Chem. 105 Experiment 12 Stamp:
Name:
Partners' name(s):

Laboratory 12: Chemical Bonding

Lecture:
Drawing diagrams showing bonds
Ionic vs. covalent bonds
Chemical bonding video

Lecture Notes

Ionic bonds

Rules for Drawing Diagrams

Purpose: To make models of ionic and covalent compounds

Procedure and Observations and Data:

b. Building molecules (This is to be done alone)

Obtain the molecular modeling kits from the stockroom.

1. Build the following molecules and draw the structure after you have built it. Show each model to your instructor before you take it apart.

H_2	
N_2	
O_2	
Cl_2	
I_2	
H_2O	
NH_3	
CH_4	

CCl_4	
C_2H_6	
C_3H_8	
C_8H_{18}	
CO_2	
C_2H_5OH	

Show three different ways to make C_4H_{10}

Show two different ways to make C_3H_7Cl

Your instructor may show you some other molecules to build

Questions and Answers:

1. **How do you know if a compound is ionic or covalent by looking at the formula?**

2. **What are the properties of ionic compounds?**

3. **What are the properties of covalent compounds?**

Conclusions and Reflections

1. Did you learn better by building models of the molecules? Why?

2. Write two questions you have about chemical bonding.

3. Are all covalent bonds equal?

4. How can we measure if there are differences?