CHEM 792 Advanced Synthesis I. Functional Group Transformations

Spring 2004
Instructor: Robert O. Hutchins

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There will be a midterm and final, each of equal weight.

Text: Carey and Sundberg, "Advanced Organic Chemistry, Part B", 4th Edition (2001).
Other useful references include:
"Comprehensive Organic Synthesis" (9 vol) Pergamon 1991
"Reagents for Organic Synthesis" (17 vol) Fieser & Fieser, Wiley
"Comprehensive Organic Transformations," Larock VCH 1989
"Encyclopedia of Reagents for Organic Synthesis," Wiley 1995

The topics covered in this course are:

Chap. 3.	Functional Group Interconversions by Nucleophilic Substitution.
Chap. 4	Electrophilic Additions to Carbon-Carbon Multiple Bonds.
Chap. 5.	Reduction of Carbonyl and Other Functional Groups.
Chap 12.	Oxidations.
Chap 11.	Aromatic Substitution Reactions
Chap. 10.	Reactions of Electron Deficient Intermediates

Problem Assignments
Chap. 3 #1, 2, 4, 6, 8, 14

Chap. 4. #1, 2, 3, 4, 7, 8, 16
Chap. 5. #1, 2, 3, 4, 8, 9, 17
Chap. 12. #1, 3, 9, 11, 12
Chap. 11. #1, 2, 3, 4, 10, 12
Chap. 10. #1, 2, 3, 5, 7

In addition, a brief review paper (< 10 pages) covering the most recent 6-8 years of the literature on an important reagent or methodology is required at the end of the course if you elected the 5 credit option. A list of possible topics from which to make a choice will be given in a few weeks. Alternatively, a topic of particular interest to you will be considered.