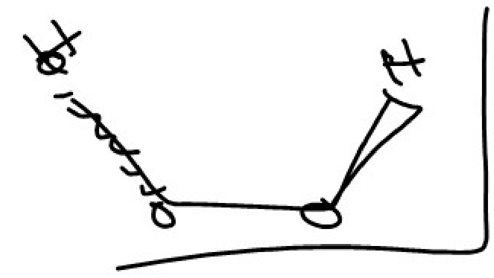
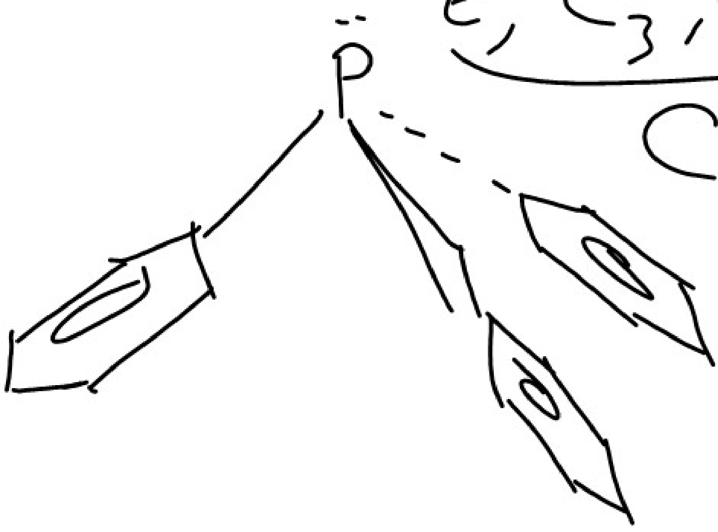
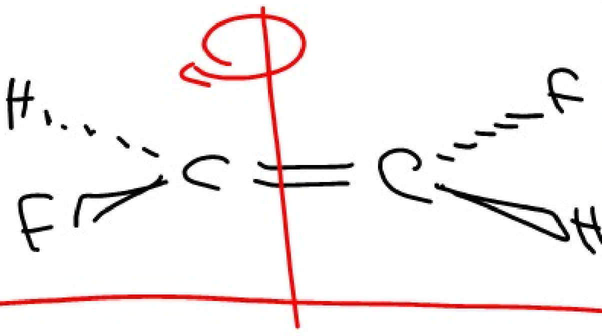
E + C_n only — C_n





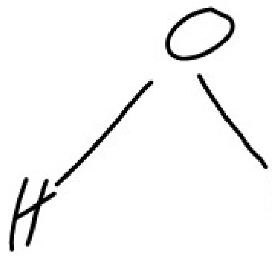
E, C_3^1, C_3^2 — C_3

$E, C_n + \sigma_h \equiv C_{nh}$

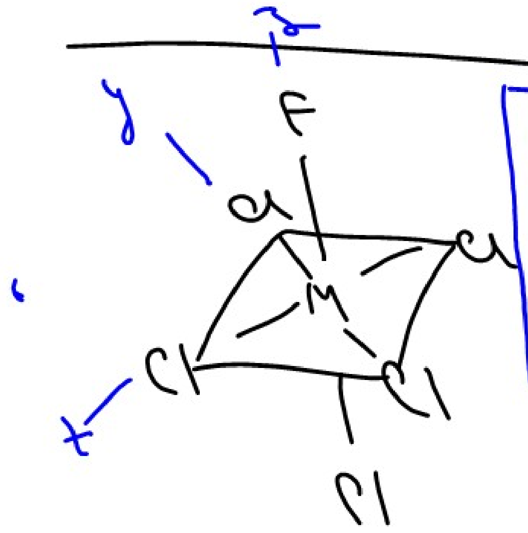


C_{2h}

$E, C_n, n\sigma_v$:



C_{2v}

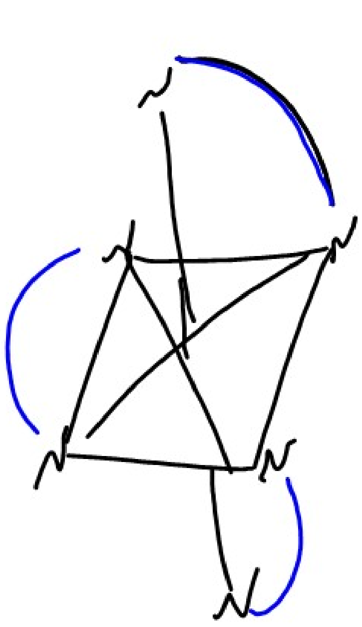


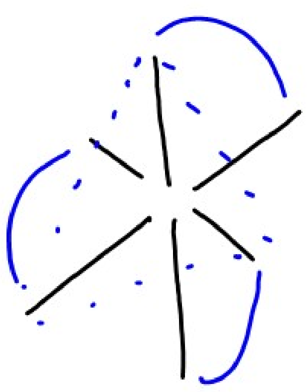
E, C_4^1 (C_3), $C_4^2 = C_2$, C_4^3, ~~$C_4^4 = E$~~

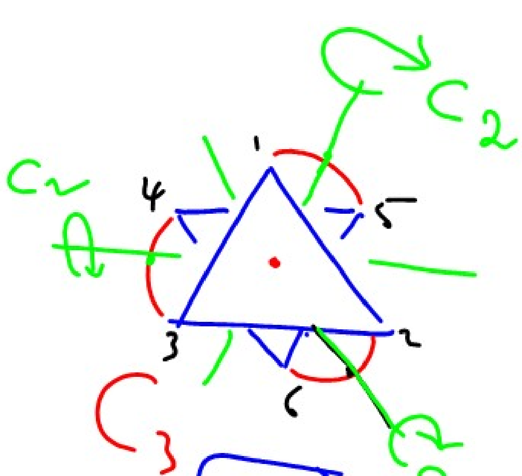
$4\sigma_v$

C_{4v}

D_n ($C_n + nC_2$)

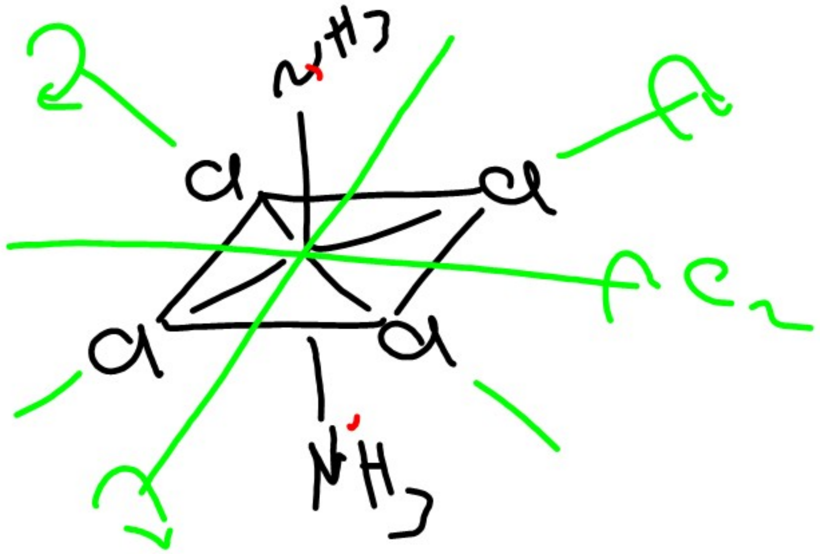




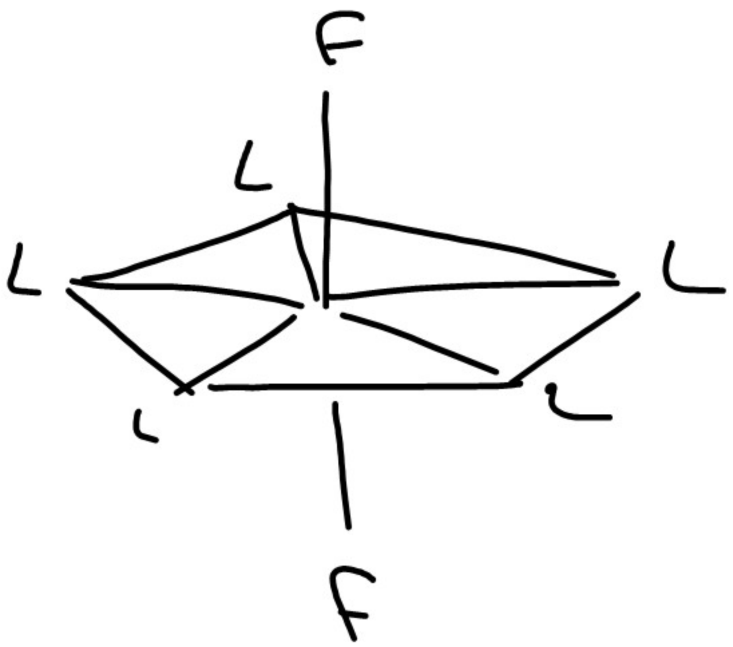


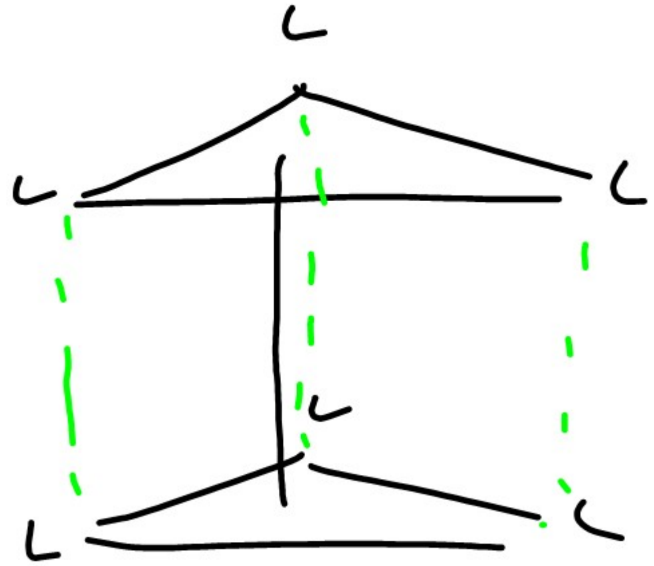
D_3

$C_n,\ nC_{2\perp},\ \sigma_h \Rightarrow D_{nh}$



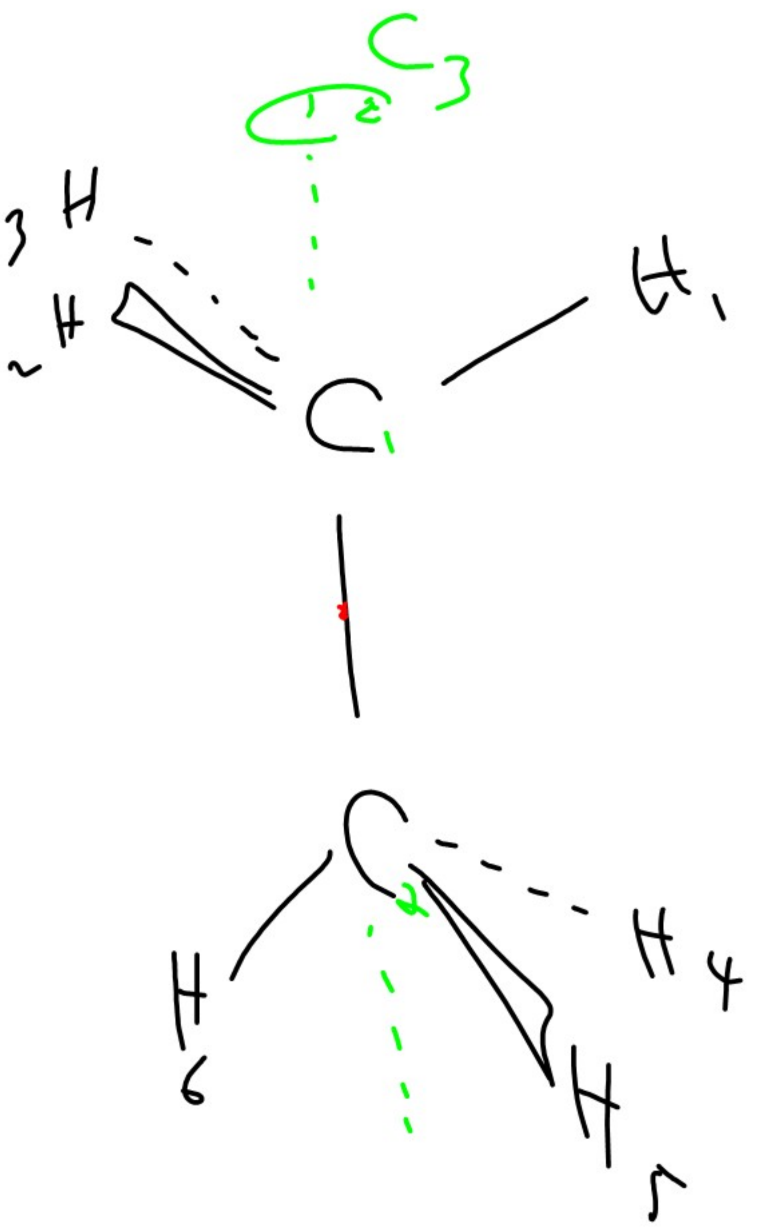
D_{4h}

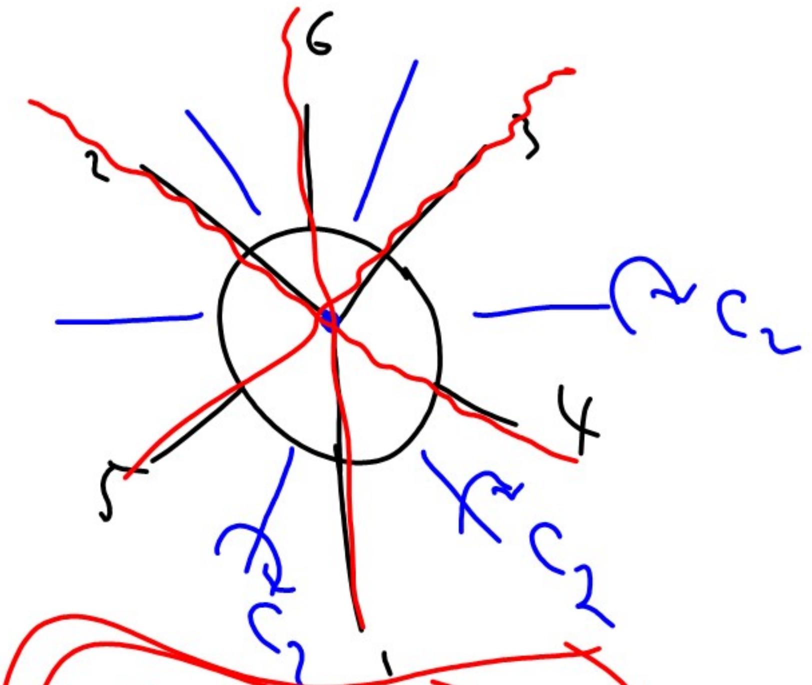


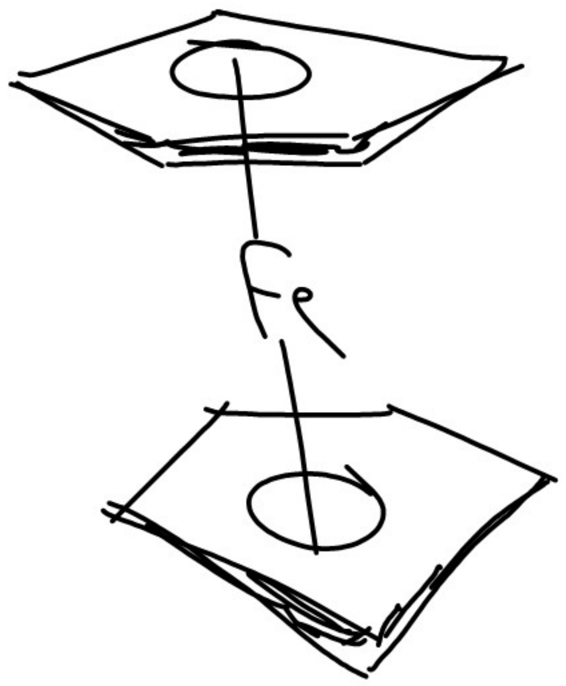


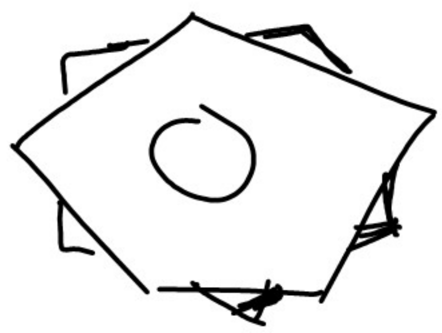
$E, C_n, nC_{2\perp}, n\sigma_d$

$\sigma_d \equiv \sigma_v$ that bisects ∡ between two adjacent C_2s

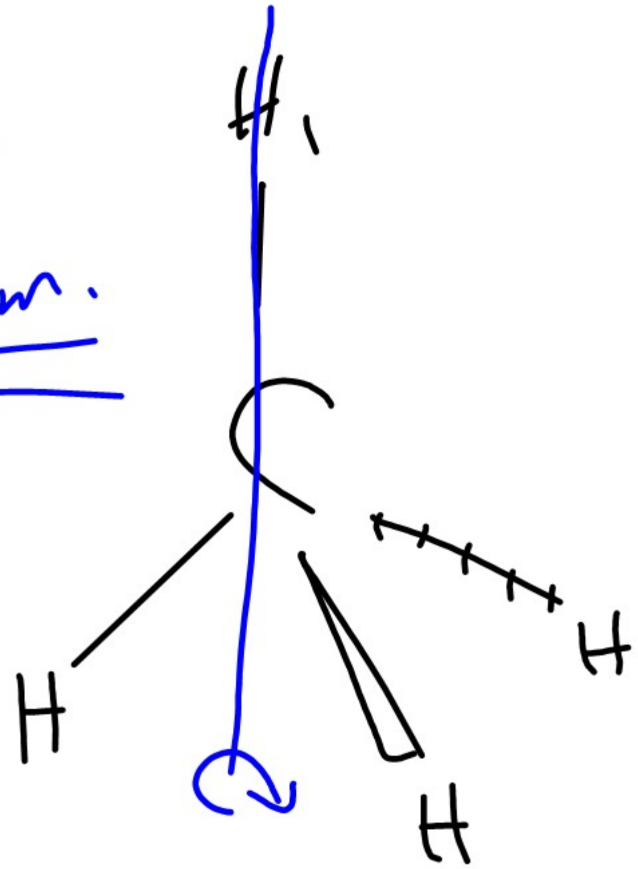


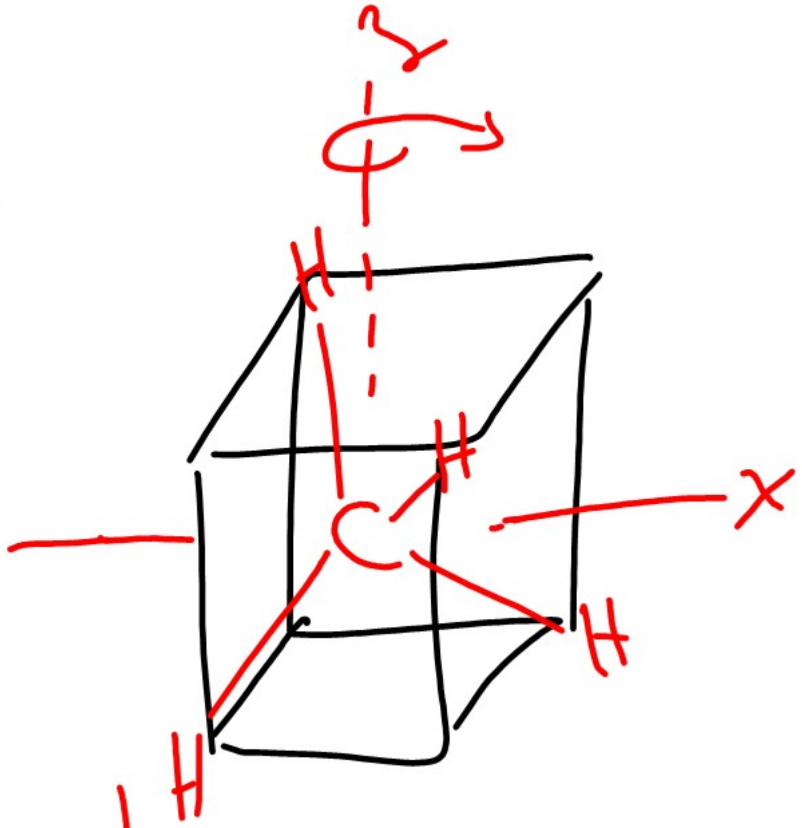






high Symm.





E $(C_3^1, C_3^2, \sout{C_3^3})$ $8C_3$

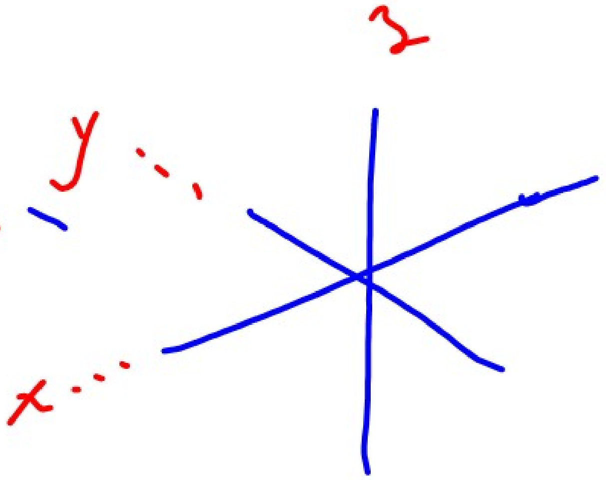
C_2 $\boxed{3C_2}$

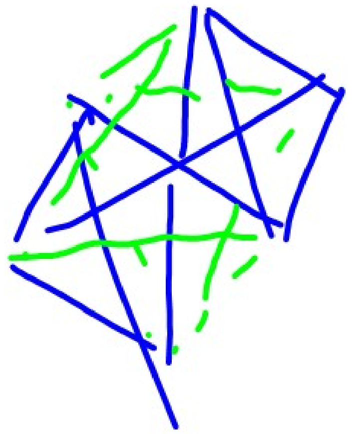
$6\sigma_d$

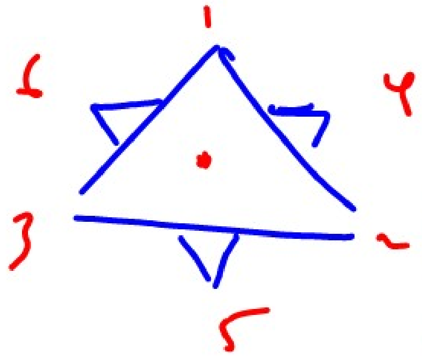
$\underline{S_4}$ S_4^1, $\sout{S_4^2 = C_2}$, S_4^3, $\sout{S_4^4 = E}$

$6S_4$

O_h







$E, \; i$

$C_4^1, \; C_4^3, \; \cancel{C_4^2} = C_2$ ⟩ $6C_4$

C_2 — $3C_2 + 6C_2$

$C_3^1, \; C_3^2, \; \cancel{C_3^3} \equiv E$ ⟩ $8C_3$

$S_6^1, \; \cancel{S_6^2} \; C_3, \; \cancel{S_6^3} \equiv C_2, \; \cancel{S_6^4}$ | $S_6^5, \; \cancel{S_6^6}$

$3\sigma + 6 = 9\sigma$

$S_4^1, \; \cancel{S_4^2} = C_2, \; S_4^3, \; \cancel{S_4^4}$ | $8S_6$

$6S_4$