

# CONTENTS

SI Units	xi
<b>THERMODYNAMICS</b>	1
1. First Law of Thermodynamics	3
2. Second and Third Laws of Thermodynamics	42
3. One-Component Systems	81
4. Phase Equilibria	107
5. Chemical Equilibrium	149
6. Electromotive Force	191
7. Ionic Equilibria and Biochemical Reactions	221
8. Surface Thermodynamics	252
<b>DYNAMICS</b>	271
9. Kinetic Theory of Gases	273
10. Chemical Kinetics	300
11. Irreversible Processes in Solution	362
<b>THREE QUANTUM CHEMISTRY</b>	385
12. Quantum Theory	387
13. Symmetry	434
14. Molecular Electronic Structure	455
15. Molecular Spectroscopy	487
16. Magnetic Resonance Spectroscopy	529
17. Statistical Mechanics	554
18. Photochemistry	584
<b>FOUR STRUCTURE</b>	603
19. Crystal Structure and Solid State	605
20. Macromolecules	643
Appendix	673
Index	677