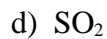


CHEM 1
Problem Set Ch.9

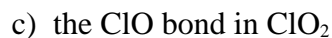
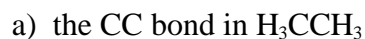
1. Explain the difference between ionic and covalent bonding.
2. Name one ionic compound that contains only nonmetallic elements.
3. Use Lewis dot formulas to show electron transfer between the following atoms to form cations and anions:
 - a) Na and F
 - b) K and S
 - c) Ba and N
 - d) Al and O
4. Explaining which of the following ions is larger, and why: Cu^+ or Cu^{2+} .
5. List the following ions in order of increasing ionic radius: N^{3-} , Na^+ , F^- , Mg^{2+} , O^{2-} .
6. Which of the following species are isoelectronic with each other? C, Cl^- , Mn^{2+} , B^- , Ar, Zn, Fe^{3+} , Ge^{2+} .
7. Write the Lewis structures for the following molecules:
 - a) ICl
 - b) COBr_2

7. Write the Lewis structures for the following molecules:



8. Define electronegativity, and describe in general how the electronegativities of the elements change according to position in the periodic table.

9. Classify the following bonds as ionic, polar covalent, or nonpolar covalent



10. Draw three reasonable resonance structures for the OCN^- ion. Show formal charges.

11. Write Lewis structures for the following molecules:

