Lecture 9 Problems

Problem 1

(a): (i): M_0
(ii): V
(iii): C_a

(b): As Z_{eff} increases, r decreases.

Problem 2

(a): $\frac{(-1)(1)e^2}{4\pi\varepsilon_0(2.17\cdot10^{-10}m)} = 640\ kJ/mol$

(b): $KF \rightarrow K^+ + F^- \quad \Delta E = 640\ kJ/mol$

$KF \rightarrow K^* + F \quad \Delta E = 498\ kJ/mol$

$K^+ + F^- \rightarrow K + F \quad \Delta E = 142\ kJ/mol = 418\ kJ/mol - C$

$C = 276\ kJ/mol$

Problem 3

Col: