

$$r = 0.529 \text{ \AA} \left(\frac{n^2}{Z} \right) \quad E = -2.179 \times 10^{-18} \text{ J} \left(\frac{Z^2}{n^2} \right) \quad \Delta E = -2.179 \times 10^{-18} \text{ J} Z^2 \left(\frac{1}{n_f^2} - \frac{1}{n_i^2} \right)$$

$$E = h\nu \quad c = \lambda\nu \quad L = n \frac{\lambda}{2} \quad \lambda = \frac{h}{mv} \quad r \sim \frac{n^2}{Z_{\text{eff}}} \quad IE \sim \frac{Z_{\text{eff}}^2}{n^2}$$

$$N_A = 6.022 \times 10^{23} \text{ particle mol}^{-1}$$

$$h = 6.626 \times 10^{-34} \text{ J s particle}^{-1}$$

$$c = 2.998 \times 10^8 \text{ m s}^{-1}$$

$$1 \text{ m} = 10^9 \text{ nm} = 10^{10} \text{ \AA}$$

H 2.18																				He -
Li 0.98	Be 1.57											B 2.04	C 2.55	N 3.04	O 3.44	F 3.98				Ne -
Na 0.93	Mg 1.31											Al 1.61	Si 1.90	P 2.19	S 2.58	Cl 3.16				Ar -
K 0.82	Ca 1.00	Sc 1.36	Ti 1.54	V 1.63	Cr 1.66	Mn 1.55	Fe 1.8	Co 1.88	Ni 1.91	Cu 1.90	Zn 1.65	Ga 1.81	Ge 2.01	As 2.18	Se 2.55	Br 2.96				Kr -
Rb 0.82	Sr 0.95	Y 1.22	Zr 1.33	Nb 1.60	Mo 2.16	Tc 1.9	Ru 2.28	Rh 2.2	Pd 2.20	Ag 1.93	Cd 1.69	In 1.78	Sn 1.96	Sb 2.05	Te 2.1	I 2.66				Xe -
Cs 0.79	Ba 0.89	La 1.10	Hf 1.3	Ta 1.5	W 2.36	Re 1.9	Os 2.2	Ir 2.2	Pt 2.28	Au 2.54	Hg 2.00	Tl 2.04	Pb 2.33	Bi 2.02	Po 2.0	At 2.2				Rn -

FIGURE 13-6 Electronegativities of atoms. (From A. L. Allred, *J. Inorg. Nucl. Chem.* 17, 215 (1961).)

TABLE 11.3 Some Average Bond Energies^a

Bond	Bond Energy, kJ/mol	Bond	Bond Energy, kJ/mol	Bond	Bond Energy, kJ/mol
H—H	436	C—C	347	N—N	163
H—C	414	C=C	611	N=N	418
H—N	389	C≡C	837	N≡N	946
H—O	464	C—N	305	N—O	222
H—S	368	C=N	615	N=O	590
H—F	565	C≡N	891	O—O	142
H—Cl	431	C—O	360	O=O	498
H—Br	364	C=O	736	F—F	159
H—I	297	C—Cl	339	Cl—Cl	243
				Br—Br	193
				I—I	151