

ChE 230

Summer 2003

Homework Assignment #7

Due: Monday, August 4, 2003

Problem 1.

You have a liquid mixture of 20 mole % carbon tetrachloride ( $\text{CCl}_4$ ) and 80 mole % carbon tetrachloride ( $\text{CBr}_4$ ) at  $T=350$  K. Find the vapor pressure of the mixture and the composition of the vapor in equilibrium with this liquid.

Problem 2.

Levine Problem 9.47, page 278

Problem 3. (Extra credit)

You have a liquid mixture of 20 mole % carbon tetrachloride ( $\text{CCl}_4$ ) and 80 mole % carbon tetrachloride ( $\text{CBr}_4$ ) at  $p=1.0$  bar. Find the temperature of the mixture and the composition of the vapor in equilibrium with this liquid. (Hint: This involves an iterative solution for the temperature. Use the Solver function in Excel.)