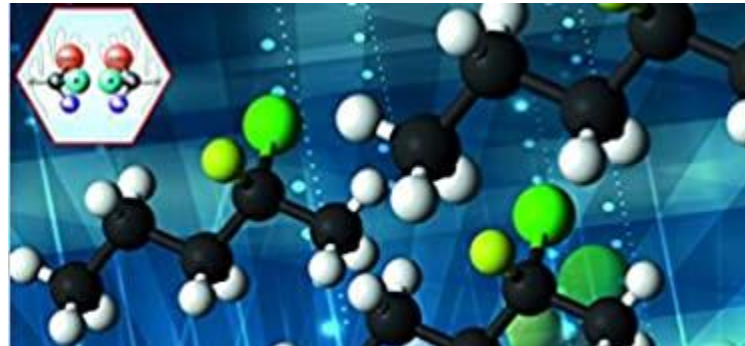


540 CHEM

Stereochemistry

Instructor: Dr. Zainab M. Almarhoon



540 Chem- Stereochemistry

Instructor: Zainab M. Almarhoon; Associate Professor of Organic Chemistry

Lecture: Sunday 8:00 - 10:20 am

Office Hours: Sunday 10:30 am -12:00 am

Tuesday 9:45 am -11:35 am

Office Building 5 , 3rd floor, Room 252

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Topics to be Covered

- Introduction to Stereochemistry and course requirements
- Stereoisomers, Conformational Isomerism, Ethane Conformations, Butane Conformations, Structural equivalence and Non-equivalence of Groups, Structural Classification of Atoms or Groups
- Configurational Stereoisomers of Cycloalkanes, Ring Conformers, Some Conformations of Cyclohexane Rings, Substituted Cyclohexane Compounds
- Configurational Stereoisomers of Alkene, The Sequence Rule for Assignment of Alkene Configurations, Relationship of Constitutional and Stereoisomers
- Chirality and Chiral compounds
- Racemization, Formation of racemic mixtures, Diastereomers, Enantiomers and meso compounds. Chiral resolution, by crystallization, Chiral resolving agents, Chiral column chromatography
- Addition to Carbonyl Double Bonds, Models for Addition to Acyclic Substrates, The Chelation Effect, Non-chelating Polar Effects, Diastereoselectivity, Enantioselectivity
- Elimination: E1 and E2 mechanism
- Substitution: S_N^1 , S_N^2 and S_E mechanism
- Rearrangement reactions

Textbooks:

- 1) Stereochemistry of Organic Compounds By Ernest L. Eliel, Samuel H. Wilen. ISBN: 0-471-01670-5 A Wiley Interscience Publication, John Wiley & sons, INC.
- 2) Stereochemistry of Organic Compounds. Principles and Applications. D. Nasipuri. John Wiley & sons, Chichester
- 3) Stereochemistry (Tutorial Chemistry Texts.) By Morris and David Morris(Jan 2002)

Assignments	points	Schedule	
Homework's & Quizzes	10	To be arranged	
Activity (10 minutes power point presentation in the field of organometallic chemistry)	10	Sunday 30 /10/ 2022 (5/4/1444)	
Two mid-term exams	40	1 st mid	Sunday, week 5 25 /9/ 2022 (29/2/1444)
		2 nd mid	Sunday; week 9 23 /10/ 2022 (27/3/1444)
Final exam	40	Wednesday 16 /11/ 2022 (22/4/1444)	