Chem 155 Homework #9 Due at the start of class on **Fri. March 14**
Reading: Finish skimming Chapter 20, focus on content related to lecture and lab

Textbook problems: Don't panic! It isn't as long as it looks!
19.13 (yes, chapter 19)
4.28 (yes, chapter 4)
20.2
20.4
20.15
20.21
20.31
20.34
20.46
20.54

Additional Problems:
1) **Extra credit** (8 points—all parts must be completed for credit): As noted in the textbook, the greenhouse effect caused by the IR absorption of CO_2 has important implications for our use of fossil fuel. Using the DOE data available at http://www.eia.doe.gov/emeu/aer/overview.html

a) determine what fraction of our energy supply current comes from fossil fuels

b) calculate what the average power consumption (in TW) was for the entire US during 2008

c) pick your favorite alternative power source: wave power, wind power, solar power, nuclear power, biofuels. Calculate how much land area (or number of km of wave power stations, or number of new nuclear power stations) that would be needed to generate (on average) 1 TW of non-fossil power. Print out a map of the US from Wikipedia and draw your area devoted to renewables to scale. You can find conversion efficiencies, density values etc. online. A great resource is the free book by David MacKay (chief advisor to the UK government on climate and energy) http://www.withouthotair.com/.