

Schedule of Experiments, Fall, 2008

Before coming to lab, download the experiment handout and any other necessary handouts from the course website, read that material, do the OWL prelab assignment by the due date, and based on all of this information prepare a prelab outline. Downloads are found under Chemistry 269 at "<http://www.chem.umass.edu/people/samal/orginorgsites.html>".

Before being able to work in the lab, you must successfully complete the safety and course policy OWL assignments. If you fail to do so, you will not be allowed to work in the lab and will consequently lose credit.

Bring to lab copies of handouts, your safety goggles, and your laboratory notebook, in which the prelab outline has been written. The required laboratory notebook is one in which a carbon copy of each page can be made and torn out. Before you may begin work, a carbon copy of the completed prelab outline, a copy of the experiment handout and any other prelab material for that experiment must be presented to your TA. If you fail to have an acceptable prelab outline, you will not be allowed to work in the lab and will consequently lose credit. Some references given below are to McMurry, which refers to the lecture text, *Organic Chemistry*, 7th Ed, by McMurry. These references provide background information for some experiments.

Carefully read the handouts on Safety and Waste Disposal, Notebook and Grading Policies, and Make-up Policies and Procedures. You are responsible for knowing and following the contents of these handouts. Review and refer to this information throughout the semester. Keep your notebook as shown in the example given on the Chem 269 website.

You must wear approved eye protection at all times while you are in the lab. Failure to do so will result in the **loss of credit**. Repeated failure to do so will result in expulsion from the course.

WEEK

- 1 Check in. Distillation. Sept 12, 15, 16, 17.
- 2 Sept 19, 22, 23, 24. This week part of the class will do the Melting Point experiment and part will do the Cyclohexene experiment. People doing the MP experiment will come in at two different times. **Which experiment you do and at what time will be posted on the web.**

Melting Points. **CAUTION:** Always turn both the Mel-Temp and the thermometer off when you are finished using the apparatus.

OR

Preparation of Cyclohexene/Gas Chromatography. Review distillation. Prepare a table of reagents, products, and byproducts - sample on Chem 269 website - handouts page. Ref: McMurry, pp 619-621.

- 3 Melting Points or Cyclohexene. Sept 26, 29, 30, Oct 1. Do the exp that you did not do last time.
- 4 Thin Layer Chromatography. Oct 3, 6, 7, 8.

NO LABS Oct 10, 14. (The reason that some labs have been cancelled is to get all sections caught up to the same point. These days may be used for snow or other cancellations.)

- 5 Recrystallization - Part 1. Oct 15, 17, 20, 21.

QUIZ 1 on OCT 23.

- 6 Recrystallization – Part 2. Oct 22, 24, 27, 28. Review MPs and Recrystallization – Part 1.
- 7 Extraction of Acids and Bases. Oct 29, 31, Nov 3, 4. Review MPs and Recrystallization. As part of your prelab outline, include a flow diagram for your extraction.
- 8 Alcohols, Aldehydes, and Ketones. Nov 5, 7, 10, 12. Include the flow diagram as described in the experiment handout as part of your prelab outline. Ref: McMurry, pp. 710-712, 853-855. NMR ref.: McMurry, pp 454-467, 634, 635, 731, 732.
- 9 Extraction of Trimyristin from Nutmeg. Hydrolysis of Trimyristin. Nov 14, 17, 18, 19. Ref: McMurry, pp. 809-811, 1061-1065.

NO LABS NOV 21, 24, 25, 26. (The reason that some labs have been cancelled is to get all sections caught up to the same point. These days may be used for snow or other cancellations.)

- 10 Esterification/Infrared Spectroscopy. Dec 1, 2, 3, 5. BEFORE YOU COME TO LAB, plan a synthesis and write out a procedure to produce 11 mmol of your assigned ester (assignment on web). Quantities (mol, g, mL) and BPs of reagents and products must be determined before you come to lab. Ref: McMurry, pp. 795, 796, 808-810. IR ref: McMurry, pp. 422-430, 822, 823.

QUIZ 2 on DEC 11.

- 11 Luminol and Check-out. Dec 8, 9, 10, 12. Finish and submit all remaining work. Check out and return key. NOTE: If you do not check out properly, which includes returning your key, you will lose the credit equivalent to one experiment (10 pts).

Reports submitted after your last lab period, unless you have been given an extension, will be considered to be late and will lose credit. NO REPORTS, EVEN THOSE CONSIDERED TO BE LATE, WILL BE ACCEPTED AFTER NOON, Fri, Dec 12.

Make-up Policy. To make up an experiment, a valid, well-documented excuse is required. All lab work must be made up within one week of the lab period which was missed. After this it will be considered to be late and will lose credit at the rate of one point per day. You must arrange a make-up time as soon as possible and submit a "Make-up Request Form". Follow exactly the procedure described in the handout, "Make-up Policies and Procedures". A TA signature is required on all work including make-up work.

Grades. TA grades will be adjusted to a common average. Two quizzes, given during lecture time will count as 20% of your grade. OWL assignments will count as 15% of your grade. The final overall average will be set equal to the grade of B. See the handout, "Notebook and Grading Policies" for details on grading.

EMAIL. Communications via email will be essential. Be sure that your email address in OWL is correct and is one that you use regularly.

If classes are canceled for any reason, this schedule may be changed. Any changes will be posted on the course web site and announced via email.