CHEM 245 Course Syllabus 2007

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This lab course is a continuation of CHEM 244. In CHEM 244 you learned basic laboratory skills including recrystallization, distillation, chromatography, and liquid-liquid extraction. You also learned how to set up simple reactions. Here more involved reactions and the techniques for carrying them out will be learned. You will get to carry out an aromatic nitration, a Friedel-Crafts reaction, a Diels-Alder reaction, and a Grignard reaction, all of which are covered in the CHEM 242, 243 lecture courses.

Required Materials - you need to have the following items:
1) Safety glasses.
2) Textbook: "Experimental Organic Chemistry *A Small-Scale Approach"* Second Edition, by C. F. & M. F. Wilcox.
3) a new hardbound (not loose-leaf or spiral) notebook (a composition book does well).

Projected List of Experiments - Second Edition

Experiment 33: Aromatic Nitration - 33.2 Part B
Note: You must take an IR of methyl *m*-nitrobenzoate

Experiment 32: Friedel Crafts Alkylation - 32.3 Part A (*p*-Methoxytetraphenylmethane).

Experiment 34: Aldol Condensation - 34.2 Part A.

Experiment 36: Grignard Synthesis of Alcohols - 36.2 Parts A and B.

Experiments 42 and 40: Cyclopentadiene Chemistry - Ferrocene Synthesis (42.2 parts A and C) and Diels-Alder Reaction (40.3 part E).

Experiment 49: Analgesics and Anesthetics (Benzocaine) - Parts 49.4 A, B, C, and D.

Experiment 25: Ketones (Oxime Derivatives) - 25.3 Parts C and D.

Experiment 38: Enamine Synthesis - 38.2 Parts A and B.
Note: You must take a GC trace of acetylcyclohexanone

Experiment 53: Sugars - 53.2 Part C (Acetylation of Glucose).

Experiment 43: Dyes and Indicators - 43.2 Part A (Methyl Orange).

Experiment 50: Pheromones and Insect Repellents - 50.3 Parts A and B.