

Problem Set 7
(Gibbs Free Energies and Phase Equilibria)

1. Do problem 22-1 in McQuarrie and Simon.
2. Do problem 22-5 in McQuarrie and Simon.
3. Do problem 22-24 in McQuarrie and Simon.
4. Do problem 23-20 in McQuarrie and Simon.
5. Do problem 23-36 in McQuarrie and Simon.
6. Do problem 23-44 in McQuarrie and Simon.
7. 15 points extra credit: On the Thermodynamics of Rubber Bands
 - a) Start by doing Problem 22-54 in McQuarrie and Simon. (8 points)
 - b) Given what you've derived, do you predict that a rubber band will stretch or shrink when you heat it? (2 points)
 - c) Can you think of a molecular explanation for this process? (Hint: what happens to the entropy, S , as you stretch the band?) (5 points)