

Chemistry 342  
Spring, 2001  
Problem Set 8

Due Friday, October 26

Read Chapter 5.

Do problems 1, 6, 10, 21, 22, 25.

In problem 10, use the virial equation of problem 22 rather than a van der Waals gas. For problem 22, it helps to look at problem 1.30.

Also answer the following question:

Express the derivative  $\left(\frac{\partial S}{\partial V}\right)_H$  in terms of  $\alpha$ ,  $\kappa_T$ ,  $C_V$ , and  $C_P$ . It helps to follow the recipe closely,

and recall the expressions  $C_V = T\left(\frac{\partial S}{\partial T}\right)_V$  and  $C_P = T\left(\frac{\partial S}{\partial T}\right)_P$ .