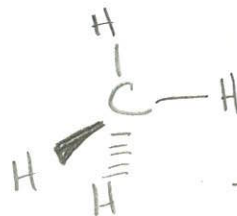


Ch. 1 # 43, 46, 57, 59, 78 (Extra practice)

(43) Determine if each compound exhibits a dipole moment.

a) CH_4

*draw out
Lewis
structure!



tetrahedral

all outside elements
are the same

NO dipole moment

b) NH_3



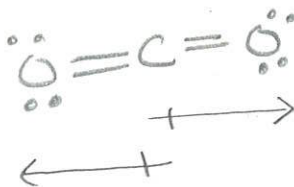
c) H_2O

Remember -

Not Linear! bent!

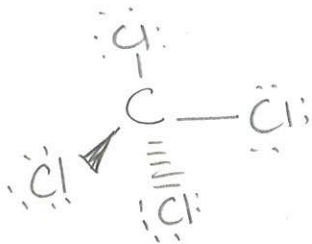


d) CO_2



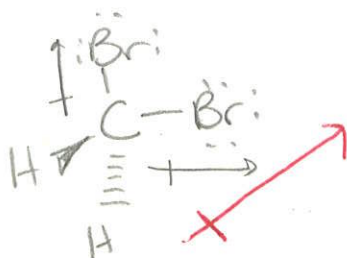
They cancel each other
out. No net dipole.

e) CCl_4



see a. No net dipole.

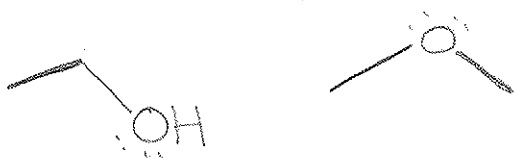
f) CH_2Br_2



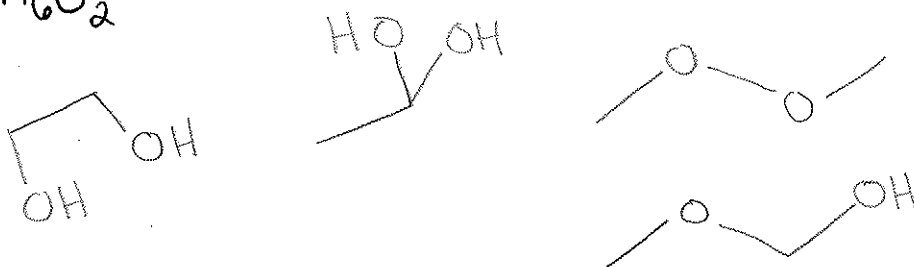
Br is more
electronegative than
C.

46) Draw all constitutional isomers.

a) C_2H_6O



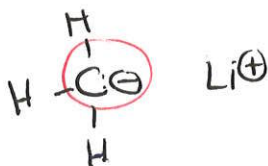
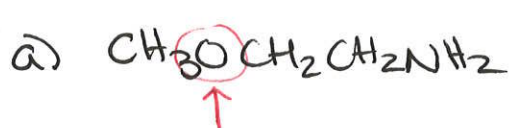
b) $C_2H_6O_2$



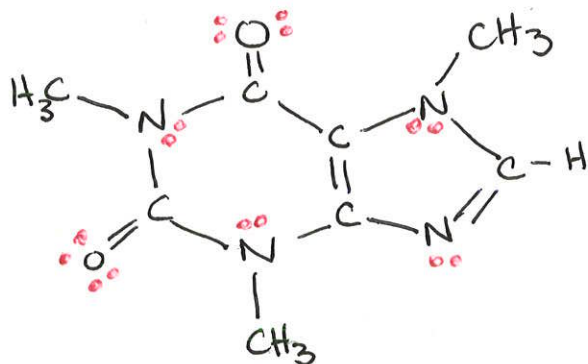
c) $C_2H_4Br_2$



(57) Identify the most electronegative element.

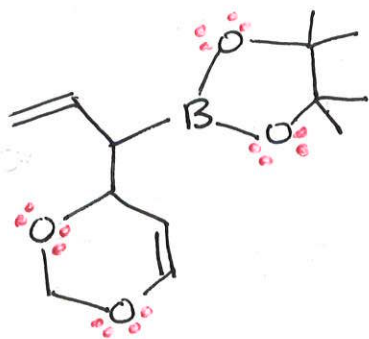


(59)



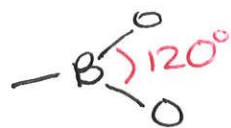
Lone pairs
in Red.

(78)



a) Hybridization of B is sp^2

b) predicted bond angle is 120°
because sp^2



However, B is part of a 5-membered ring, so the angle



* wants to be 72° ($360 \div 5$).

c) Lone pairs in Red.

