Assignment problems III

- **E6.4b** Benzene and toluene form nearly ideal solutions. Consider equimolar solution of benzene and toluene. At 20°C the vapour pressures of pure benzene and toluene are 9.9kPa and 2.9kPa, respectively. The solution is boiled by reducing the external pressure below the vapour pressure. Calculate:
  (a) the pressure when the boiling begins;
  (b) the composition of vapour
  (c) the vapour pressure when only few drops of liquid remain. Assume that the temperature remain constant at 20°C.

- **P6.6** Consider the phase diagram which represents a solid-liquid equilibrium.
  (a) Label all regions off the diagram according to the chemical species that exist in that region and their phases.
  (b) Indicate the number of species and phases present at the points **b,d,e,f,g,k**;
  (c) Sketch cooling curves for compositions x_b=0.16, 0.23, 0.57, 0.67 and 0.84.