

Montgomery County Community College
CHE 262
Organic Chemistry II
4-3-3

COURSE DESCRIPTION:

This course is a continuation of CHE 261 and covers the nomenclature, structure, properties and reactions of many important classes of organic compounds including arenes, alcohols, ethers, epoxides, thiols, sulfides, aldehydes, ketones, carboxylic acids, nitriles, carboxylic acid derivatives, amines, carbohydrates, amino acids and lipids. Stereochemistry, reaction mechanisms, syntheses and spectroscopy are stressed. The laboratory demonstrates syntheses discussed during lecture.

- C. Acid Halide Chemistry
- D. Acid Anhydride Chemistry
- E. Amides Chemistry
- F. Polyamides and Polyesters
- G. Spectroscopy of Carboxylic Acid Derivatives
- VIII. Carbonyl Alpha-Substitution Reactions
 - A. **Keto**-Enol Tautomerism
 - B. Reactivity of Enols
 - C. Alpha Halogenation of Aldehydes and Ketones
 - D. Alpha Bromination of Carboxylic Acids: Hell-Volhard-Zelinski Reaction
 - E. Enolate Ion Formation: Acidity of alpha H
 - F. Haloform Reaction
 - G. Alkylation of Enolate Ions
- IX. Carbonyl Condensation Reactions
 - A. Aldol Reaction
 - B. Dehydration of Aldol Products: Synthesis of Enones
 - C. Mixed Aldol Reactions
 - D. Intramolecular Aldol Reactions
 - E. Claisen Condensation Reactions
 - F. Mixed Claisen and Dieckmann Condensations
 - G. Michael Reaction
 - H. Robinson annulation
- X. Amines
 - A. Nomenclature
 - B. Structure and Properties
 - C. Basicity of Amines and Substituted Amines
 - D. Synthesis of Amine
 - E. Reactions of Amines and Arylamines
 - F. Phase Transfer Catalyst
 - G. Spectroscopy
- XI. Biomolecules
 - A. Carbohydrates
 - 1. Fischer Projections
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