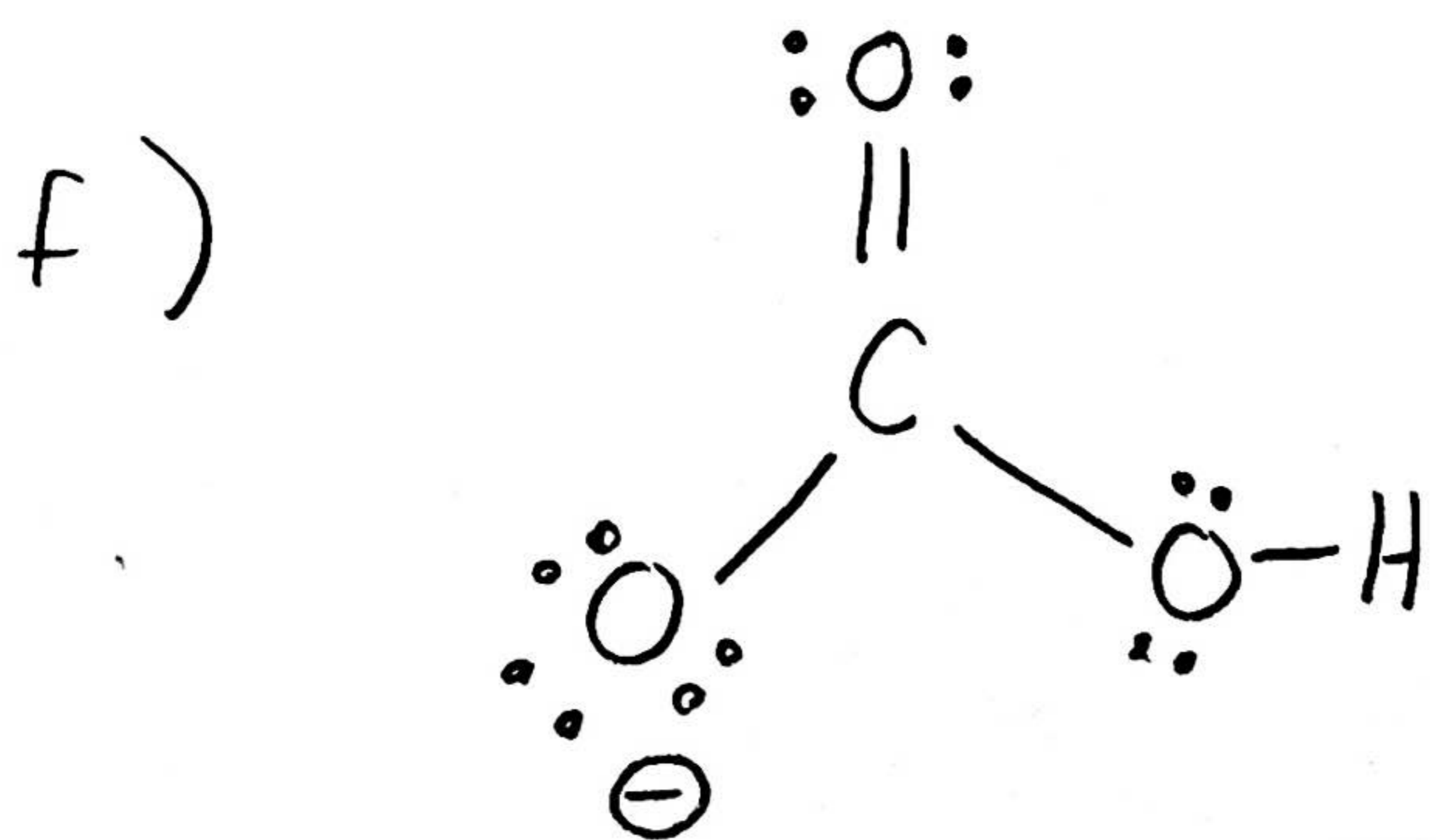
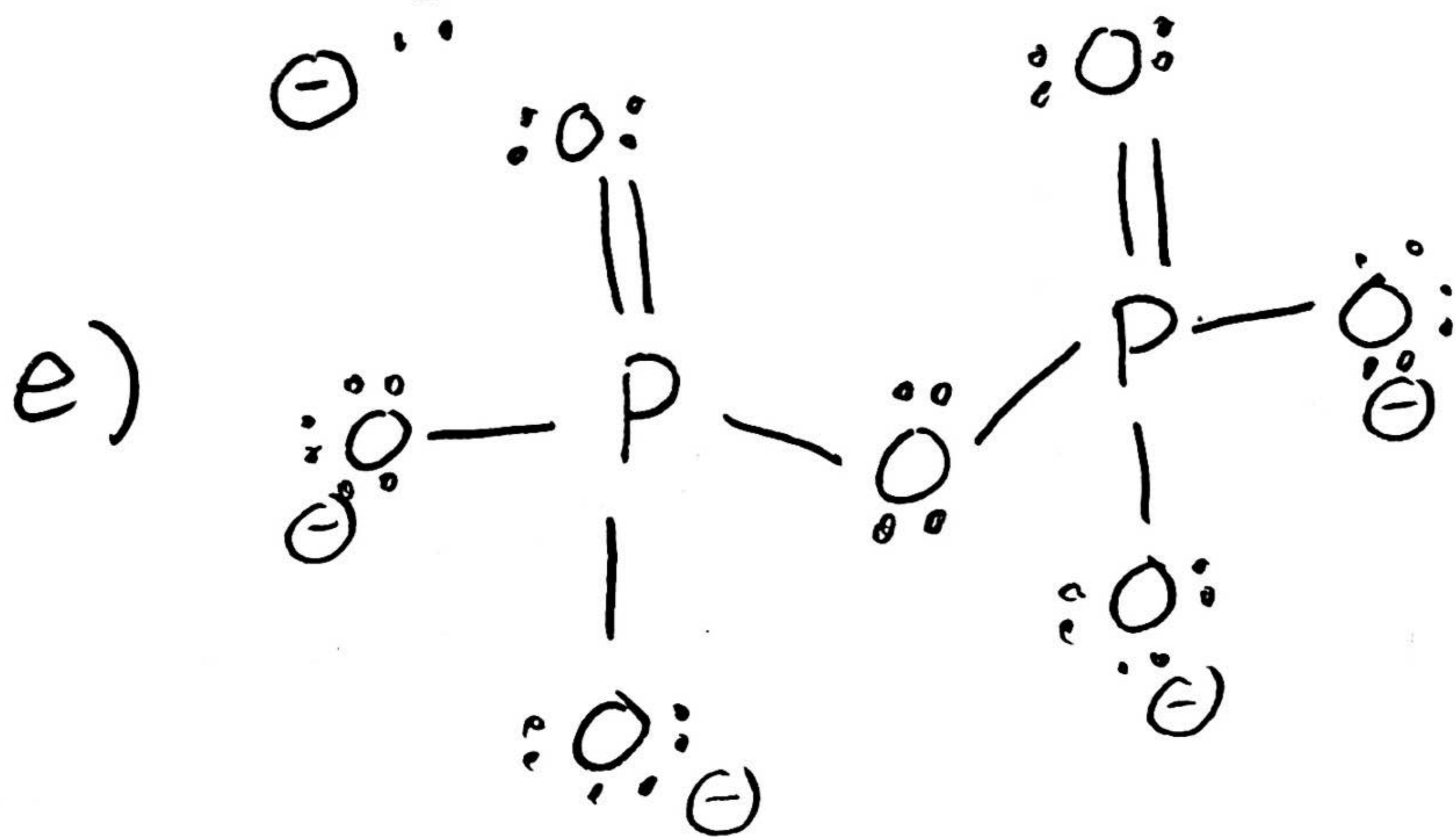
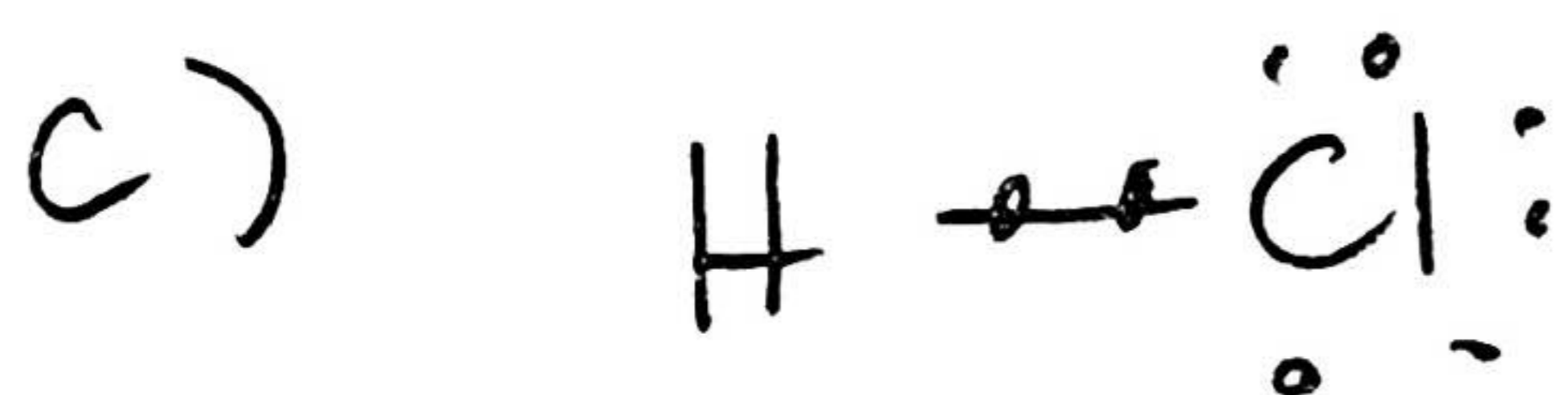
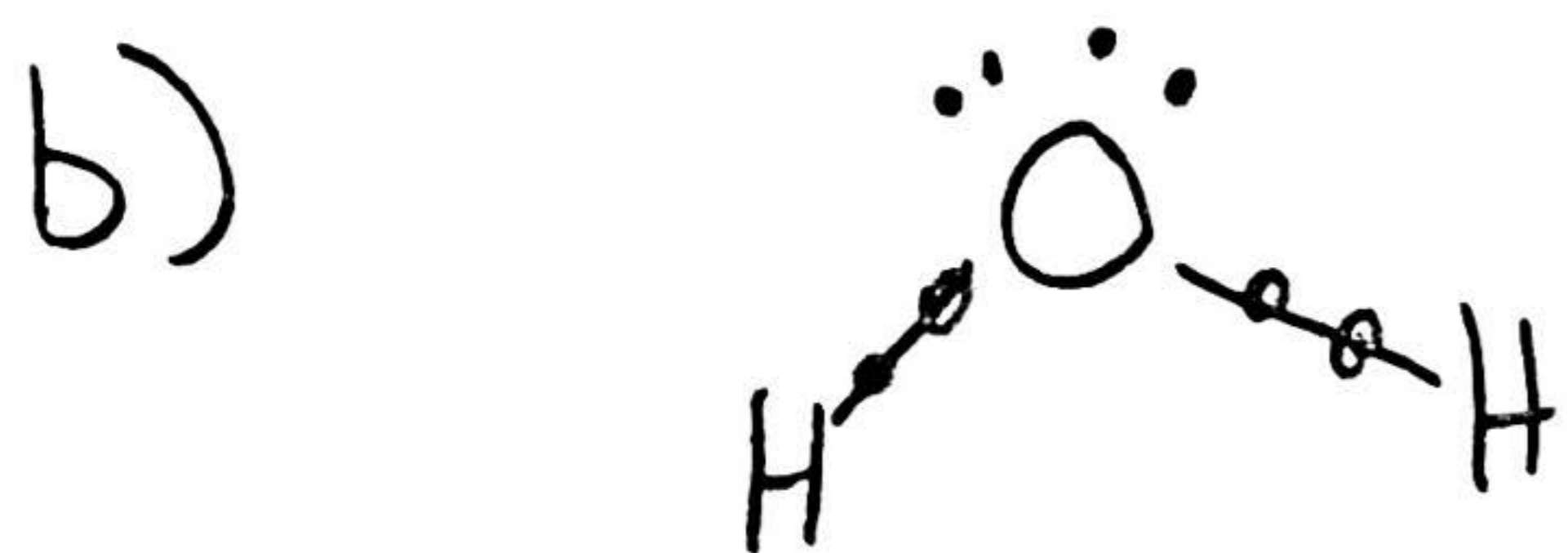
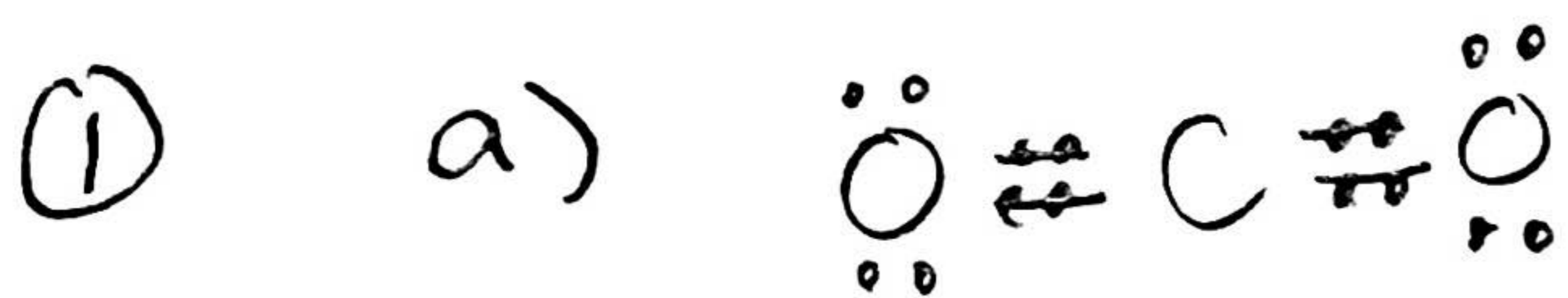
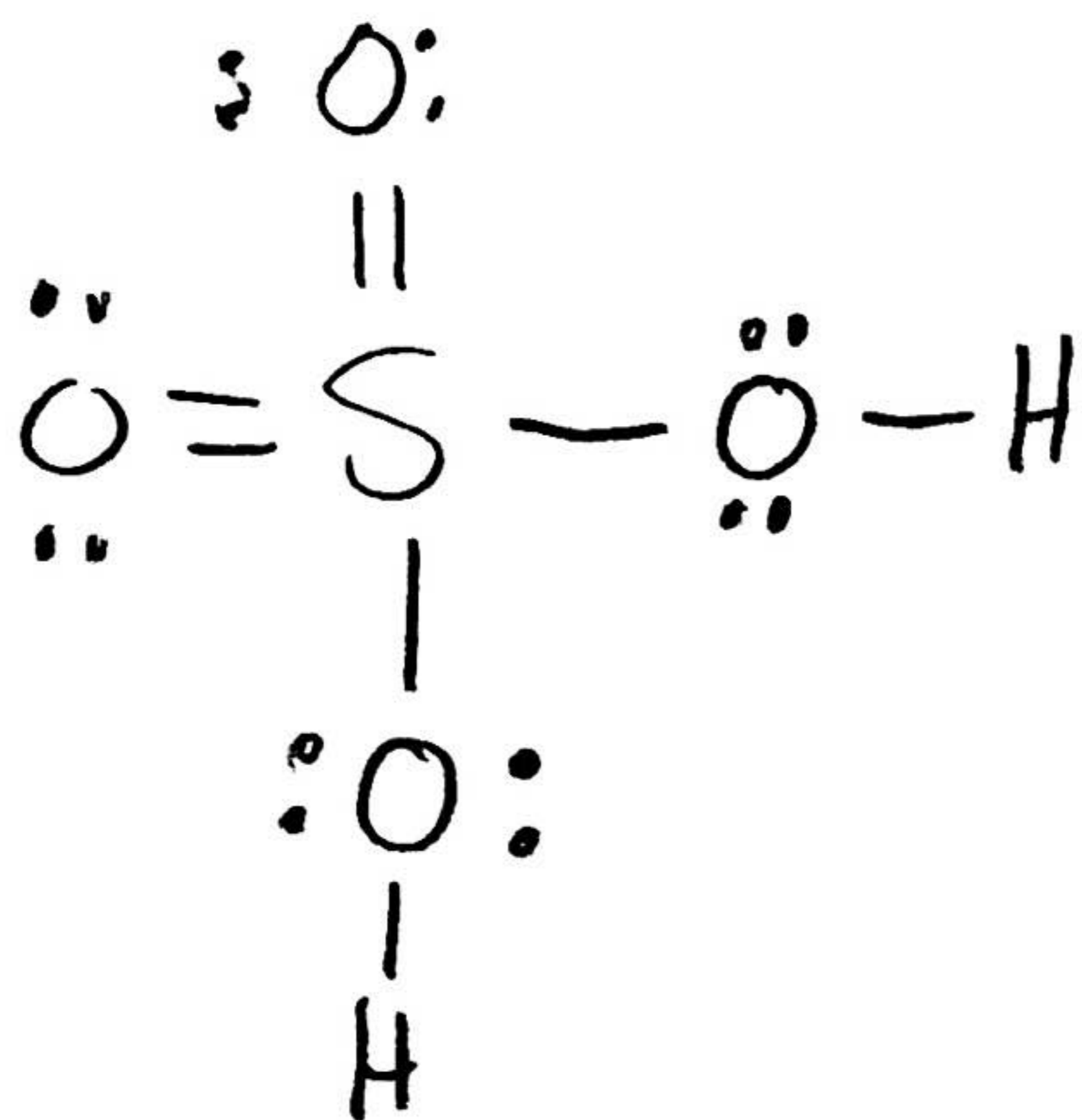


Topic 4

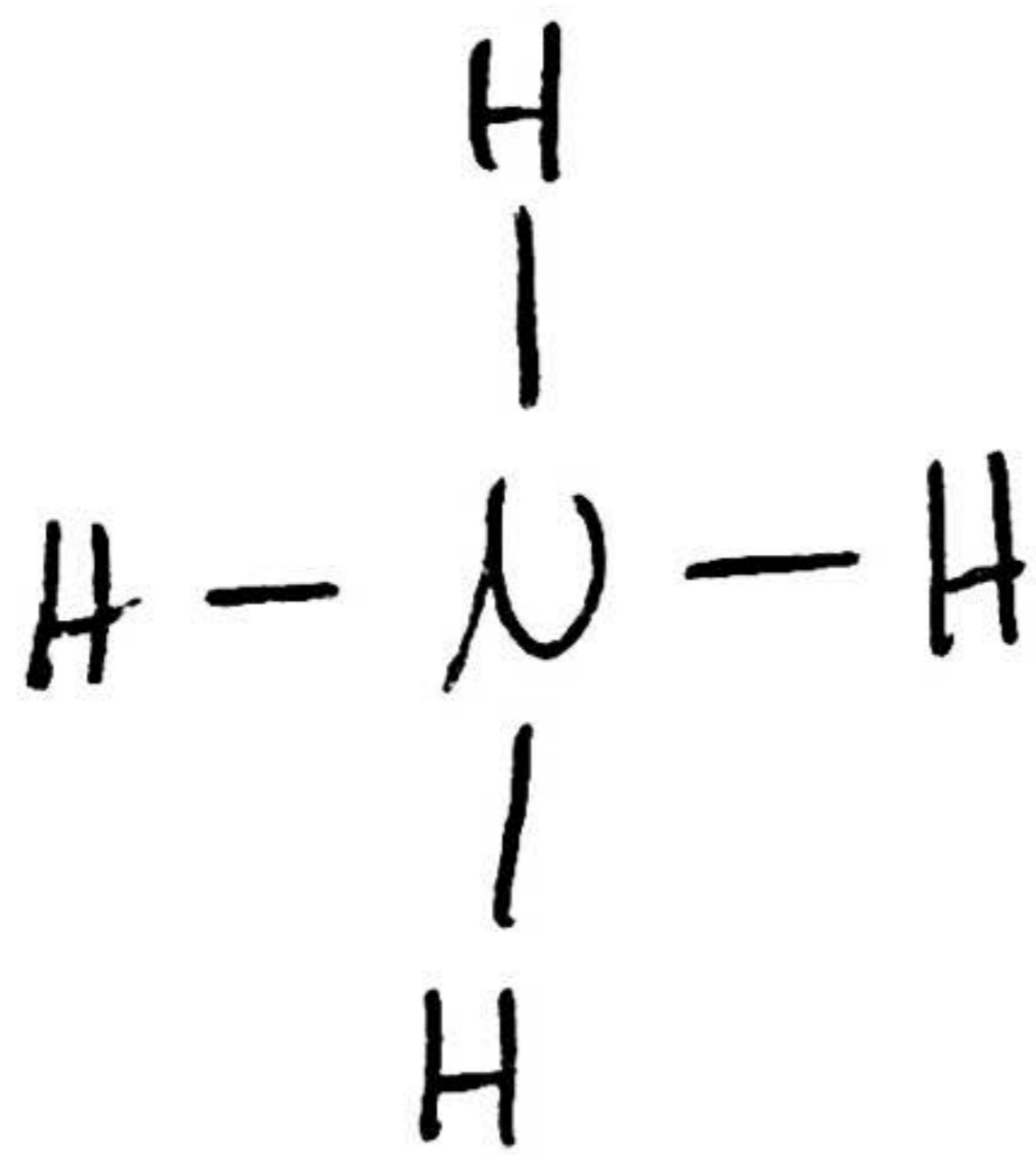
lecture 16 key



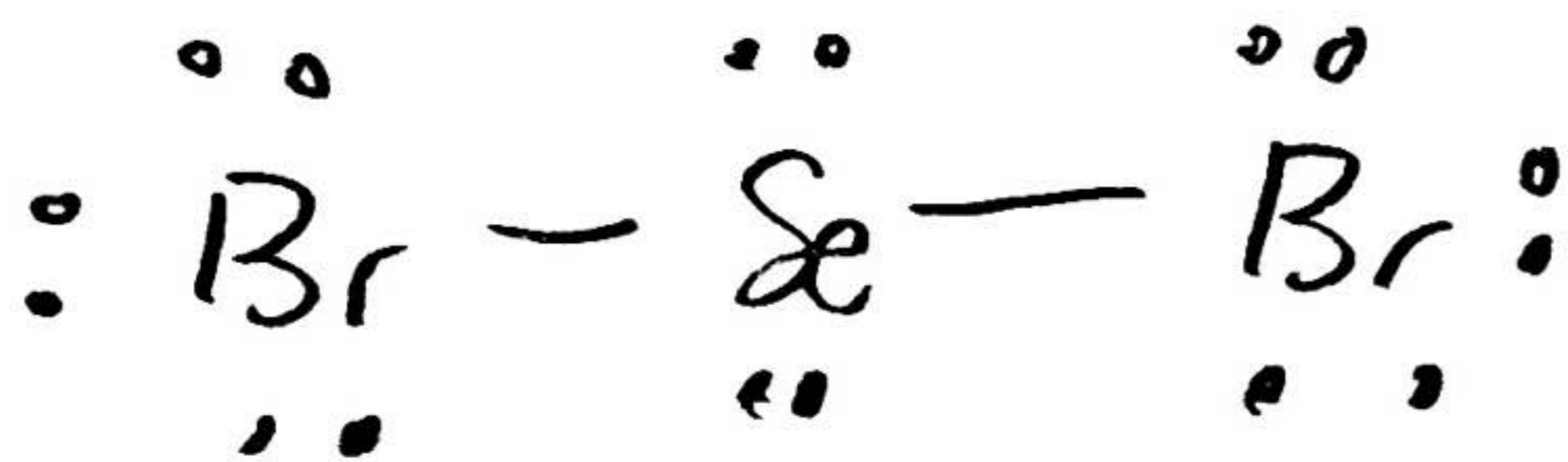
g)



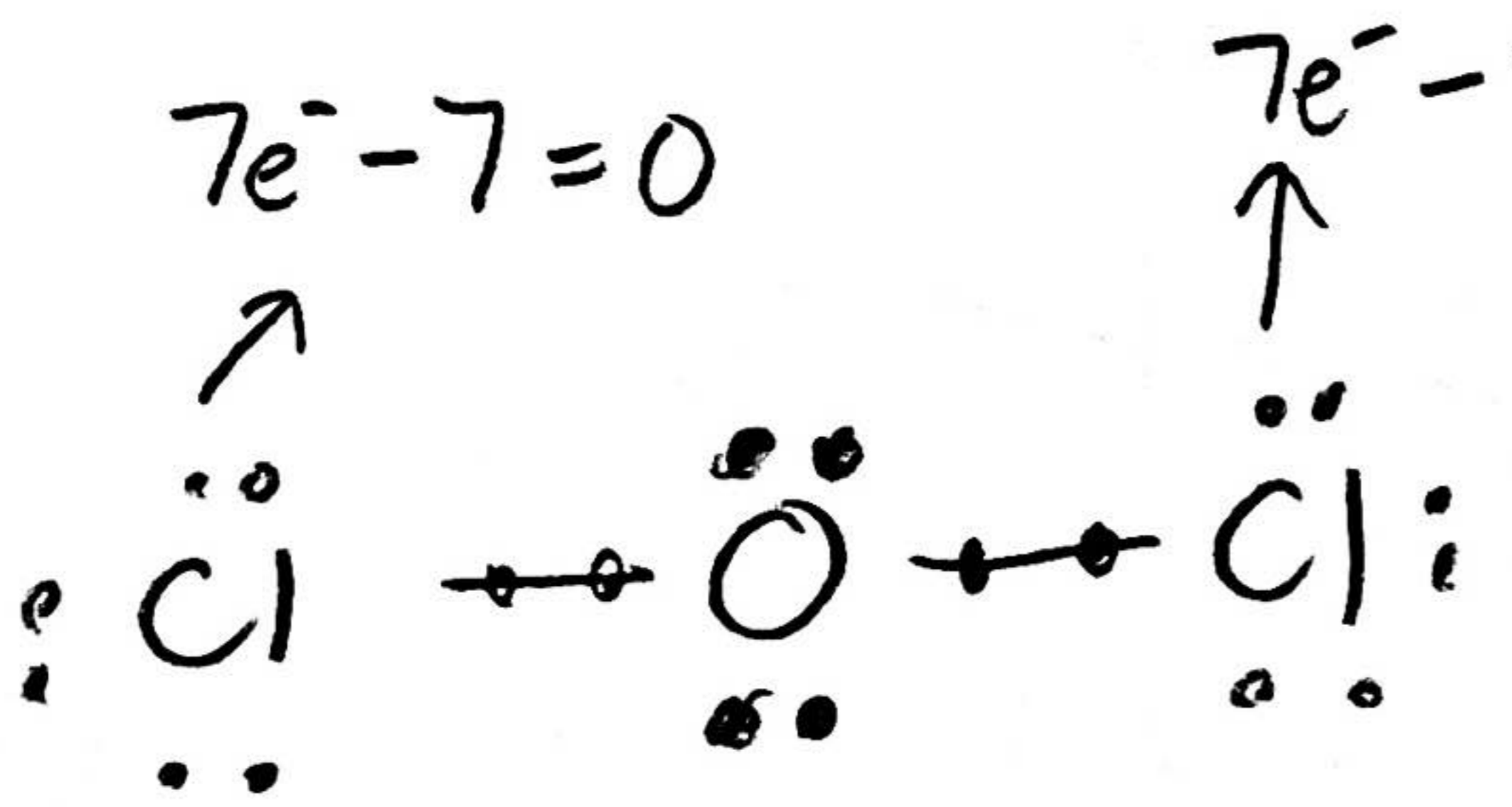
h)



i)



j)



$$7e^- - 7 = 0$$



$$= \text{valence } e^- - e^- \text{ used}$$

$$= 6e^- - 6e^-$$

$$= 0$$

↓ LP's count as $2e^-$
 bonds count as
 $1e^-$ when calculating
 formal
charge

$$7e^- - 7 = 0$$



Full explanation

① count e^-
 (valence e^-)

$$1 \times \text{O} = 1 \times 6 = 6e^-$$

$$2 \times \text{Cl} = 2 \times 7 = \underline{14e^-}$$

$20e^-$ total

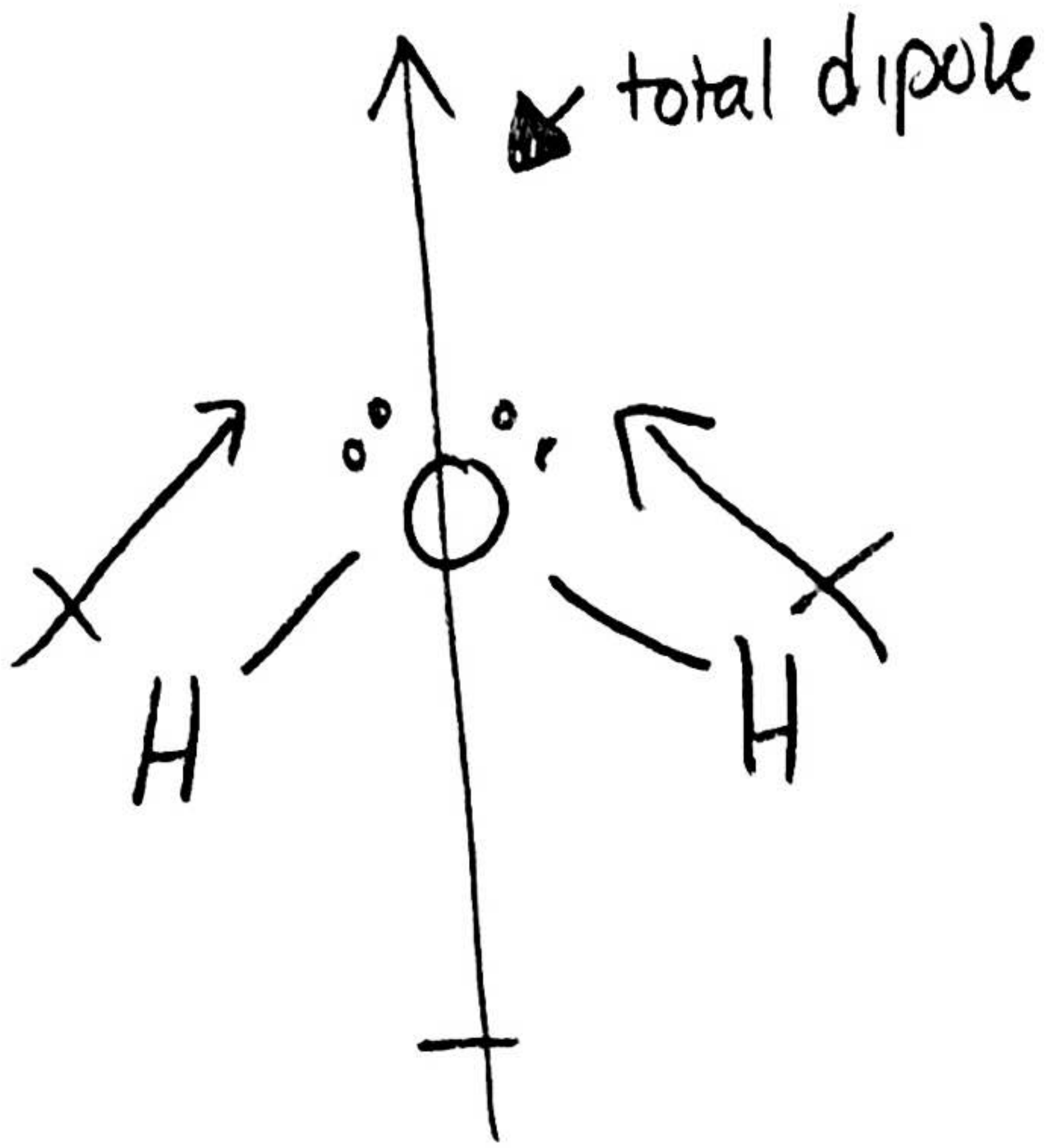
LP's count as $2e^-$

bonds count as $2e^-$

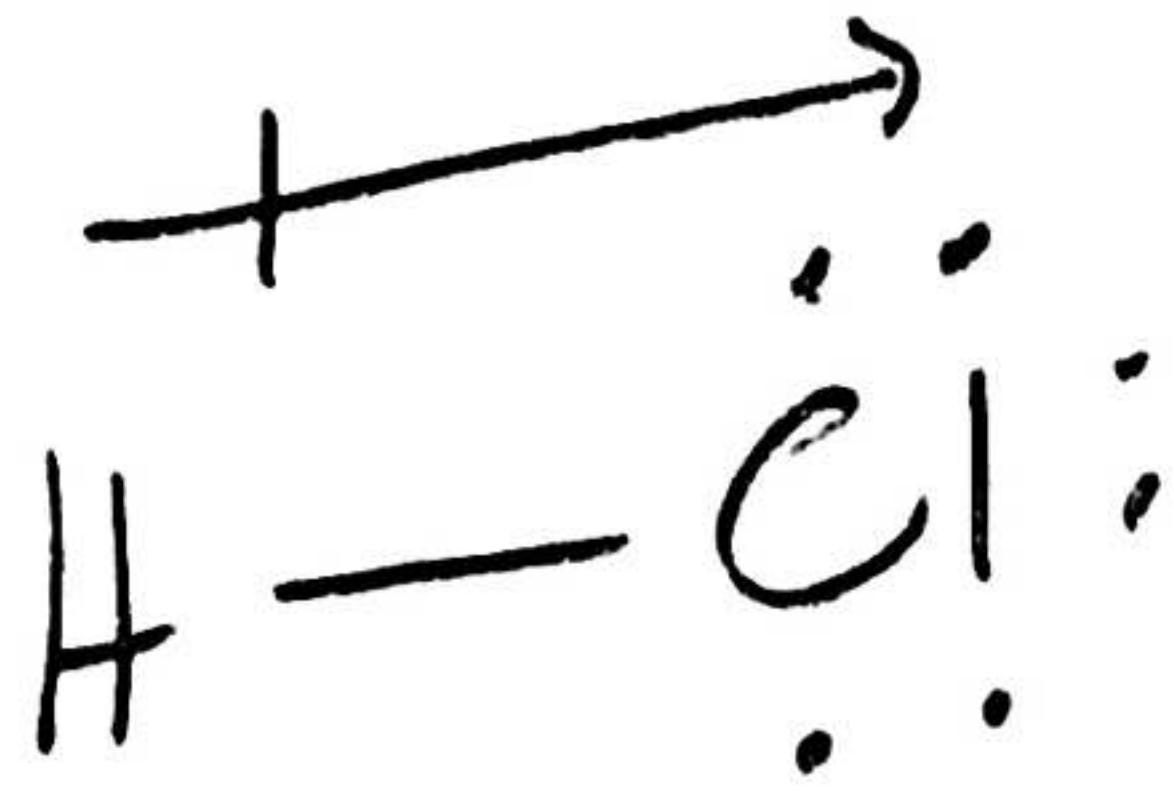
② check formal charges

2

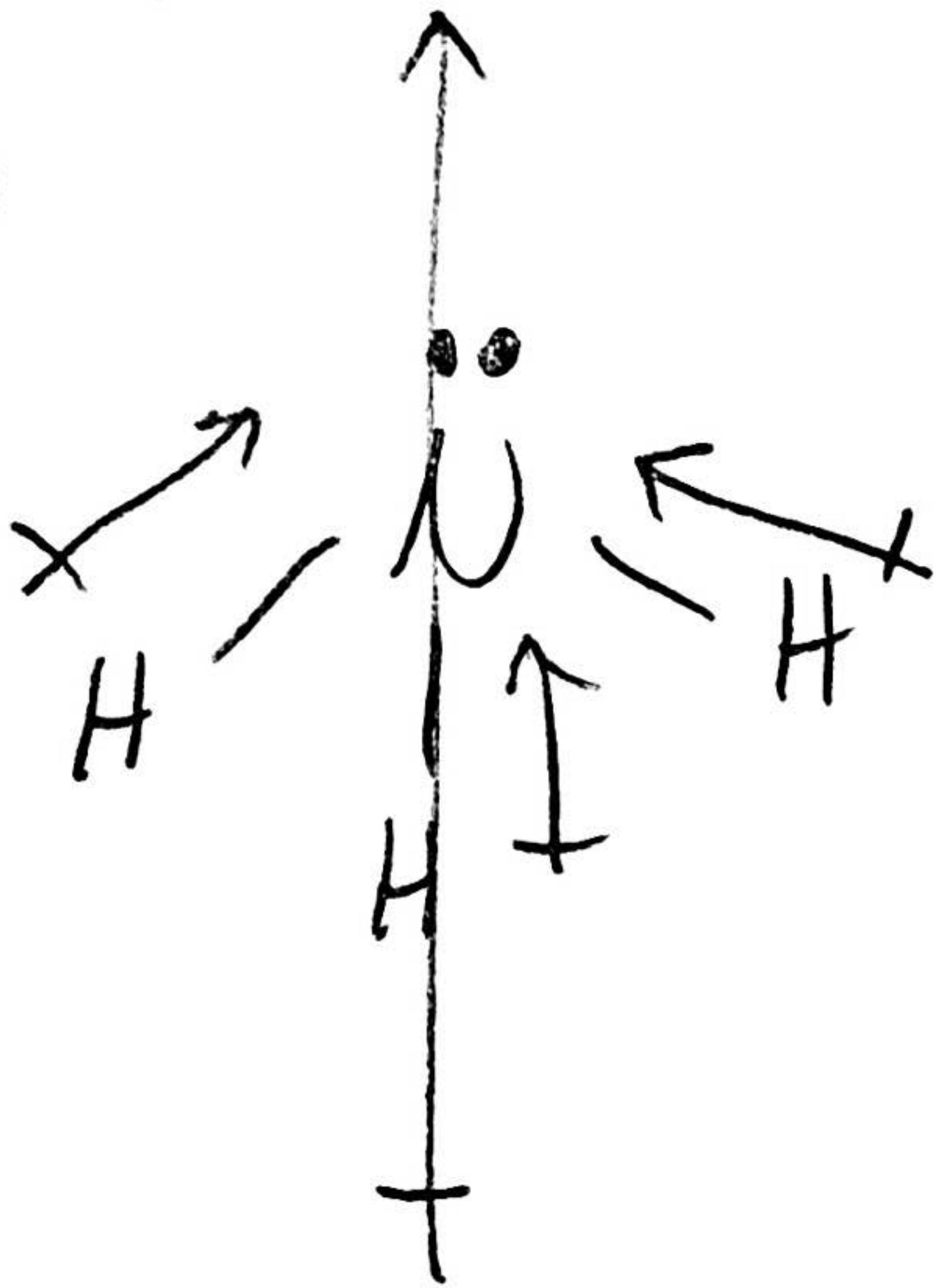
a)



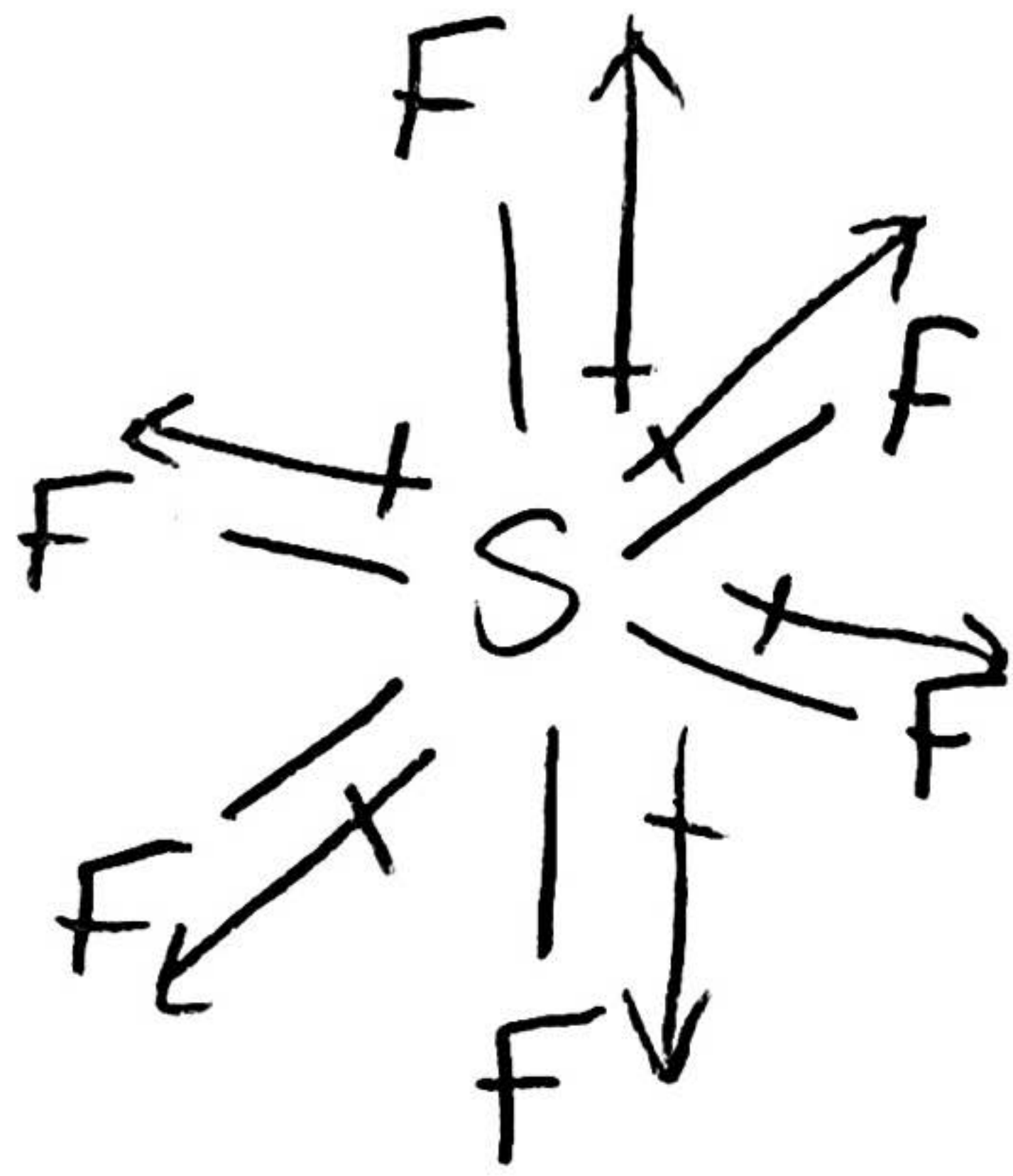
b)



c)

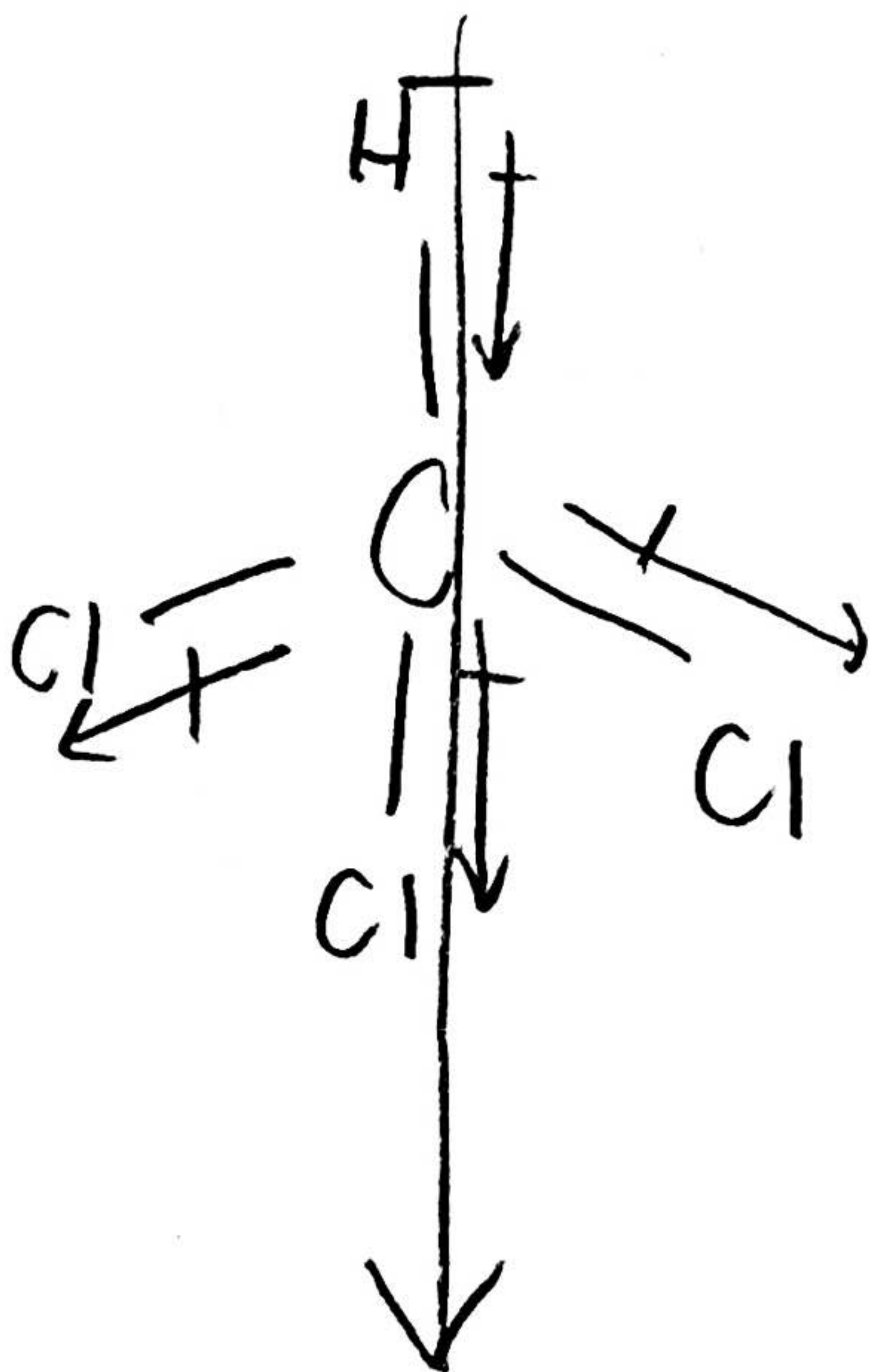


d)

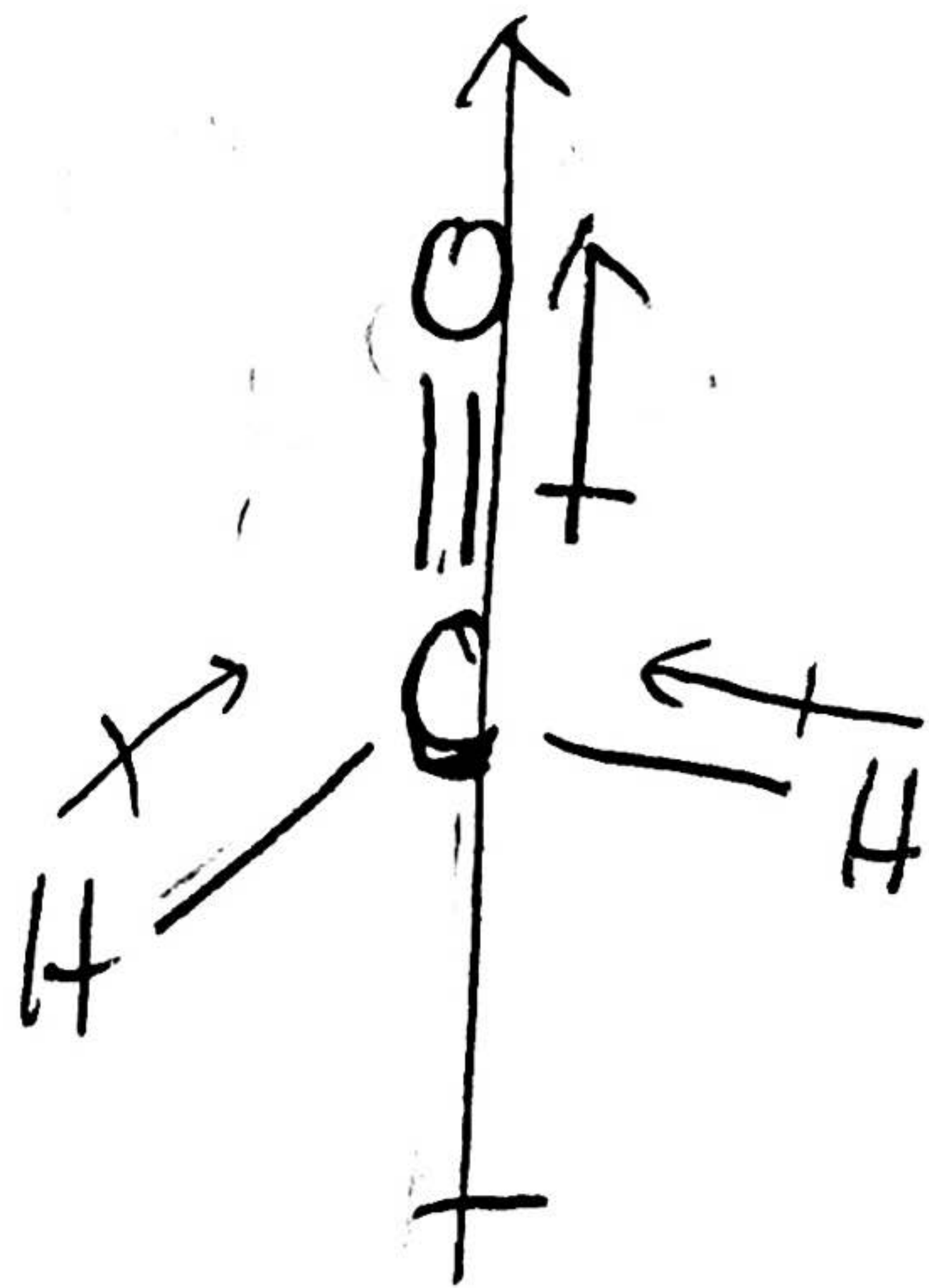


Dipoles all cancel out here!

e)



f)



③ Dipoles occur because different atoms have different electronegativities! unequal sharing of electrons!

④ Electronegative!

⑤ (F)! Dipoles can cancel one another out = non-polar
ex SF_6 in Q 2d!