

CHAPTER OVERVIEW

20: Molecules in Living Systems

It was thought that organic compounds could only be manufactured in living organisms, and chemistry was divided into the subfields of inorganic and organic on this basis. This subdivision persists today, but the definition of organic has changed in response to the discovery of numerous ways to make organic compounds from inorganic starting materials. Biochemistry is the study of chemical elements found in living systems, and how these elements combine to form molecules and collections of molecules which carry out the biological functions and behaviors that we associate with life.

- 20.1: Prelude to Biochemistry
- 20.2: The Elements of Life
- 20.3: The Building Blocks of Biochemistry
- 20.4: Fats and Lipids
- 20.5: Nonpolar Lipids
- 20.6: Polar Lipids
- 20.7: Carbohydrates
- 20.8: Simple Sugars
- 20.9: Disaccharides
- 20.10: Polysaccharides
- 20.11: Proteins
- 20.12: Polypeptide Chains
- 20.13: The Amino Acids
- 20.14: Primary Protein Structure
- 20.15: Secondary Protein Structure
- 20.16: Higher-Order Structure
- 20.17: Nucleic Acids
- 20.18: Nucleic Acid Structure
- 20.19: Information Storage
- 20.20: The Double Helix
- 20.21: DNA Replication
- 20.22: Transcription and Translation

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