Guide to the second lecture test.

20 multiple choice and fill-in questions.

Ksp from molar solubiiity

The sign of ΔG°f

4 questions on finding the higher entropy between two choices.

Effect of adding a common ion to a saturated solution

Using Ksp to calculate concentration of one ion when the other ion conc. is given.

the signs of ΔG°, ΔH° and ΔS° for a given phase change

Finding Ka, given pH and concentration

pH of a strong acid

[H+] in a strong base

pH of a weak acid

Recognizing a buffer

Implications of the sign of ΔG°

pH of a buffer from molarity and Kb

pH of the conjugate acid of a weak base

Conjugate acid-base

Long items (there are 7)

1. Solubility in grams per liter from Ksp. Predicting whether a precipitate forms

2. Finding ΔG°, ΔH° and ΔS° and Keq for a reaction, given a table of thermodynamic values. Finding S° for one of the substances in the reaction.

3. Predicting signs of ΔG°, ΔH° and ΔS° for two reactions

4. Buffer problem.

5. Strong acid, strong base titration

6. Strong acid weak base, or weak acid strong base titration

7. Bronsted Lowry - labeling strong and weak acids and bases.