

Advanced Organic Chemistry---2020 spring semester

A. Course Description

The course in advanced organic chemistry gives a deeper understanding of the structures of organic compounds and the mechanisms of organic reactions. The goal is to allow students to build on the foundation of organic chemistry and attain a level of knowledge and understanding that will permit them to comprehend much of the material that appears in the contemporary chemical literature.

B. Lecturers

Dr. Steve S.-F. Yu 俞聖法 (sfyu@gate.sinica.edu.tw)

C. Lecture time & place

Thursdays 13:30-16: 30, classroom B105 (3 sessions/week, 50 min/session)

D. Text Book

"Advanced Organic Chemistry, Part A: Reactions and Synthesis" by Francis A. Carey and Richard J. Sundberg. 5th edition. New York, NY: Springer, 2007.

E. References

"March's Advanced Organic Chemistry: Reactions, Mechanisms and Structures" by Michael B. Smith and Jerry March, Hoboken, New Jersey, John Wiley & Sons Inc., 2007.

F. Teaching Method

Oral

G. Lecture Dates and Syllabus

March 5 Chemical Bonding and Molecular Structure

March 12 Stereochemistry, Conformation and Stereo-selectivity

March 19 Structural Effects on Stability and Reactivity

March 26 Nucleophilic Substitution

April 2 Children Day Holiday

April 9 Carbonions and Other Nucleophiles

April 16 Addition, Condensation and Substitution Reactions of Carbonyl Compounds

April 23 Aromaticity and Aromatic Substitution

April 30 Midterm Exam