

King Fahd University of Petroleum & Minerals
Chemical Engineering Department
CHE 303 – Chemical Engineering Thermodynamics II
2008 - 2009 (082)

HW#10

Due: Sat. 23-May-2009

- (a) Prepare a computer program to calculate the fugacity coefficient of a species in a multi-component mixture using Virial equation of state.
- (b) Test your program for an equimolar-binary-gas system Ethane (1)-propane (2) at different values pressures, and temperatures.
- (c) Plot the fugacity coefficient of both Ethane and propane versus pressure (from 1 kPa to 5000 kPa) at values of Teperatures of 300 K, 350 K, and 400 K.

You report should contain problem statement, solution of the problem, sample calculation, results, discussion of results and conclusions.