

Preview Sheet for Test 4 and the Final
Saturday, December 18, 8:00 – 10:15 a.m., in Olin-Rice 350

Test 4: Acid-Base Chemistry and Solubility

- Chapters 18 and 19 of Silberberg
- Lectures from 11/22 through 12/15
- Problem Sets 10 and 11
- You are also responsible for the material covered in these study problems: Silberberg 19.29, 19.35, 19.66 (a) and (b), 19.74, and 19.82. Your work on these problems will not be collected. You can find the answers in the back of the book or on the course web page.
- Note that there are several topics that we did not have time to cover in Chapters 18-19. You are not responsible for Sections 18.6, 18.9, 19.2, 19.4, and 19.5.
- As always, your studying should include working extra problems at the ends of the chapters. If you do not have access to the solution for a given problem, please consult with me or a student tutor to check your work.
- As always, in your studying, focus on your lecture notes and homework first, then look at the textbook. (See the course web page for class overheads and homework keys.)

Test Format: Two pages of mathematical questions, and two pages of short-answer questions.

Comprehensive Final Examination

- 25 multiple-choice questions from American Chemical Society standardized tests.
- Equal coverage of all four units of this course:
 - Unit 1: Atomic spectroscopy, quantum numbers, electronic structure, periodic trends, ionic and covalent bonding, Lewis structures. No coverage of the photoelectric effect or de Broglie waves.
 - Unit 2: VSEPR theory and hybridization. No coverage of molecular orbital theory.
 - Unit 3: Intermolecular forces and chemical equilibrium. No coverage of organic chemistry.
 - Unit 4: Material not covered in Test 4 will likely show up here!
- Do not expect very detailed or difficult questions! The goal here is to test your mastery of the basics of the key topics from this semester.

Overall Comments

- You will have 2 hours and 15 minutes to work on both Test 4 and the Final. I will hand both out at 8:00 a.m., and you will turn them in together by 10:15 a.m. at the latest. You are free to divide your time between the two tests as you see fit.
- You are allowed to fill both sides of a 8.5" x 11" piece of paper with whatever information you want, and use it during the exam. Note that this personal "cheat sheet" will be in lieu of a sheet of formulas at the back of the exam booklet. All I will give you on the back page of the test is a periodic table and relevant physical constants.