Chemistry 205 **LABORATORY** Ms. Meyers

Summer 2010

Student Information and schedule:

Lab meets by assigned sections, SC128

Lab texts: (1) *Organic Chem Lab Manual*, Departmental publication

Other needed items: safety glasses and laboratory notebook.

Attendance: You must be at all scheduled labs. No makeups since this is a summer course. *Arrive promptly.* Lateness results in a grade penalty.

Grading: 8 (or 9) experiments, 1 quiz, lab notebook: total 10 grades, all count equally. The lab grade is 25% of the overall course grade. The grade on a given experiment is a combination of (1) product yield and quality, and (2) the laboratory report for the experiment. Safety or procedural violations may carry grade deductions.

Restrictions: Any student who is *pregnant* can not work in this laboratory. Any student with a *documented disability* or impairment must inform the instructor during the first week before experimentation.

Safety rules: These are discussed during the first laboratory meeting of each section, and you must sign a verification that you understand the rules. (see pp. 3-4 in the lab packet). Safety violations result in grade reductions of increasing magnitude, and continuous violators may be dropped from the laboratory part of the course. The instructor has complete authority.

Lab reports: Each experiment requires a lab report to be submitted, usually at beginning of lab period following completion of the experiment after the product has been turned in. Check the schedule of activities to see when reports are due. Late reports carry a 10% grade penalty. A report is NOT accepted after graded reports have been returned.

Honor code and plagiarism: Lab reports are expected to be your own work, not copied from other students' work. Calculations, answers to questions, and procedure summaries are to be your own work.

Lab notebook: This will be discussed at the first meeting of your section.

Schedule of experimentation, with lab packet ref. pages and due dates.

Day of	***experimentation***	***ref. pages***
18 May	check-in to lockers, lecture on procedures, safety	1-8
20 May	**1 Recrystallization** and melting points	
25 May	complete recrystallization, take mp and turn in product; **2 Distillation Experiment**	15-17
27 May	**3 Synthesis of 1-Bromobutane**	24-26
01 Jun	Complete 1-bromobutane, weigh and turn in product Lecture on oxidation-reduction balancing **4 Side chain oxidation of mandelic acid**	24-26 39-42 39-42
03 Jun	Weigh and turn in benzoic acid product from mandelic acid oxidation.	
	5 Dehydration of 2-methylcyclohexanol *(students will work in pairs on this experiment)*	30-34
08 Jun	**Dehydration of 2-methylcyclohexanol** And gas chromotography	30-34
10 Jun	**6 Aldol Condensation:** Anisalacetophenone and recrystallization	56-59
15 Jun	weigh, take mp, and turn in product **Tetraphenylporphin (7)**	
17 Jun	**8 (or 7) Esterfication:** synthesis of Methyl Benzoate	48-51
22 Jun	Complete methyl benzoate preparation, turn in product.	
24 Jun	**9 (or 8) Diels-Alder reaction:** synthesis of (handout) *exo*-7-oxabicyclo(2.2.1)hept-5-ene-2,3-dicarboxylic anhydride **Lab Quiz**	
TBA	Check-out of lockers: all students must check out. You will be billed for broken and missing items.	

Mon.	Tue.	Wed.	Thur.	Fri.
	May 18 Check In Lab safety lecture, Policies		May 20 **Recrystalization and Melting points**	
	May 25 Distillation Experiment Complete mp and turn in report.		May 27 **Synthesis of 1-bromobutane** Distillation report due	
	Jun 1 Complete 1-bromobutane, weigh and turn in product Lecture on oxidation-reduction balancing **side chain oxidation of mandelic acid**		Jun 3 Weigh and turn in benzoic acid product from mandelic acid oxidation. **Dehydration of 2-methylcyclohexanol**	
	Jun 08 **Dehydration of 2-methylcyclohexanol and GC of produce mixture** Complete and turn in report.		Jun 10 **Aldol Condensation:** Anisalacetophenone and recrystallization	
	Jun 15 weigh, take mp, and turn in product **Tetraphenyl porphin**		Jun 17 Aldol report due **Esterfication:** synthesis of Methyl Benzoate	
	Jun 22 Tetraphenyl porphin lab due. Complete methyl benzoate preparation, turn in product		Jun 24 Methyl benzoate report due **Diels-Alder reaction:** synthesis of *exo*-7 oxabicyclo(2.2.1)hept-5-ene-2,3-dicarboxylic anhydride **Lab Quiz 2**	
	TBA Checkout Lab Notebooks due			