Questions, Physical Chemistry I, 2018
Test 3

1. Sketch a p-T diagram denoting the phases!
2. The Clapeyron equation
3. What assumptions are made when the Clapeyron-Clausius equation is derived from the Clapeyron equation?
4. The Clapeyron-Clausius equation
5. What is the standard Gibbs free energy of formation?
6. The molar Gibbs free energy (chemical potential) of an ideal gas
7. Definition of chemical potential (formula)
8. Definition of chemical potential (words)
9. The exact differential of the Gibbs free energy in an open system
10. The exact differential of the Helmholtz free energy in an open system
11. The exact differential of the internal energy in an open system
12. The exact differential of the enthalpy in an open system
13. The chemical potential of a pure substance
14. Conditions for phase equilibria (in terms of chemical potentials)
15. What determines the direction of material transport if there is no phase equilibrium?
16. The Gibbs' phase rule
17. Definition of compression factor
18. Reduced pressure and reduced temperature
19. The law of corresponding states
20. Definition of Joule-Thomson coefficient
21. Definition of partial molar volume
22. What is the relationship between the extensive quantities and partial molar quantities in solutions?
23. What is partial molar Gibbs free energy in other words?
24. What is the relationship between the Gibbs free energy of a solution and the chemical potentials of the components?
25. The Gibbs-Duhem equation