

**General Chemistry II  
Problem Set 11**

**Due Tuesday, December 21, 2004 (the last day of finals)**

Note that the answers for all of these problems can be found in the back of the book. However, you must justify your answers to receive credit for this assignment.

1. (3 points) Atkins and Jones Exercise 11.5—part (a) only. Note that  $\text{HSO}_4^-$  is the weak acid formed when the strong acid  $\text{H}_2\text{SO}_4$  donates 1  $\text{H}^+$ . The  $K_a$  of  $\text{HSO}_4^-$ , which is the  $K_{a2}$  of  $\text{H}_2\text{SO}_4$ , can be found in Table 10.9.
2. (4 points) Atkins and Jones Exercise 11.9—part (a) only
3. (3 points) Atkins and Jones Exercise 11.11
4. (4 points) Atkins and Jones Exercise 11.15. Briefly justify your choice of each conjugate acid/base pair.
5. (13 points) Atkins and Jones Exercise 11.19.
6. (6 points) Atkins and Jones Exercise 11.49—part (a) only.
7. (7 points) Atkins and Jones Exercise 11.53—part (b) only. Note that the answer in the back of the book is wrong.