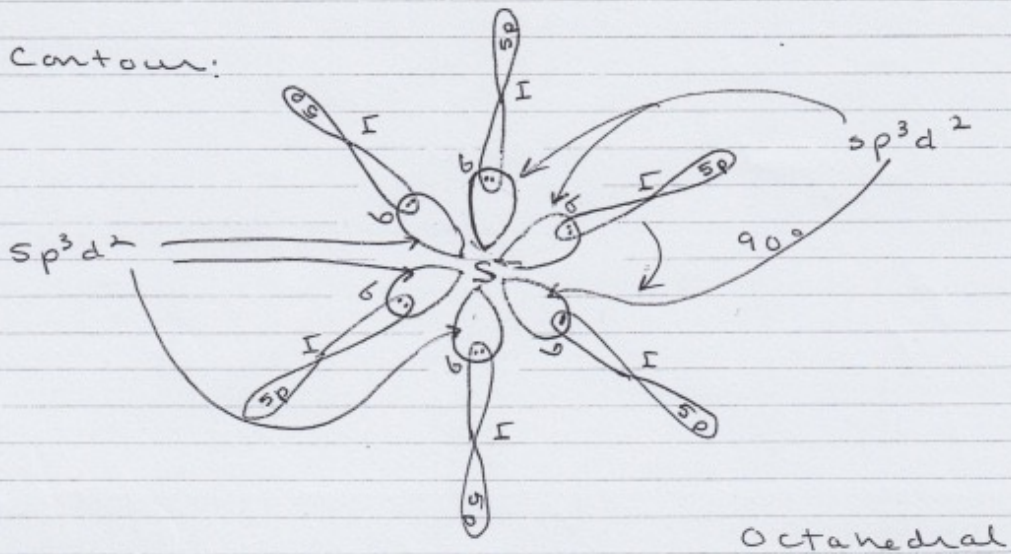
Trigonal
Pyramidal

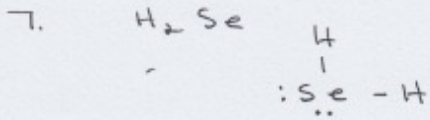
6. $S I_6$

Energy Diagram

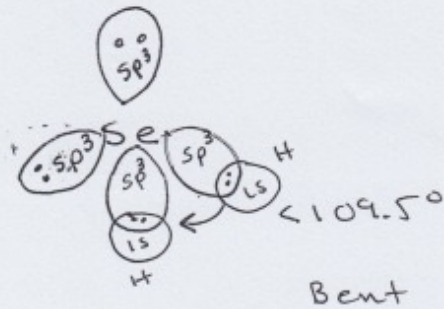
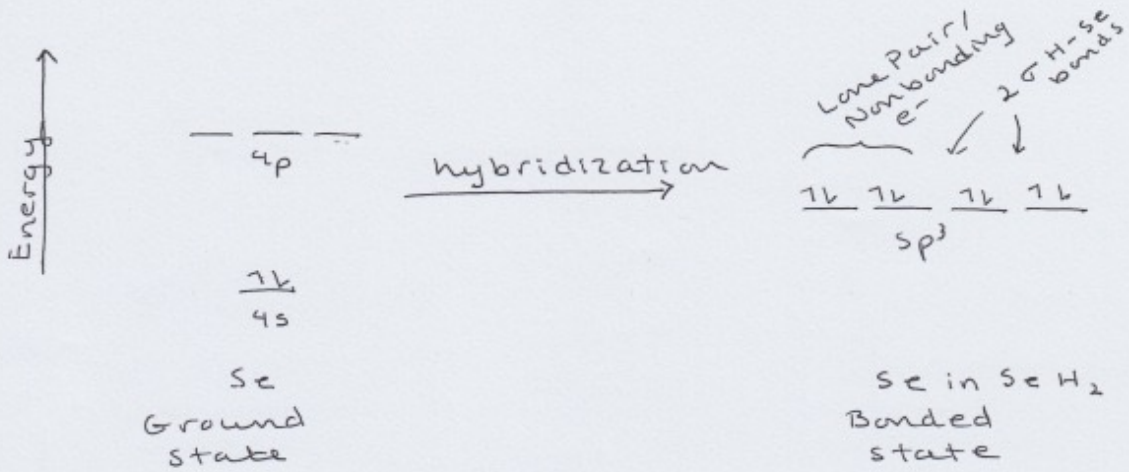


Contour:

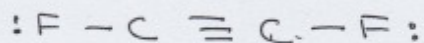




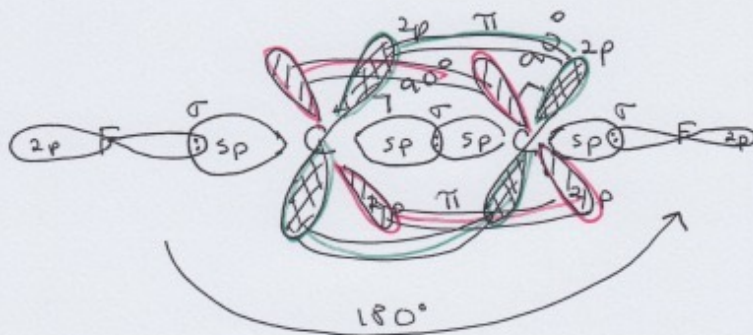
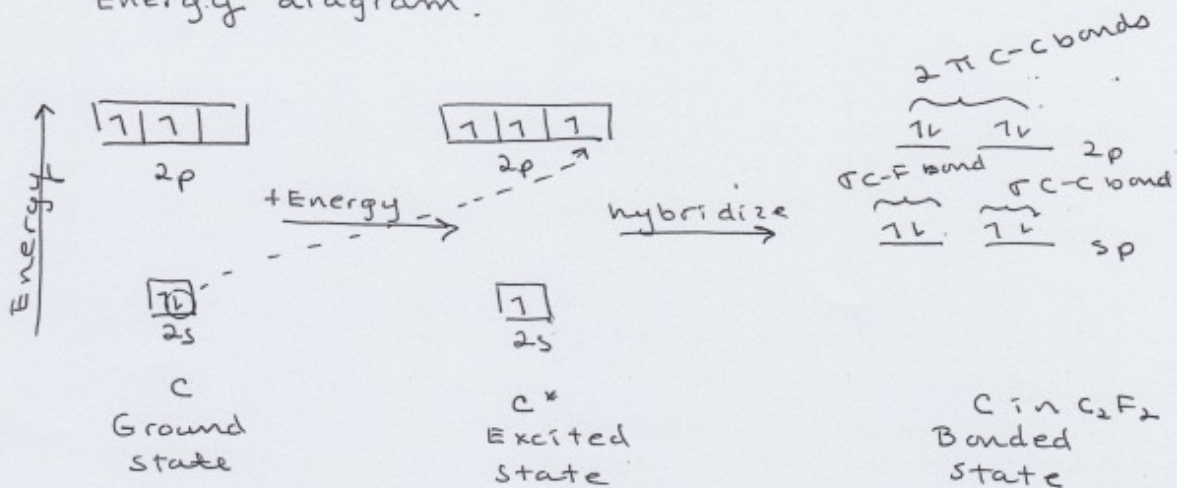
Energy diagram



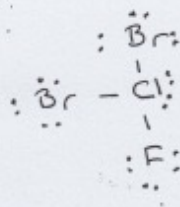
8



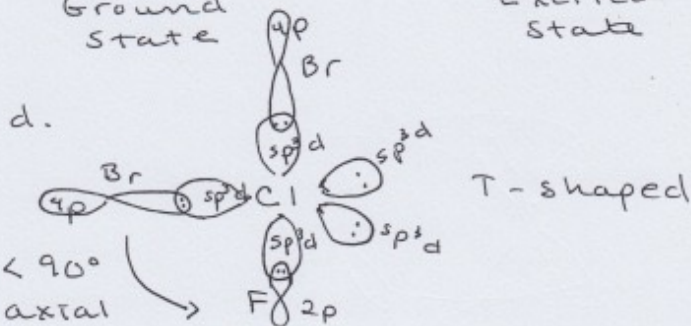
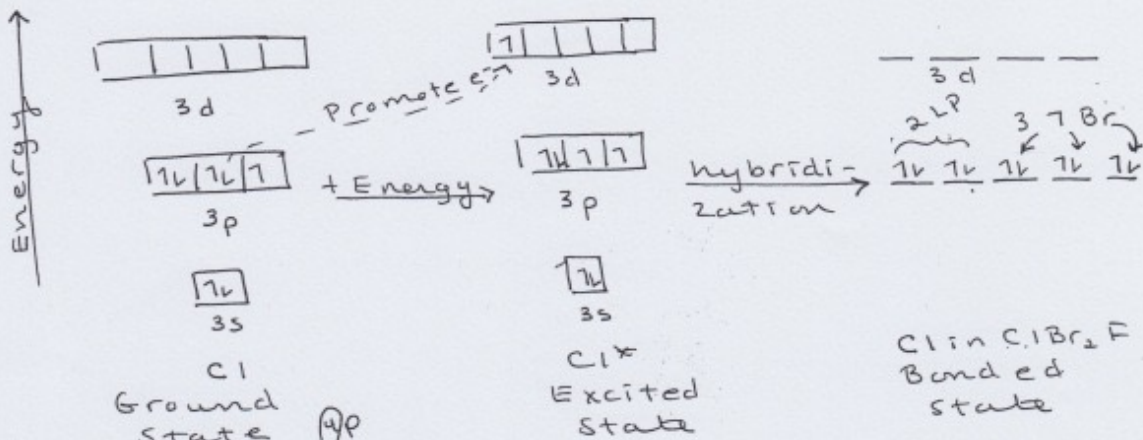
Energy diagram.



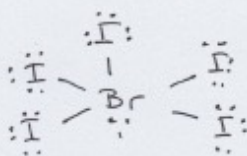
9 ClBr₂F



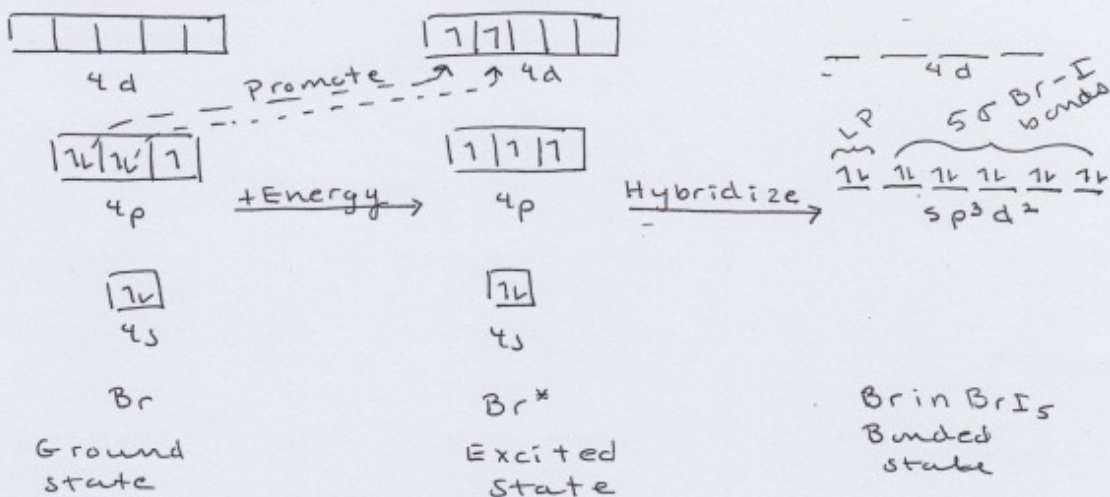
Energy Diagram



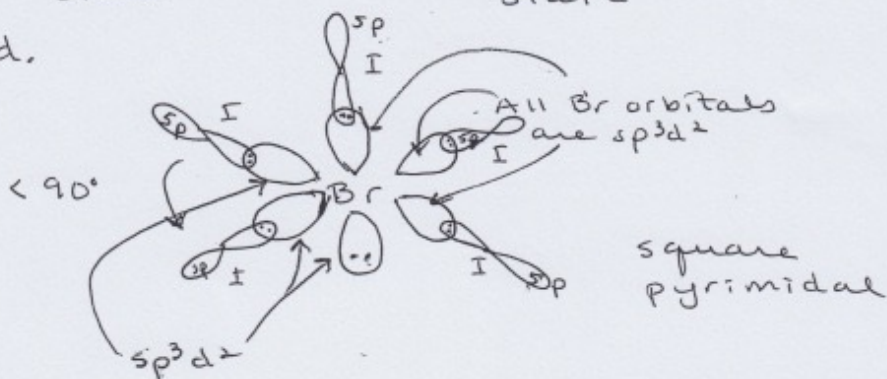
10. BrI_5

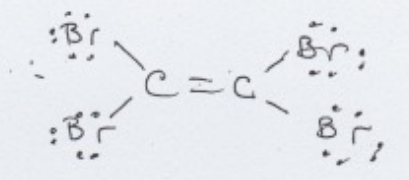
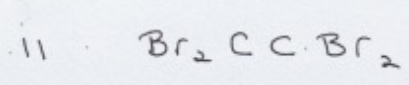


Energy diagram

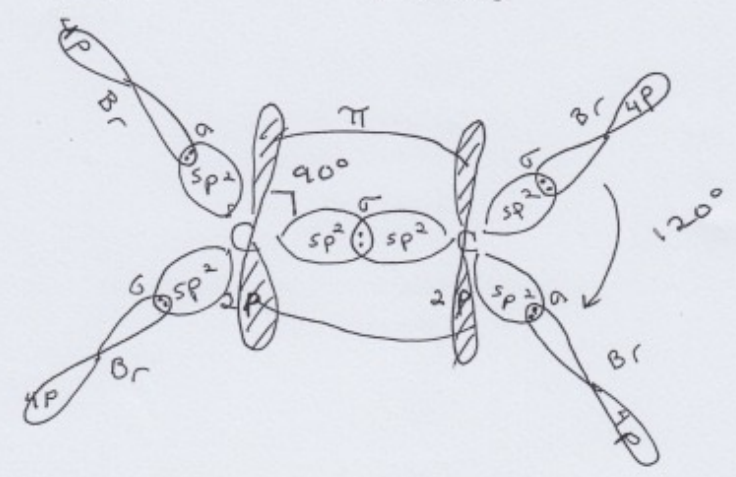
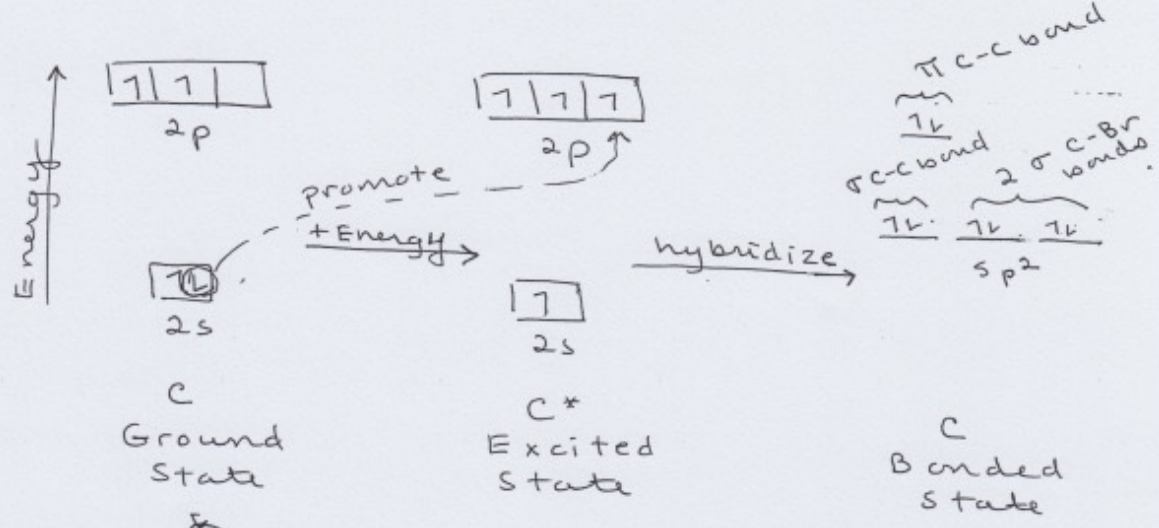


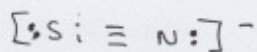
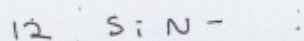
d.



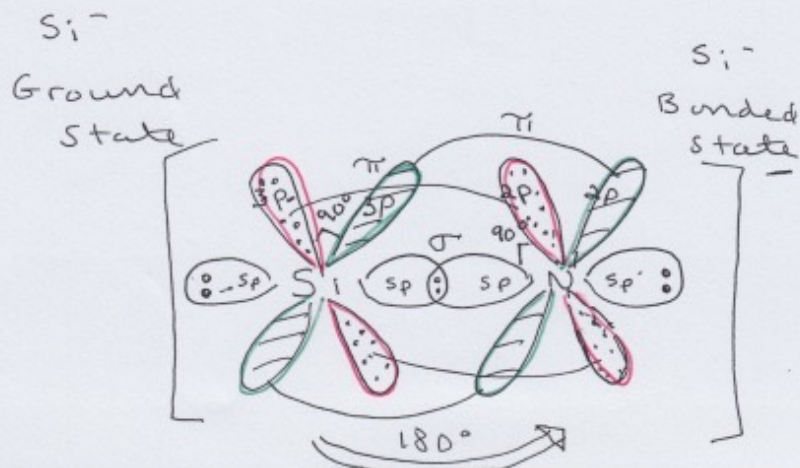
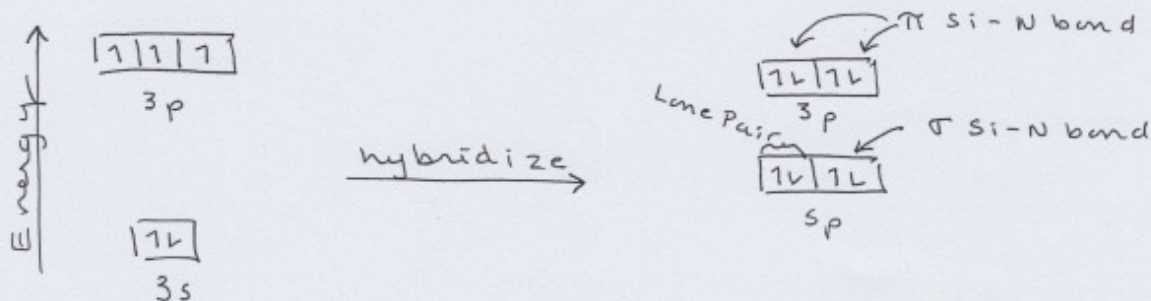
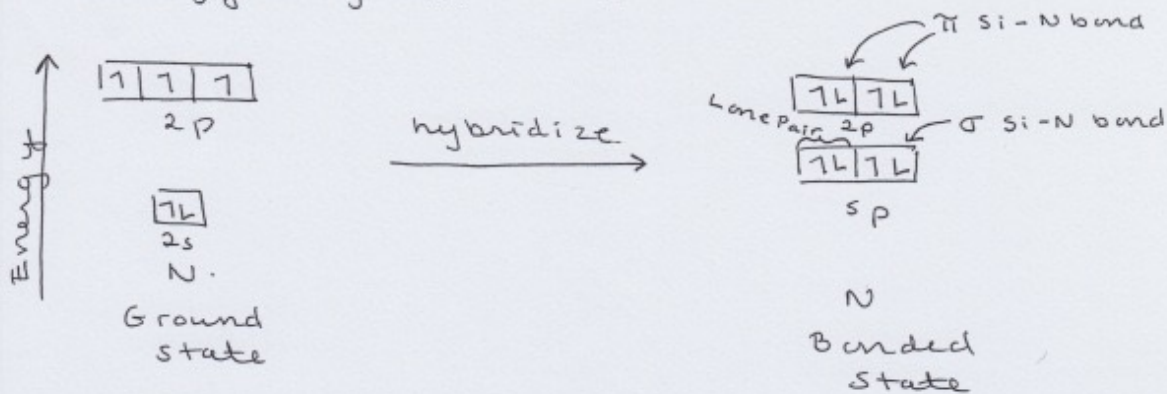


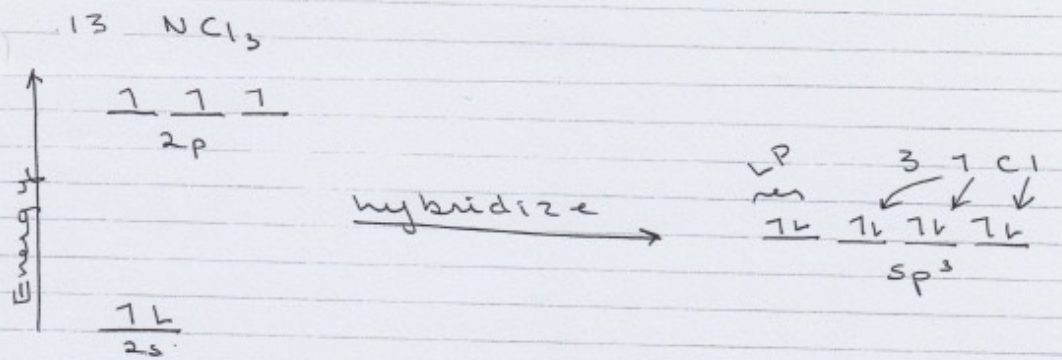
Energy Diagram





Energy diagram:

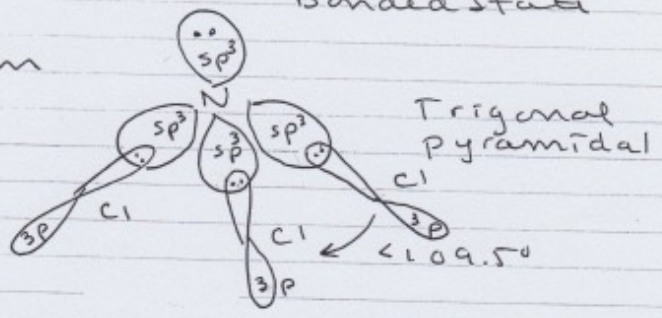




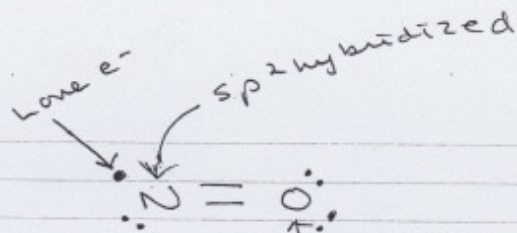
N
Groundstate

N in NCI3
Bonded state

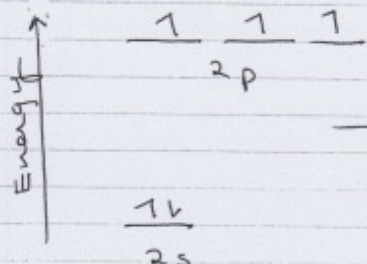
Contour Diagram



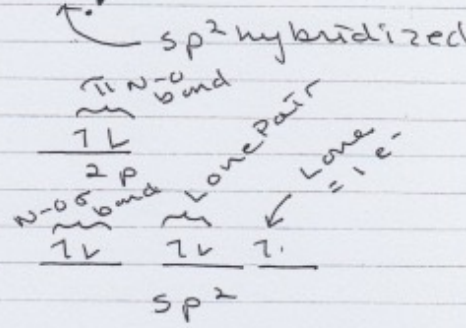
14 NO



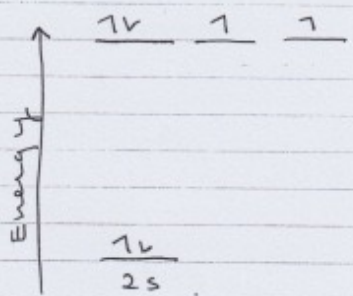
N Energy diagram



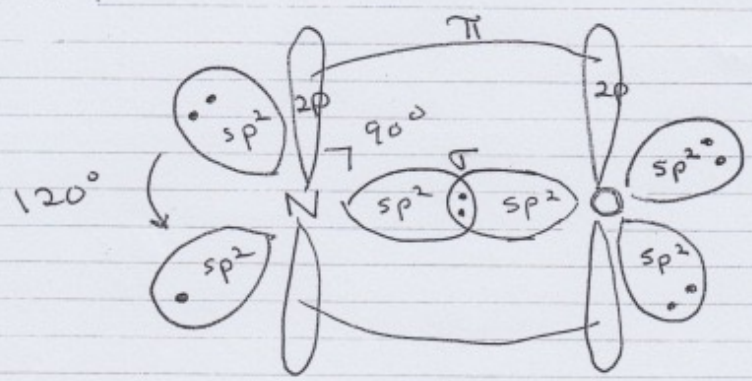
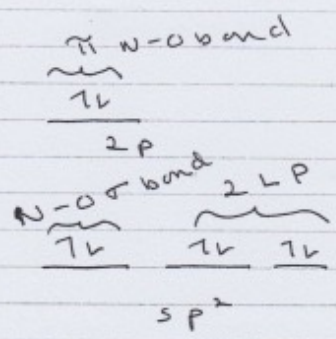
hybridize \rightarrow



O Energy diagram

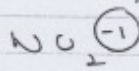


hybridize \rightarrow

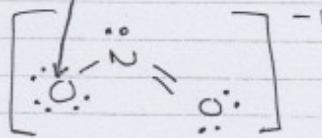


Trigonal Planar

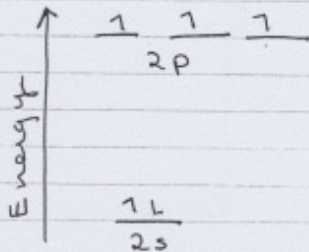
15



Note: this "extra e⁻" is on the hybridized "o"

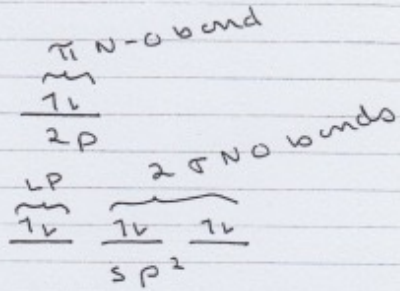


N Energy Diagram



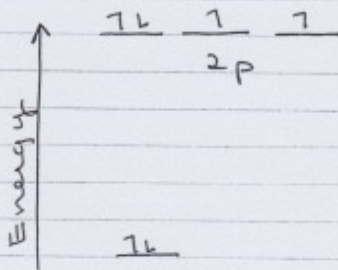
N
Ground State

hybridize →



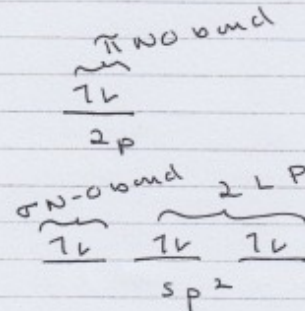
N in NO_2^-
Banded state

O Energy Diagram



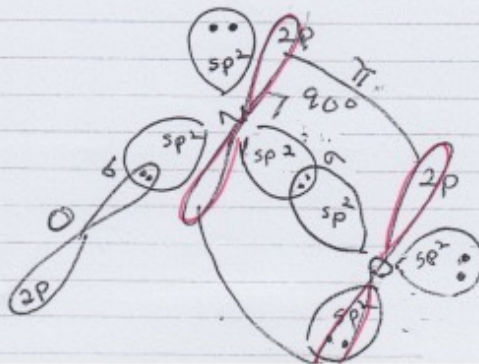
O
Ground State

hybridize →



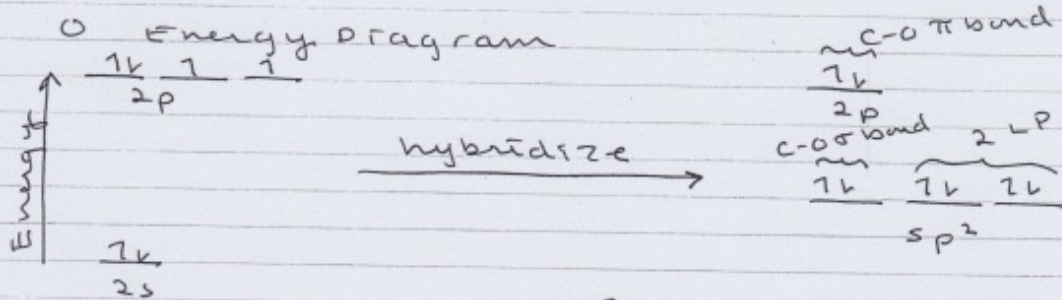
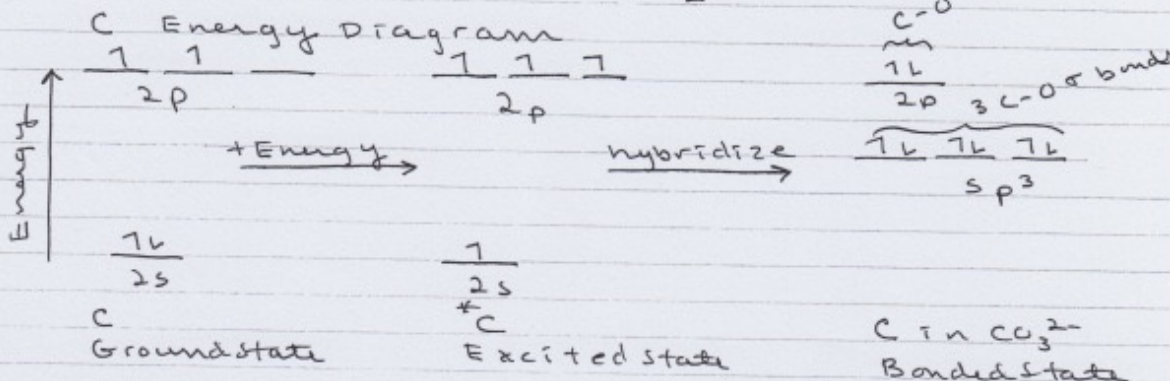
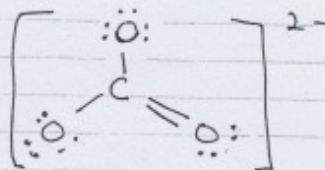
O in NO_2^-
banded state

Contours:



< 120°
Bent

16. CO_3^{2-}



contour

Trigonal Planar

