Recitations #13 and 14

CH 151, Fall 2011, Dr. Schmidt

11/21-29/11

1) (Repeat) Using the Born-Haber Cycle show the calculation of the lattice enthalpy for magnesium oxide. Label all of the steps in the cycle.

2) Using the Born-Haber Cycle for sodium sulfide, calculate the second electron affinity for sulfur. For sodium sulfide, the lattice energy is 2192 kJ/mol and ΔH_f° = -364.8 kJ/mol. Also, $\Delta H_f^\circ(S(g))$ = 279 kJ/mol

3) Draw the Lewis dot structure(s) for the following substances. Indicate formal charges for all atoms. Include resonance structures where applicable.

H_2	
I_2	
N_2	
H_2O	
NH_3	
N_2H_4	
PCl_3	
O_2^{2-}	
H_2CO	
C_2H_2	
CO_3^{2-}	
HNO_3	
NH_4Cl	

AsH_3	
Na_2HPO_4	
NH_3BF_3	
SF_6	
$SnCl_4$	
PF_6^{1-}	
N_3^{1-}	
$SbCl_5$	
ICl_2^{1+}	
BiI_4^{1-}	
H_3O^{1+}	
BrF_4^{1-}	
C_6H_6	