

Schedule of Experiments, Spring , 2014 (rev 2/6)

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 deadline, and based on this information prepare a prelab outline. Downloads are found under Chemistry 269 at

" <http://www.chem.umass.edu/people/samal/orginorgsites.html> ”.

Before being allowed 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 until you have completed them 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*, 8th 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. The format to use for your notebook is 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.

LAB

Check in. Jan 24, 27, 28, 29. Use “**Prep for Day One**” from the “**First Day of Lab**” handout from course website as a checklist.

- 1 Distillation. Jan 31, Feb 3, 4, 12. Carefully follow “**Prep for Day Two**” from the “**First Lab Experiment**” web page as a checklist (this handout was also one of those given to you at check-in.)
- 2 Feb 7, 10, 11, 19. This week part of the class will do the Melting Point experiment and part will do the Cyclohexene experiment. **Which experiment you do 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, Sect 17.6.

NO LAB Feb 14, 18.

(The reason for cancelling some labs is to keep all sections caught up to the same point. These days may be used to make up snow days or other cancellations.)

- 3 Melting Points or Cyclohexene. Feb 21, 24, 25, 26. Do the exp that you did not do last time. **Which experiment you do will be posted on the web.**

- 4 Recrystallization - Part 1. Feb 28, Mar 3, 4, 5.
- 5 Recrystallization - Part 2. Mar 7, 10, 11, 12. Review MPs and Recrystallization - Part 1.

NO LAB Mar 14. (May be used for snow days or other cancellations.)

SPRING BREAK

- 6 Extraction of Acids and Bases. Mar 24, 25, 26, 28. Review MPs and Recrystallization. As part of your prelab outline, include a flow diagram for your extraction.
- 7 Alcohols, Aldehydes, and Ketones. Mar 31, Apr 1, 2, 4. Include the flow diagram as described in the experiment handout as part of your prelab outline. Ref: McMurry, Sect 19.8, 22.6. NMR ref: McMurry, Chapt 13, 19.14.
- 8 Extraction of Trimyristin from Nutmeg. Hydrolysis of Trimyristin. Apr 7, 8, 9, 11. Ref: McMurry, Sect 21.6, 27.1, 27.2, pp 213, 214, 251, 252.
- 9 Esterification/Infrared Spectroscopy. Apr 14, 15, 16, 18. BEFORE YOU COME TO LAB, plan a synthesis and write out a procedure to produce 11 mmol of your assigned ester (**assignment posted on web**). Quantities (mol, g, mL) and BPs of reagents and products must be determined before you come to lab. Ref: McMurry, Sect 21.3, 21.6. IR ref: McMurry, Sect 12.6-12.8, 21.10.

NO LAB Nov 25, 26, 27. (May be used for snow or other cancellations.)

- 10 Luminol and Check-out. Apr 22, 23, 25, 30. 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).

NO LAB Apr 28, 29. (May be used for snow days or other cancellations.)

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, May 2.**

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. A final exam 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 around the grade of B. See the handout, "Notebook and Grading Policies" for details on grading.

EMAIL. Essential information will be sent regularly via email through the OWL system. Be sure that your email address in OWL is correct, is one that you use regularly, and is one that you keep maintained.

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.