

CHEM 2422L: ORGANIC CHEMISTRY II LAB

Spring 2007

Section 1: Monday, 2:30 - 5:30 PM; Section 3: Wednesday, 2:30 - 5:30 PM TLC 3107

Dr. Boatright, TLC 2118, 678-839-6028 dboatrig@westga.edu

Office Hours: MW 1-2 PM; TR 9:30-11:30 AM, 12:30 - 2:30 PM

Course Material: Required Text: *Macroscale and Microscale Organic Experiments*, Williamson, 5th Edition

A hardcover notebook with sewn pages is required

Safety Glasses are required to be worn at all times and can be purchased from the [Chemistry Club](#).

Objectives: To apply the knowledge obtained in Chem 3422 lecture to problem solving in the laboratory. To develop good laboratory techniques; work safely; take data carefully; record relevant observation; use time effectively; assess the efficiency of your experimental method; plan for the isolation and purification of substances you prepare; and characterize substances you prepare by physical and spectroscopic means and synthesize organic substances.

Tardiness / Missed Lab: Lab attendance is mandatory. Unexcused absences will result in a grade of zero. No make-up labs will be permitted. At the beginning of each laboratory we will discuss the laboratory. You must be present. Lateness will be penalized by deduction from the grade for that lab.

Policies: Read all laboratory material before coming to lab and complete the [prelab](#). The labs will require preparation and careful work to complete in the allotted time. After completion of the lab, the reports are due the following lab period. The format of these reports will vary and will be discussed in lab. Late reports will incur a 10% penalty for each day the report is late.

Academic Misconduct: Honesty in reporting results is one of the essential characteristics of your laboratory work. Little of your grade depends on getting "good" quantitative results. You will be more severely penalized for misrepresenting results than for honestly reporting "poor" results. Copying lab reports (any part) shall be considered academic misconduct and as a result, will be penalized to the fullest extent possible.

Grades:

Instructor points: 10%, Experiments: 70%, Lab Exams: 20%

Instructor points: your instructor will assign points based upon your efficiency, pre-lab preparation, cooperation, attitude, performance, and cleanliness.

Grading Scale: 90-100 A, 80-89 B, 70-79 C, 60-69 D, <59 F

Learning Outcomes

1. To communicate organic chemistry with clarity. Attainment of this learning outcome will be reflected by the students' abilities to:
 - Follow oral and written instructions to successfully complete laboratory assignments.
 - Work with other student in assigned group projects.
 - Maintain a laboratory notebook.
 - Write formal laboratory report as chemists write.
2. Apply available information technology to conduct library research in the field of chemistry. Attainment of this learning outcome will be reflected by the students' abilities to:
 - Using references sources, ascertain the physical properties, hazards and handling precautions of all reagents and products used.
 - Conduct library search on projects as assigned.
3. Demonstration of a working knowledge of organic synthesis and characterization.
 - Successfully completing laboratory assignments.

LABORATORY SCHEDULE:

<i>Week of</i>	<i>Experiment</i>	<i>Report</i>
Jan 22	Check in. Chapter 28. Nitration of methyl benzoate	Q 1-4
Jan 29	Chapter 29. Preparation of 1,4-di-t-butyl-2,5-dimethoxybenzene (Friedel-Crafts alkylation)	Q 2,4,5,6
Feb 5	Chapter 48: Cracking dicyclopentadiene & synthesis of cis-norbornene-5,6-endo-dicarboxylic anhydride	Q 2-4
Feb 12	Chapter 23. Citrolellal from Citronellol. Oxidation with PCC	Q1-3
Feb 19&26	Chapter 38. Grignard Synthesis of triphenylmethanol	Formal report, Q1-5
Mar 5	Chapter 39. Synthesis of trans-9-(2-phenylethenyl)anthracene(Wittig reaction)	Q1-3
Mar 12	Chapter 36. Derivative formation of aldehydes and ketones	Data sheet
Mar 19	Spring Break (No labs)	
Mar 26	No labs (Honors Day Week)	
Apr 2	Chapter 41. Synthesis of Asprin	Formal report, Q1-2
Apr 9	Chapter 37. Dibenzalacetone by the aldol condensation	Q1-5
Apr 16	Chapter 44. Synthesis of 2-iodobenzoic acid. Sandmeyer reaction	Q1-3
Apr 23	Check out and final exam.	