## ASSIGNMENT 2 CHEMISTRY 300 Due: 4:00 pm Friday 19 September 2008

- 1. Consider two hard-sphere molecules of diameter 2.43 Å. Using a spreadsheet, plot  $\chi$  against the impact parameter b. Show sample calculations for b = 0.5 Å and b = 1.0 Å.
- 2. Using the data given in problem 3 on page 818 of your text, use a spreadsheet to plot the Lennard-Jones potential for  $Ar_2$  against internuclear distance. Show sample calculations for a point in the attractive region of the potential and for a point in the repulsive region of the potential. Discuss whether the ideal gas law is a good description of the behaviour of Ar gas at room temperature and atmospheric pressure.