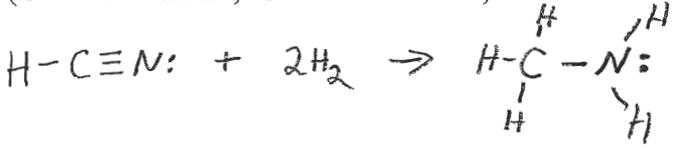
CHM151 Quiz#9a 25 Pts Fall 2007 Name:_____

1. (5 Pts) Use the bond energies to calculate ΔH for the following reaction:
(C-H 411 kJ/mol; C≡N 887 kJ/mol; H-H 432 kJ/mol; C-N 305 kJ/mol; N-H 386 kJ/mol)

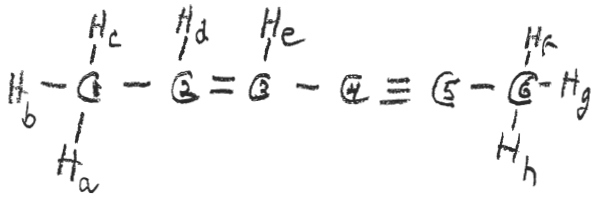


2. (10 Pts) For each of the following determine the number of valence electrons and then write out the Lewis structure and state the electron pair geometry name. Next draw the molecular structure (VSEPR) and state molecular structure name.

a. SF_4	Valence electrons_____		b. $SiCl_4$	Valence electrons_____
Lewis Structrure	Molecular structure		Lewis Structrure	Molecular structure
e^- pair geometry name:	Molecular geometry name:		e^- pair geometry name:	Molecular geometry name:

3. (5 Pts) Draw the Lewis structure and show all of the resonance structures for carbonate anion.

4. (5 Pts) State expected angles for the following structure.



a) ∠ $H_a C_1 C_2$ _____

b) ∠ $C_1 C_2 C_3$ _____

c) ∠ $C_4 C_5 C_6$ _____

d) ∠ $C_5 C_6 H_h$ _____

e) ∠ $H_d C_2 C_3$ _____