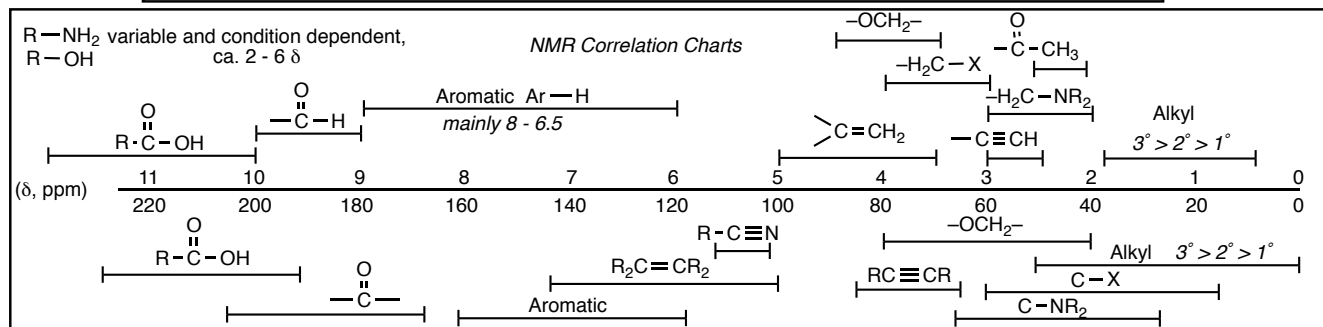
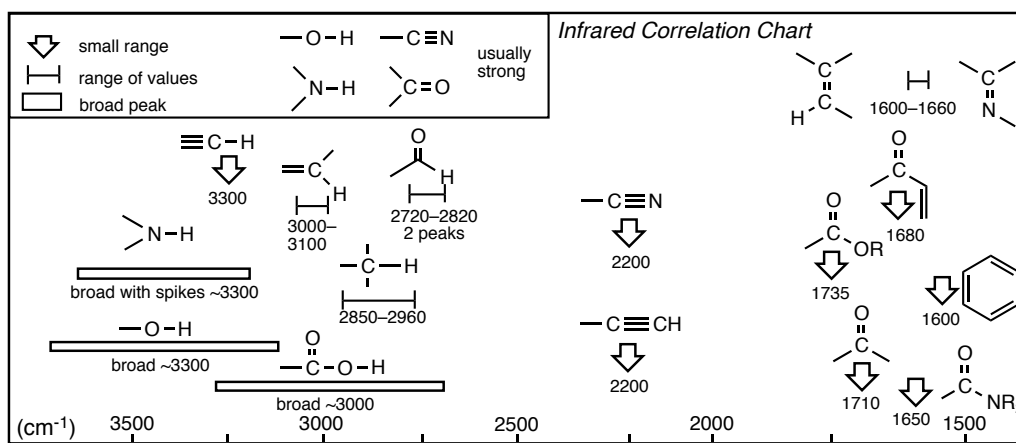


the part of the periodic table we are most concerned with
(do not memorize, a table is provided with each test)

hydrogen 1 H 1.0079																	helium 2 He 4.0026				
lithium 3 Li 6.941	beryllium 4 Be 9.012															boron 5 B 10.811	carbon 6 C 12.0107	nitrogen 7 N 14.007	oxygen 8 O 15.999	fluorine 9 F 18.998	neon 10 Ne 20.180
sodium 11 Na 22.990	magnesium 12 Mg 24.306															aluminum 13 Al 26.912	silicon 14 Si 28.086	phosphorus 15 P 30.974	sulfur 16 S 32.067	chlorine 17 Cl 35.453	argon 18 Ar 39.948
potassium 19 K 39.098	calcium 20 Ca 40.078	scandium 21 Sc 44.956	titanium 22 Ti 47.867	vanadium 23 V 50.942	chromium 24 Cr 51.996	manganese 25 Mn 54.938	iron 26 Fe 55.845	cobalt 27 Co 58.933	nickel 28 Ni 58.693	copper 29 Cu 63.546	zinc 30 Zn 65.39	gallium 31 Ga 69.723	germanium 32 Ge 72.61	arsenic 33 As 74.922	selenium 34 Se 78.96	bromine 35 Br 79.904	krypton 36 Kr 83.80				
rubidium 37 Rb 85.468	strontium 38 Sr 87.62	yttrium 39 Y 88.906	zirconium 40 Zr 91.224	niobium 41 Nb 92.906	molybdenum 42 Mo 95.94	technetium 43 Tc [98.91]	ruthenium 44 Ru 101.07	rhodium 45 Rh 106.42	palladium 46 Pd 107.87	silver 47 Ag 107.87	cadmium 48 Cd 112.41	indium 49 In 114.818	tin 50 Sn 118.71	antimony 51 Sb 121.760	tellurium 52 Te 127.60	iodine 53 I 126.904	xenon 54 Xe 131.29				

Interaction Energies, kcal/mol		
Eclipsing		Gauche
H/H	-1.0	Me/Me -0.9
H/Me	-1.4	Et/Me -0.95
Me/Me	-2.6	i-Pr/Me -1.1
Me/Et	-2.9	t-Bu/Me -2.7



CONTENTS

1. Bonding and Structure I : Organic Molecular Structures
2. Bonding and Structure II : Organic Molecular Structures
3. Resonance : Delocalized Electrons
4. Alkanes : 3D Structures
5. Organic Spectroscopy I : Molecular Structure Determination
6. Organic Spectroscopy II : Molecular Structure Determination
7. Organic Reactions : How and Why Reactions "Go"
8. Alkenes : Introduction to Electrophilic Addition
9. Radical Reactions : Not Lewis acid/base reactions
10. Chirality : Molecular "Handedness"
11. Halides : Substitution and Elimination

Cover Picture: *The cover picture requires some explanation. All of the materials in this course are generated by the instructor at ASU, the notes and the homework. Now, the instructor works hard to generate all of this material, but the instructor is also not very good at typing on a keyboard. The instructor makes a lot of typos. These typos find their way into the notes and into the homework site. The students notice that there are a lot of typos. Some students find them annoying, but a lot of students seem to find them endearing, and even to be a memorable part of their organic chemistry learning experience. One student thought that they were so heavily engrained in the class that they were worth celebrating as an essential component, and this student took the time to assemble some of the better ones into a word picture. This word picture celebrates a defining aspect of this class. See how many of these you can find this semester and next! With many thanks to Nicole for making the word picture!*