PREFACE

This second edition retains the basic pedagogy, philosophy, and structure of the first. These are described in the Preface to the first edition (which follows). There is substantial revision in detail, however, with many sections deleted or curtailed, and new topics added. There are many new problems, generally at a level similar to that of the Exercises. All numerical calculations and answers have been reworked. In addition, a number of display figures have been added. These are largely self-contained and are designed to illustrate a topic and to make it more interesting.

A major area of revision is that of the material on wave mechanics, chemical bonding, and spectroscopy. The entire topic sequence is rearranged for better continuity. There is a new chapter on molecular orbital theory. The solutions for the H_2^+ molecule, now given in detail, provide a good introduction to the concept of molecular orbitals, just as hydrogen-like atomic orbitals provide the basis for valence and hybrid bond treatments.

The internationally recommended SI units are used more conspicuously in this edition. The use is restrained, since the writer does not regard SI units as particularly relevant or convenient to physical chemistry (see *J. Chem. Ed.*, **55,** 634 (1978)]. The intention is to lead the SI-prepared student into the needed familiarity with conventional units and, on the other hand, to acquaint the cgs-oriented student with how to use SI.

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