Exercise 2.1-4

Derive the Formula for the Vacancy Equilibrium Concentration

Start from the formulas given, use the approximations described, and show that

$$c_V = \text{concentration of vacancies} = \frac{S_F}{k} \cdot \exp -\frac{H_F}{kT}$$

Would more advanced versions of Stirlings formula get better results?

Link to the Solution