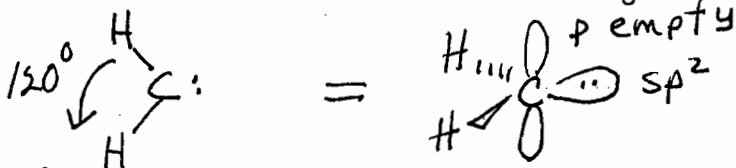


1. Consider the chemical species in which a carbon atom forms two single bonds to two hydrogen atoms and possesses a nonbonded electron pair.

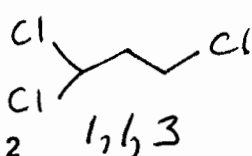
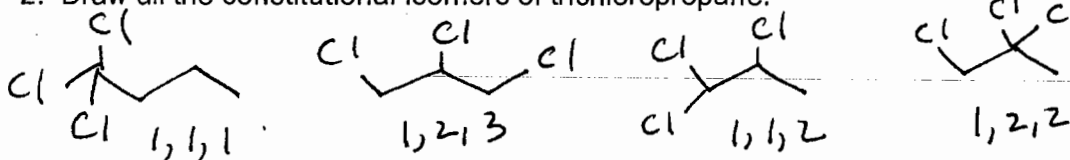
- a) What formal charge would the carbon have? 0
 b) What would the hybridization state of the carbon be? sp^2
 c) What orbital would the lone pair occupy? sp^2
 d) Draw the structure in 3-D and label the bond angle.



Carbon with
3 H's & lone pair
Charge \ominus
Hybrid. sp^3
Lone pair in sp^3

Group 1

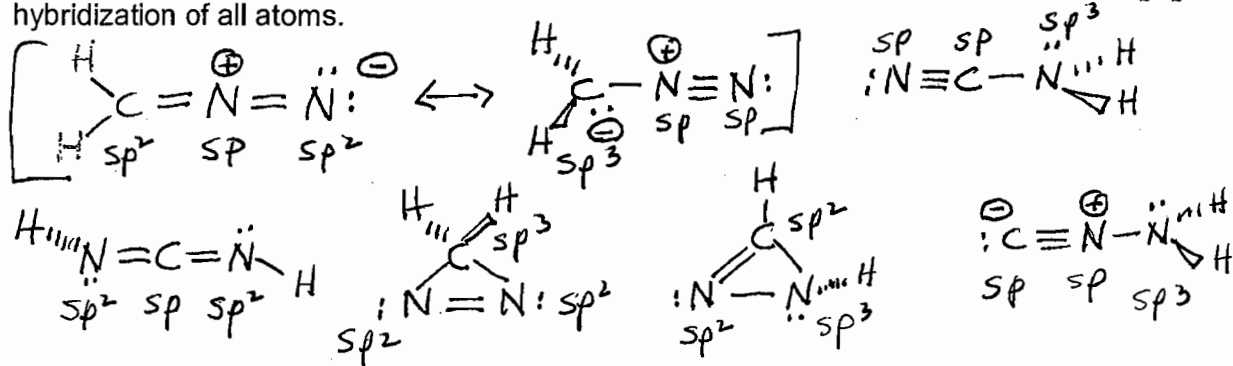
2. Draw all the constitutional isomers of trichloropropane.



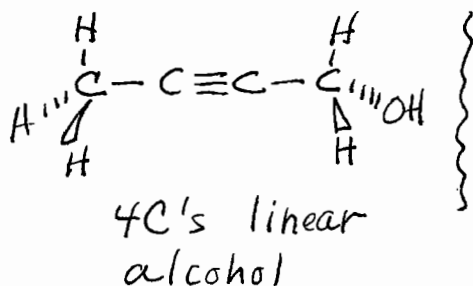
These are skeletal. You may draw them as Lewis or condensed.

Group 2

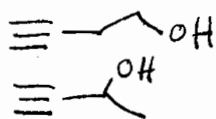
3. Write structural formulas (Lewis) for four constitutional isomers with the formula CH_2N_2 . Label the hybridization of all atoms.



4. Devise two structures, each having two sp -hybridized carbons and the molecular formula C_4H_6O . Create one of these structures such that it is linear with respect to all carbon atoms.



4 C's not linear
alcohol



ether

