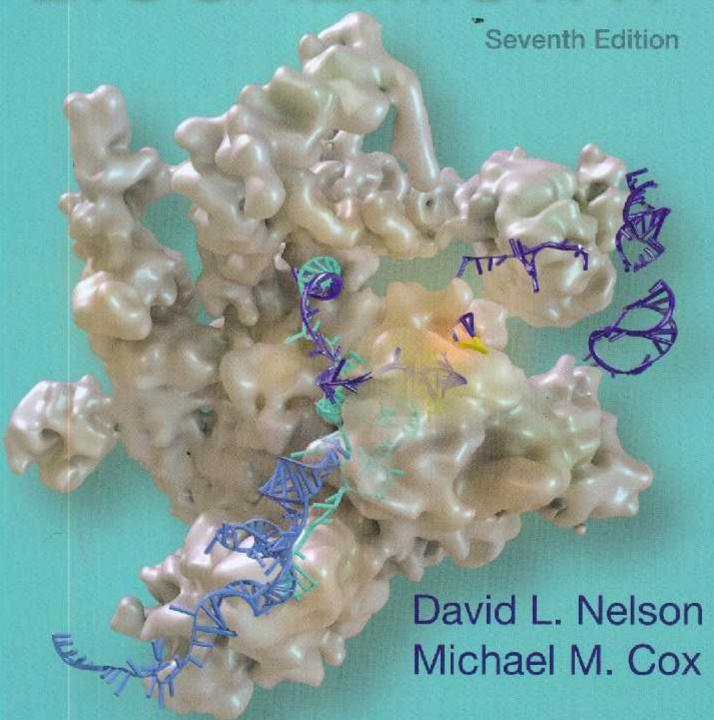
INTERNATIONAL EDITION

Lehninger PRINCIPLES of BIOCHEMISTRY



Contents in Brief

	Preface	viii
1	The Foundations of Biochemistry	1
	STRUCTURE AND CATALYSIS	45
2	Water	47
3	Amino Acids, Peptides, and Proteins	75
4	The Three-Dimensional Structure of Proteins	115
5	Protein Function	157
6	Enzymes	187
7	Carbohydrates and Glycobiology	241
8	Nucleotides and Nucleic Acids	279
9	DNA-Based Information Technologies	319
10	Lipids	361
11	Biological Membranes and Transport	387
12	Biosignaling	437
	BIDENERGETICS AND METABOLISM	491
13	Bioenergetics and Biochemical Reaction Types	495
14	Glycolysis, Gluconeogenesis, and the Pentose Phosphate Pathway	533
15	Principles of Metabolic Regulation	575
16	The Citric Acid Cycle	619
17	Fatty Acid Catabolism	649
18	Amino Acid Oxidation and the Production of Urea	675
19	Oxidative Phosphorylation	711
20	Photosynthesis and Carbohydrate Synthesis in Plants	755
21	Lipid Biosynthesis	811
22		
	and Related Molecules	859
23	Hormonal Regulation and Integration of Mammalian Metabolism	907
	I INFORMATION PATHWAYS	955
24	Genes and Chromosomes	957
25	DNA Metabolism	987
26	RNA Metabolism	1035
27	Protein Metabolism	1077
28	Regulation of Gene Expression	1127
	Abbreviated Solutions to Problems	AS-1
	Glossary	G-1
	Index	1-7