Contents

1 Derivation of equations

We start with free energy for excluded volume.

$$F = \frac{C_{rest}}{C_\infty}\left(u\ln\left(\frac{u}{c_\infty - u - v}\right) + v\ln\left(\frac{v}{c_\infty - u - v}\right)\right) + c_\infty \ln\left(1 - \frac{u+v}{c_\infty}\right) \tag{1}$$

For the rest of this text I will use c instead of c_∞. Also I denote

$$R = c - u - v, A = \frac{C_{\text{rest}}}{c_\infty} \tag{2}$$

From free energy we get the chemical potentials

$$\mu_u = \frac{\partial F}{\partial u} = A\left(\left(\ln\frac{u}{R}\right) + \frac{R+u+v-c_\infty}{R}\right) = A\left(\ln\frac{u}{R}\right) = A\ln(u) - A\ln(R) \tag{3}$$

$$\mu_v = \frac{\partial F}{\partial v} == A\ln(v) - A\ln(R) \tag{4}$$

The computations are contained in the next subchapter

1.1 Extended calculations

2 Collected equations

Equation for