

Chem 239A - Spring 2000

Homework Assignments - Chapters 23, 24 and 25

Chapter 23: 23.2, 23.3, 23.8, 23.9, 23.17, 23.19.

Chapter 24: 24.1-4, 24.7, 24.9-11, 24.13, 24.15, 24.18a,b.

Chapter 25: 25.1, 25.2, 25.9-12. (Not for 3rd Midterm, but for Final Exam)

What you should know from Chapters 23, 24 and 25

Chapter 23: Lipids

- 23.1 Types of lipids
- 23.2 Fatty acids and triacylglycerols, 23.2A Hydrogenation, B Functions, C Soaps (skip 23.2D-F)
- 23.3 Terpenoids, 23.3A rubber
- 23.4 Steroids, 23.4A Structures, 23.4B Cholesterol, 23.4C Sex Hormones, 23.4D Adrenocortical Hormones (skip 23.4E-G)
- 23.5 Prostaglandins
- 23.6 Phospholipids: Phosphatides and the structure of membranes (skip 23.6B)
- 23.7 Waxes

Chapter 24: Amino acids and proteins

- 24.1, 24.2A (review, don't memorize structures, but know one example each of a neutral, acidic and basic amino acid), 24.3B, 24.2C Amino acids as dipolar ions
- 24.3B Synthesis from potassium phthalimide, 24.3C Strecker synthesis, 24.3D Resolution, 24.3E Stereoselective synthesis, preparation by fermentation (principles only)
- 24.4 Amino acid analysis

- 24.5 Amino acid sequence, 24.5A (Edman degradation only), 24.5B Partial hydrolysis
- 24.6A Oxytocin/vasopressin, 24.6B Insulin
- 24.7 Synthesis: 24.7A Protecting groups, 24.7B Carboxyl activation, 24.7C Peptide synthesis, 24.7D Merrifield (automated) synthesis
- 24.8A Secondary structure - know α -helix, β -sheet, random coil, 24.8B Tertiary structure
- 24.9 Introduction to Enzymes
- 24.10 Lysozyme: Mode of Action of an Enzyme

Chapter 25: Nucleic acids and protein synthesis (Not for 3rd Midterm, but for Final Exam)

- 25.1, 25.2 Nucleosides and nucleotides (know A, C, G and T/U)
- 25.3A Medical applications
- 25.4A-C Primary/secondary DNA structure, base pairing, DNA replication
- 25.5A-D RNA and protein synthesis: mRNA, ribosomes, tRNA, genetic code (don't memorize code)
- 25.6 DNA sequencing
- 25.7 Oligonucleotide synthesis
- 25.8 The Polymerase Chain Reaction