

Physical Organic Chemistry II: Bonding, Photochemistry, and Mechanisms
Spring 2025

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Office Hrs: by appointment

Class hours: Tu, Wed, Th, 3-5 pm,

Textbook: *Modern Physical Organic Chemistry*

Anslyn E. V. and Dougherty, D. A. University Science Book, 2006

Other texts: 1. *Advanced Organic Chemistry, Part A: Structure and Mechanisms*.
(5th Edition) Carey, F. A., and Sundberg, R. A.; Springer, 2007. (an electronic
version is available on line).
2. *Perspectives on Structure and Mechanism in Organic Chemistry*
Felix A. Carroll (Brooks/Cole, 1998)
3. *Advanced Organic Chemistry. Reactions, Mechanisms, and Structures*,
(5th Edition) Smith and March; J. Wiley & Sons 2001.

Homework: Problem sets will be assigned. The maximum number of points is 200.

Grading Requirements:

MSc students: to obtain a passing grade participation in all meetings and completion of all homework assignments is required. For a higher grade written exams must be taken.

PhD students: Each section of the material will be concluded with a written test. There will also be a final cumulative exam.

Topics	Chapter	
	A&D	C&S
1. The concept of a chemical bond	1	1
2. Elements of organic photochemistry	16	12
3. Study and Description of Organic Reaction Mechanisms		
Elements of a Chemical Reaction		
Thermodynamic Data	4.1	
Kinetic Data	4.2	
Linear Free energy Relationships	4.3	
Basic Mechanistic Concepts	4.4	
Kinetic isotope Effects	4.5	