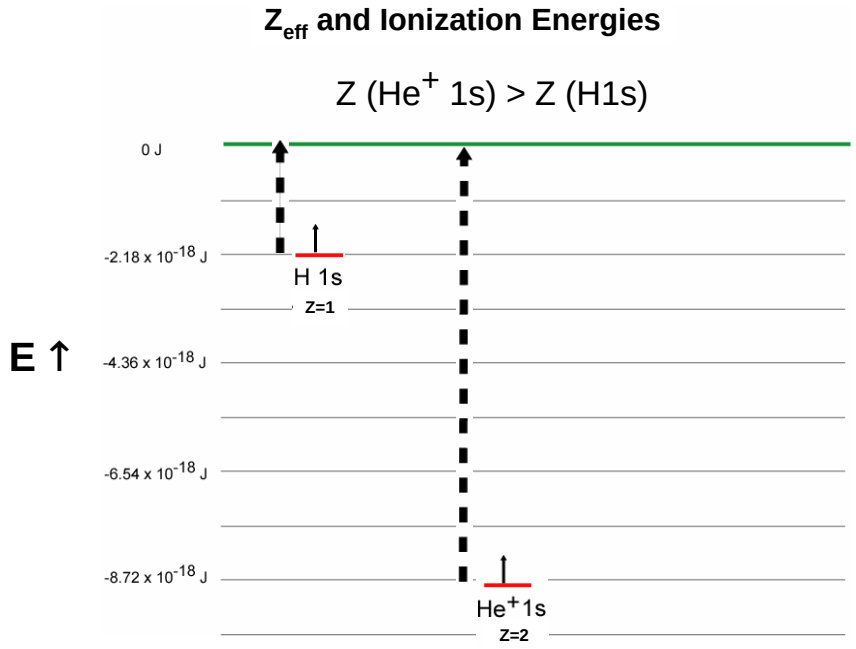
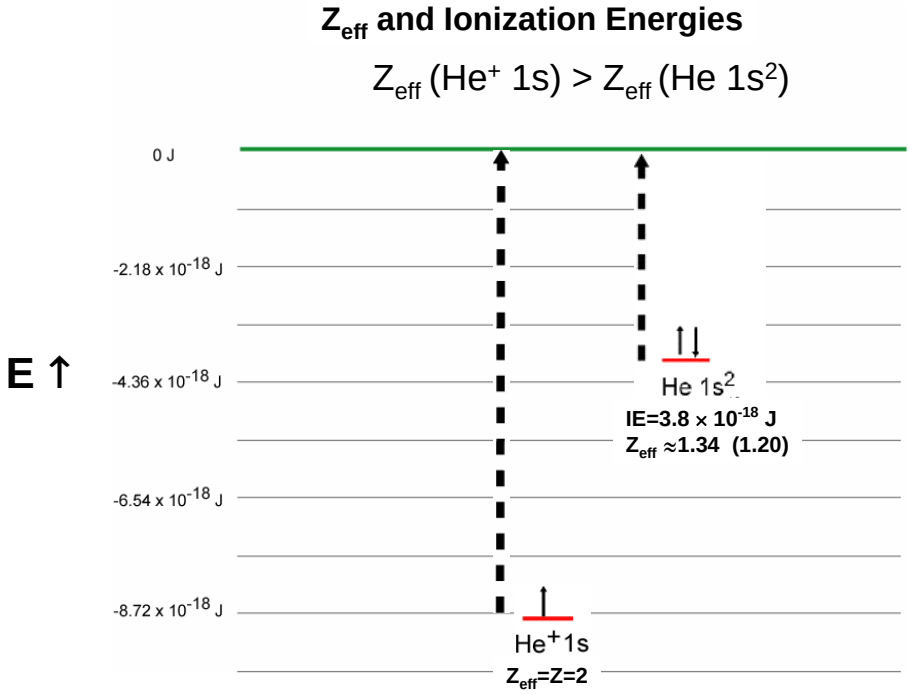
Energy of H 1s vs He^+ 1s (HO 12.1)



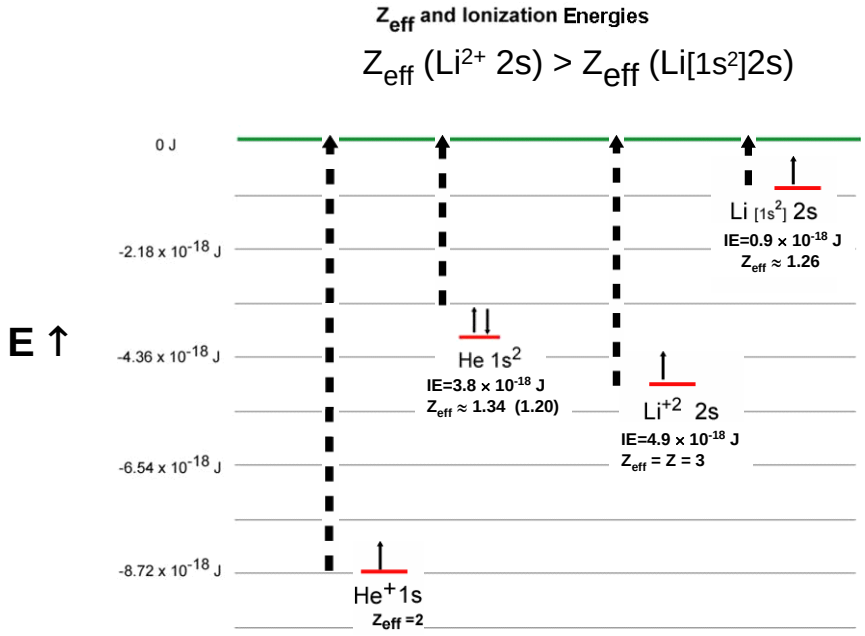
HO Figure 12.1

Energy of He $1s^2$ vs He^+ 1s (HO fig 12.2)

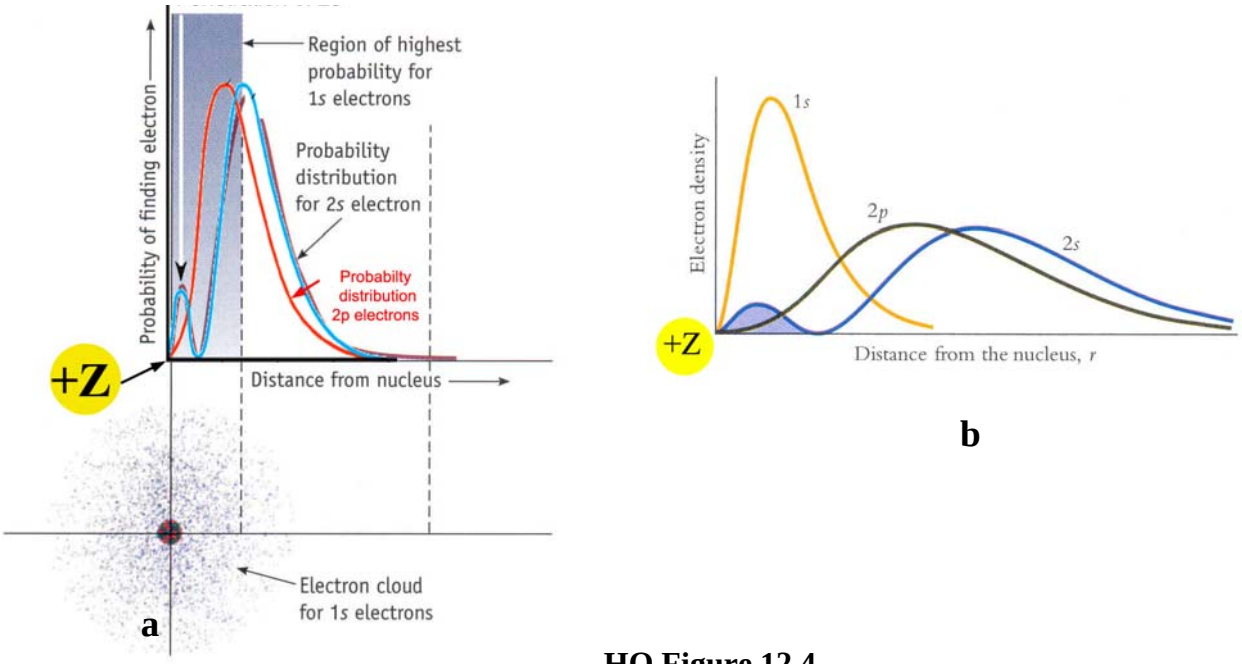


HO Figure 12.2

Energy of Li $^{2+}$ 2s vs Li [1s^2] 2s (HO Fig. 12.3)



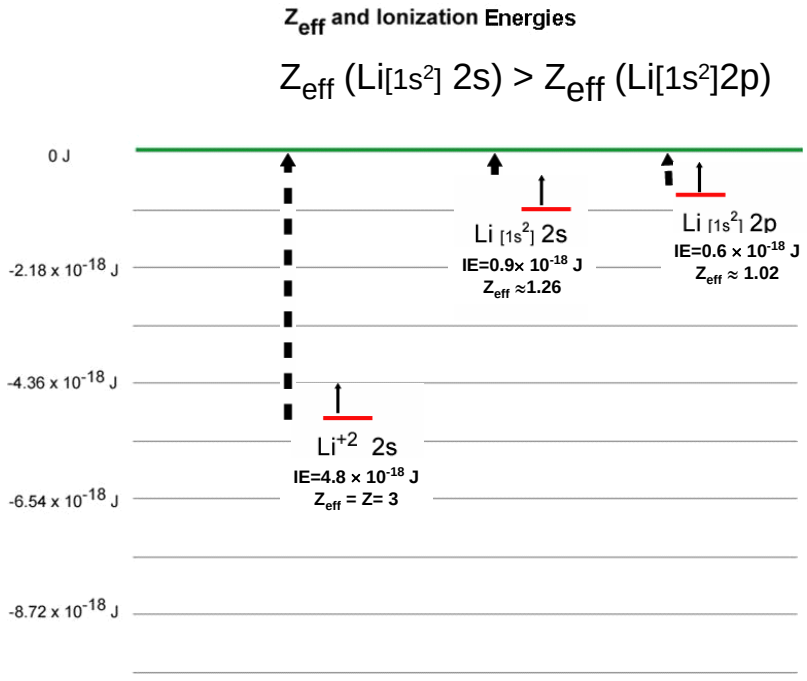
HO Figure 12.3



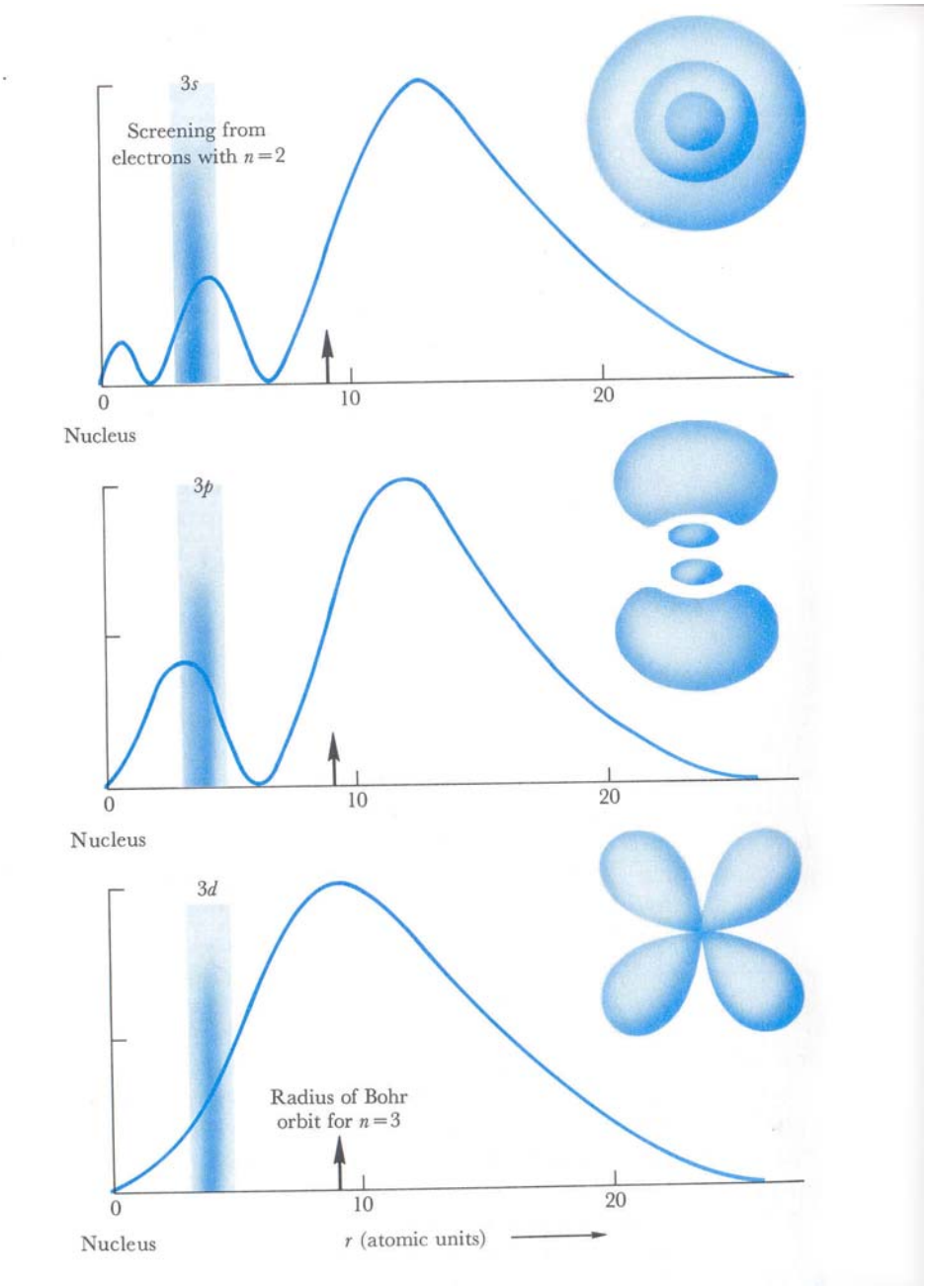
HO Figure 12.4

a. adapted from **Chemistry & Chemical Activity 5th ed**, by Kotz and Treichel, Thompson Brooks/Cole (2003)
and Chemistry: The Molecular nature of Matter and Change, 3rd ed, Silberg, McGraw Hill, (2003)
b. from **Chemistry 3rd ed,** by Olmsted and Williams, Wiley (2002).

*Energy of Li [1s^2] **2s** vs Li [1s^2] **2p** (HO Fig. 12.5): penetration*



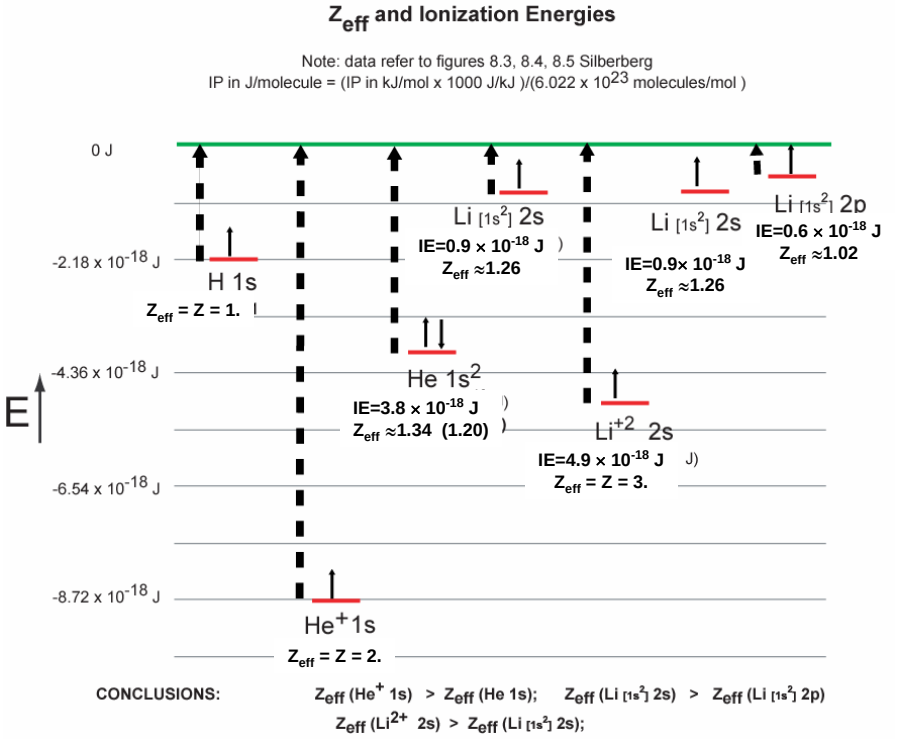
HO Figure 12.5



from **Chemical Principles,** Dickerson, Gray, Haight, Benjamin Cummings, 1979.

HO Figure 12.6

Z_{eff} and ionization potentials



HO Figure 12.7