Chemistry 36B Spring 2004

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Office Hours by Appointment

M/W, 36.1    1:25 - 4: 25 pm 216 Whitmore Lab
TA    Dan Landfried

T/Th, ,36.2    1:25 - 4:25 pm 216 Whitmore Lab
TA    Mandi McElwain
Staff Assistant, Karen Heichel    863-3261
Stockroom Director, Jeff Brooks    865-7483
Required Materials


Chem 35/36 Laboratory notebook (8.5" x 11" ruled sheets with tear out pages, Hayden McNeil)

Eye protection. See options in Ch 2 of Lab Guide

Org. Lab Equipment Kit including NMR tubes, TLC plates, vials, pipet bulbs, etc.

Combination lock, Lab apron (recommended), Gloves are supplied
LAB SAFETY RULES

Chapter 2, Safety Lab Guide

*Always use eye protection while inside a chemistry laboratory.*

Use gloves at critical times, wash hands often.

Reactions must be run in the Hoods. *(TA will tell you when you can work on the bench)*

Your TA **must** be present when you are in the lab,

**NO ONE WORKS UNSUPERVISED**
LAB SAFETY RULES

If you wear shorts, you must have a lab apron.

No open-toed sandals.

No open flames in the lab unless directed otherwise.

Report accidents immediately.
Handling of Chemical Waste

Chapter 2, Lab Guide

"The entire procedure of waste disposal starts with the laboratory worker....

Prudent Practices for Disposal of Chemicals from Laboratories
Important Safety Rules

The Eight-Fold Way:

*Down the Drain (D)*
*Nonhalogenated Organics (NHO)*
*Halogenated Organics (HO)*
*Heavy or Hazardous Metals (HM)*
Important Safety Rules

The Eight-Fold Way: (Continued)

Waste Bin (WB)

Sharps

Glass Bins

Recycle/Reuse
Courtesy in the Laboratory

For a safer and more pleasant laboratory atmosphere:

Return all reagent and solvent bottles to their proper place on the side shelves or in the refrigerator immediately! *

Keep your area clean.*

Show up prepared and on time.

Clean up spills!*
Courtesey in the Laboratory

Replace caps; get empty bottles refilled.*

Keep the instrument room clean and neat.

Avoid floods.

Keep balances clean!!!! *

Dispose of chemicals in the proper containers.

*General Lab Clean-Up will be assigned to one student at the end of each lab.
Course Goals

To build a bridge between chemical and biological processes and understand the reactions that govern them.

To understand what organic chemists really do and bring reality to "paper chemistry"
Course Goals

To practice making and recording experimental observations.

To learn how to translate a set of instructions into successful action.
Course Goals

To be creative while having the pleasure of making something, not just measuring something.

To develop research skills by carrying out a group research project
Grading

Each technique and synthetic experiment will be graded on the basis of 100 points for the PreLab and 100 points for the Final Report, with the exception of the TLC and Column Chromatography Labs.

50 points will be based on your instructor's evaluation of your performance and behavior in lab. (Hours put in, promptness of clean-up, dependence upon instructor, organization of time and desk space, cleanliness, safety consciousness, etc.)

Grades will be adjusted UP or DOWN between sections, if necessary!
Course Grade

We will follow all the grading policies listed in Chapter 1. Section 3 Grading in the Lab Guide. The Breakdown of points will not be the same as Chem 36.

Break Down of Points for Chem 36B

Technique Experiments: 42%

Project Assignments 42%

Additional Points

Quizzes 42%

Spectral Unknown 16%

TA Evaluation

Group Evaluation

Total Points 2400
Grading Sheets

Grading Sheets are at the end of the Lab Guide. These sheets contain the points distribution for each section of the lab. They also contain information on the content of each section. Follow these sheets, because you will lose points for work that is missing from the lab report.

You will be not be using the grading sheets in your Lab Notebook for the following Experiments: Distillation, TLC, Column Chromatography.
Spectral Unknown "Homework"  
Chapter 10 Lab Guide

Start Right Away!

No PreLab

Don't waste solid unknown - take a mp [Ch 4] Write structures of possible matches from Unknown list on Chem 36 Web page:

http://courses.chem.psu.edu/chem36

Obtain NMR spectrum [Ch 11.6]  
!!! Sign up soon !!!  
!!! Make-up sample during lab!!!
“Spectral Unknown "Homework”

Obtain IR spectrum [Ch 11.4]
  !!! Sign up soon !!!
  !!! Make-up sample during lab!!!

Progress Check with IR or NMR and unknown possibilities due in 12th Lab

Then take IR, NMR and "best guesses" to TA who will initial MS Analysis Request Form → MS spectrum [Ch. 11.5] - "should nail" identification

Final Report - Grading sheet in back of Lab Guide. Due in the 18th Lab.
Group Research Projects

You have been divided into 4 research groups. Each group will be given a research project that will be carried out during the second half of the semester. The project is bioorganic in nature and requires the groups to do the following:

1. Carry Out a Literature Review
2. Write a Proposal
3. Carry Out the Proposed Experiments
4. Create a Poster Presentation of the Project
5. Write a Final Report on the Project
Quizzes/Thought Questions

Quizzes:

You will take two quizzes during the semester. See Schedule.

You will take the quiz at the begin of the lab period. Be on time!!
Quizzes/Thought Questions

Thought Questions;

The thought questions are designed to aid you in your problem solving skills. The questions are based on literature assignments that pertain directly to the group research projects. You will be asked to read a literature article before coming to lab and then your research group will be asked answer the thought question at the beginning of the lab period. You will do one thought question for each project that is being carried out this semester.
Next Lab Period

Come to lab with required materials including PreLab for ALL of Recrystal./MP Experiment.

Need Aldrich Catalog

Have your Lab Instructor initial and date your Lab Notebook before leaving (do this each at the end of each lab period.)