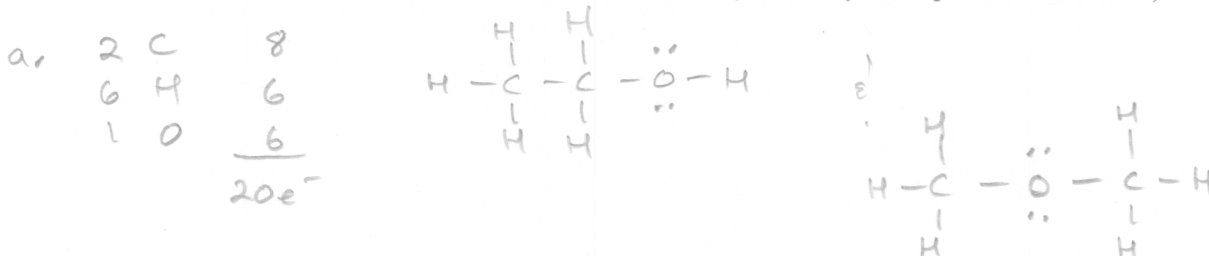


Quiz 1 (50 points)

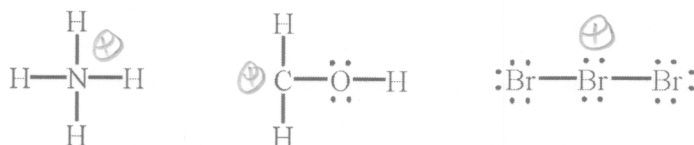
Name Key

1. Consider the molecular formula C_2H_6O . (20 points)

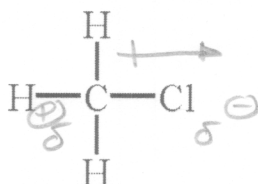
- a. How many valence electrons are present?
b. Draw the two Lewis structures for this molecule (show any lone pairs of electrons)



2. Show any formal charges on the structures below (all lone pairs are shown). (15 points)



3. Show the polarity of the bond between C and Cl in the molecule below using the "polarity arrow" and using δ^+ and δ^- notation. (10 points)



4. Draw the general shape of a sigma anti-bonding (σ^*) molecular orbital formed from two 2p atomic orbitals. (5 points)



Note the only 2p orbitals that can form a σ^* (or σ) bond have to "pointed" at each other, e.g. $2p_x$ & $2p_x$