

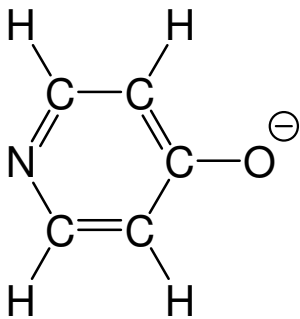
DUE 9/26/19 at 9:35 AM

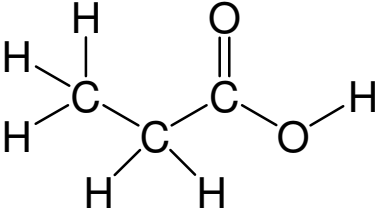
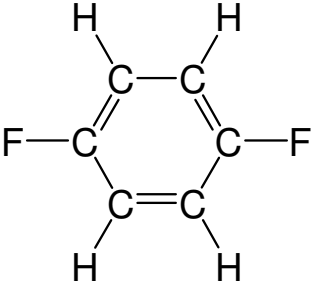
There are 3 different questions on this homework assignment.

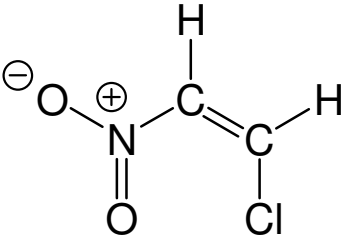
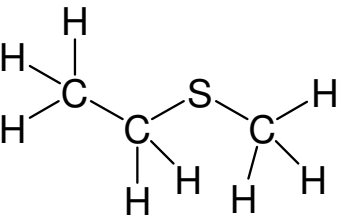
NOTE: you must show your work (all individual steps) for full credit on any math problems in this homework.

1. For the five molecules shown below, fill in the table with the important information about that molecule: (25 points total)

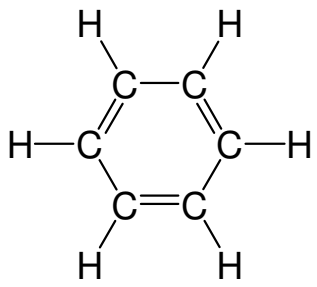
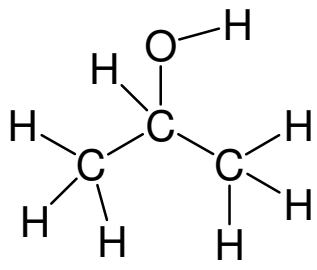
NOTE: count any double or triple bonds as one single polar or nonpolar bond.

Molecule	Number of nonpolar covalent bonds in this molecule.	Number of polar covalent bonds in this molecule.	Can this molecule make Hydrogen bonding interactions with water? ANSWER: Yes or No. If yes, which atom (or atoms) can make these interactions? If no, why not?	Can this molecule make ion-dipole interactions with water? ANSWER: Yes or No. If yes, which atom (or atoms) can make these interactions? If no, why not?	Can this molecule make dipole-dipole interactions with other molecules that are identical to the one given here? ANSWER: Yes or No. If yes, which atom (or atoms) can make these interactions?
					

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2. Indicate which of the following molecules is likely to soluble or insoluble in water (6 points):

Molecule	This molecule is water soluble or insoluble?
 <chem>c1ccccc1</chem>	
 <chem>CC(O)CC</chem>	
$\text{K}^+ \text{Cl}^-$	

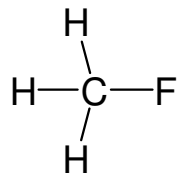
3. For each of the molecules drawn below in 3a – 3c (3 points each):

1. draw in the dipole moment of all polar covalent bonds using the arrow designation, proper

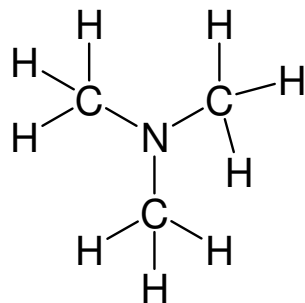
arrow designation for polar covalent bonds: $\text{+} \longrightarrow$

2. Answer yes or no, overall is this molecule a polar molecule or a non-polar molecule?

3a.



3b.



3c.

