

Assignment problems II

- **E5.16b** Benzene and toluene form nearly ideal solutions. The boiling point of pure benzene is 80.1 °C. Calculate the chemical potential of benzene relative to that of pure benzene when $x_{\text{benzene}} = 0.30$ at its boiling point. If the activity coefficient of benzene in this solution were 0.93 rather than 1.00 what would be the vapour pressure?
- **P5.16** The main activity coefficients for aqueous solution of NaCl are given below. Confirm that they support Debye-Huckel law and that an improved fit can be obtained with the extended law.

$b/(\text{mmol kg}^{-1})$	1.0	2.0	5.0	10.0	20.0
γ_{\pm}	0.9649	0.9519	0.9275	0.9024	0.8712

Use Excel (or other graphing software of your choice) to perform fit in the problem P5.16