Organic Chemistry Prep Workshop – Day 1
You Try Solutions

You Try 1-1

For each species below, determine the number of protons, neutrons, and electrons.

^{15}N 7 p^+ 7 e^- 8 n^o

$^{32}S^{2-}$ 16 p^+ 18 e^- 16 n^o

$^{39}K^+$ 19 p^+ 18 e^- 20 n^o

^{21}Ne 10 p^+ 10 e^- 11 n^o

You Try 1-2

Write the abbreviated electron configuration for each of the following:

Na [Ne] $3s^1$

Na^+ [Ne]

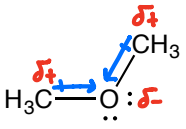
C [He] $2s^2 2p^2$

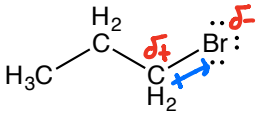
S [Ne] $3s^2 3p^4$

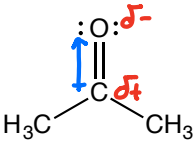
S^{2-} [Ne] $3s^2 3p^6$ = [Ar]

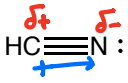
You Try 1-3

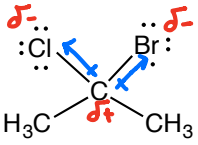
For each polar covalent bond below, write in "δ-, δ+" notation and draw in the bond dipole arrows.







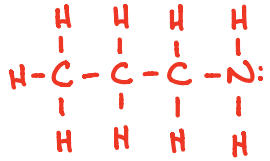




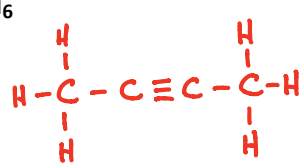
You Try 1-4

Draw a valid Lewis structure for each of the following * you may have other valid structures drawn.

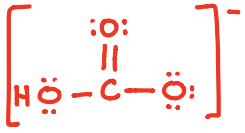
C_3H_9N



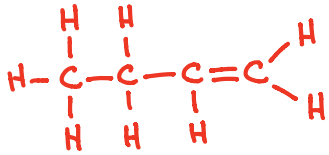
C_4H_6



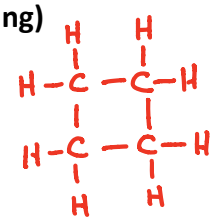
HCO_3^-



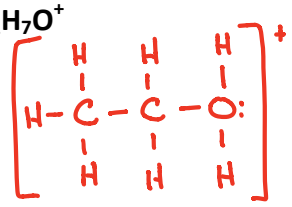
C_4H_8 (acyclic)



C_4H_8 (ring)



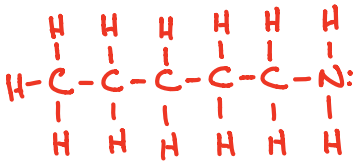
$C_2H_7O^+$

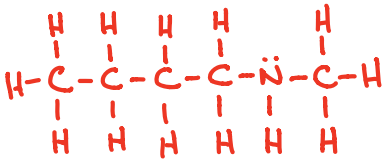


You Try 1-5

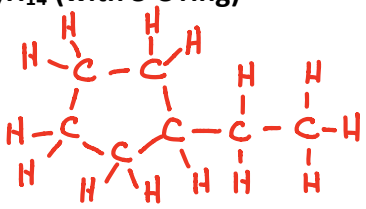
Draw two valid Lewis structure for each of the following

$C_5H_{13}N$

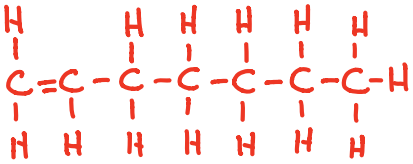




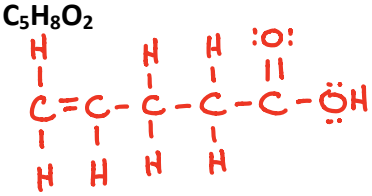
C_7H_{14} (with 5 C ring)

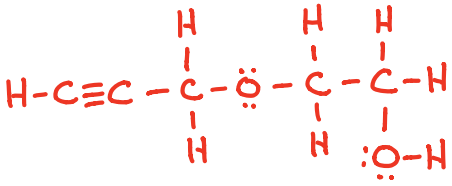


C_7H_{14} (acyclic)



$C_5H_8O_2$

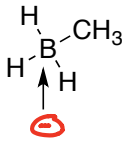


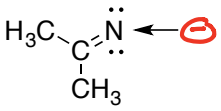


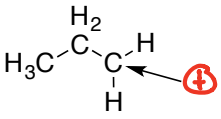
†There are many possibilities

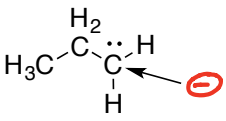
You Try 1-6

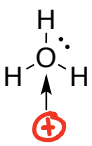
Determine the formal charge on each of the indicated atoms.

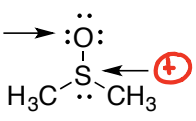


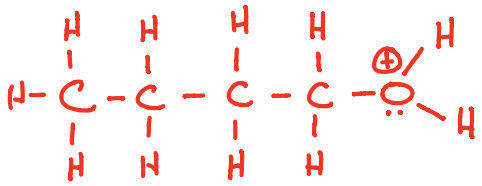
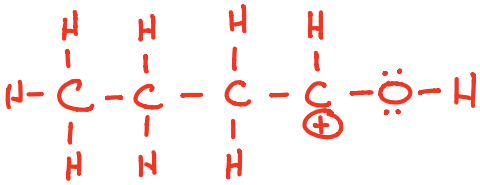
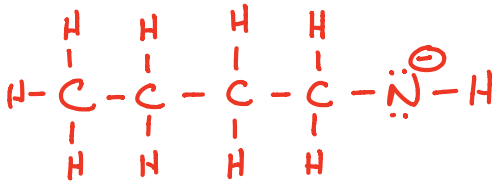










You Try 1-7	
Draw a valid Lewis structure for each of the charged molecules below.	
$C_4H_{11}O^+$ (+ on oxygen) 	**$C_4H_9O^+$** (+ on carbon) 
$C_4H_{10}N^-$ (- on nitrogen) 	**$C_4H_{10}N^-$** (- on carbon)