

Test 2 Preview Sheet
(Theories of Chemical Bonding and Structure)
Chapters 3 and 5; Lectures from 9/29 to 10/22; Problem Sets 4, 5, and 6

The test will be on Tuesday, October 26, in Olin-Rice 350. It will start at 9:00 a.m. and end at 10:30 a.m. If you need to leave before 10:30 a.m., talk with me to arrange an earlier starting time on Tuesday.

Studying strategies:

- Do extra problems at the ends of the chapters. If you do not have access to the solution for a given problem, please come talk with me to check your work.
- Focus on your lecture notes and first, then look at the textbook.
 - Expect significant coverage of VSEPR and diatomic MO theory. Remember that you are responsible for all shape names for steric numbers of 2, 3, and 4.
 - Expect lighter coverage of hybridization and intermolecular forces. You are expected to know the hybridization schemes used for all steric numbers from 2 to 6.
 - You must be an expert at drawing Lewis structures to do well on this test!
 - There will be no nomenclature questions!
- The format will be the same as Test 1: one page of multiple-choice questions, two pages of problem solving, and a longer essay question of your choice.
- If a topic was not covered in homework or in lecture, you are not responsible for it!

Instructions before starting the test:

1. Your exam booklet should have **seven** pages total, with questions on pages 2-5, extra space to work on p. 6, and a periodic table of electronegativities and other reference data on p. 7. Check to see you have seven pages now. If you do not, ask for another copy of the exam.
2. You may remove the last page, which contains reference data.
3. Write your name in the space above and on the backs of pages 2-6.
4. This exam is closed-everything.
5. You may use programmable calculators, but chemical data should not be stored in them.
6. You do **not** need to justify your answers unless you are explicitly told to do so.
7. You have **90 minutes** to work on this exam. (The test has been designed to take only 60 minutes.)

What not to memorize (they will be provided on page 7 of the test booklet):

- (1) A periodic table showing electronegativities
- (2) Molecular orbital energy level diagrams
- (3) The information below:

$$\lambda = \frac{2L}{n} \qquad \lambda = \frac{h}{mv}$$