03/06/14
Workshop 5
Chem. 103, Spring 2014
Chapter 5
(Full points 20)

Completed reports to be submitted by **03/13/2014**, 2.00 PM (no late submission)
In-class exercise (~20-30 minutes)

A. Drawing Lewis symbol

i) H, He, Li, Be, B, C, N, O, F, Ne, Na, Mg, Al, Si, P, S, Cl, Ar

ii) Discuss with your partners predict and draw the Lewis structure of K, Rb, Ca, Ca, Sr, Ba, Ga, Si, Ge, P, As, Sb, S, Se, Br, I, and At.

B. Ionic bonding in elements:

i) Write formula and names

- Na & F, Li &Cl, K & I, Rb & Br
- Ca & F, Sr & I, Ba & Br
- Al & Cl, Ga & I
- Si & Br, Ge & Cl

ii) Discuss with your partners predict the formula and names

- Ca & O, Mg & S, Ba & Se,
- Sr & N, Ba & P, Mg & As
- Al & O, Ga & Se, Ga & Se

iii) **Home assignment**. Lattice energy (page 146)
Calculate the force of the ion pairs and make a hand-drawn plot of force vs. lattice energy. Provide units wherever applicable.

C. Covalent bonding

Use Lewis structures method (page 193) to show bonding of dihydrogen, dioxygen, and dinitrogen, difluorine gases

D. Calculation of molar mass

i) Find the molar mass of Al_2O_3, $Fe_2(SO_4)_3$, $FeSO_4$, C_6H_5OH, CH_3OH

ii) Calculate the % of oxygen in all of them

E. Problems (you do not need to show your work): 5.25, 5.27, 5.28

F. Molar mass calculations **(**you need to show setup and complete work**)**: 5.82, 5.83,5.89, 5.91, 5.94, 5.95, 5.110