1. Exercise E7.1 (p. 374). Assume that the vapor obeys the ideal gas law. On the same graph you prepare for part (a), also plot the dew-point line for the vapor based on ideal behavior. Calculate and report $p_1$, $p_2$, $\gamma_{r,1}$, and $\gamma_{r,2}$ for each mole fraction in addition to $G_m^E$.

2. Problem 7.1 (p. 378). On the graph prepared for part (a), also plot the bubble-point and the dew-point curves predicted by Raoult’s law (ideal behavior). Ignore the temperature correction in part (c), but use the $G_m^E$ from part (b) and $H_m^E$ from part (c) to obtain $TS_m^E$ at 323.15 K for part (d).

Excel files containing the data for these two problems may be downloaded from the Homework page.