

Introduction to Chemistry 1

series editor

Yoshio Umezawa, Koichi Oho
and Yoshito Takeuchi

Basic Chemistry

Yoshito Takeuchi

Professor Emeritus
The University of Tokyo

Professor Emeritus
Kanagawa University

with

Edward E. Daub (adviser)

Professor Emeritus
University of Wisconsin

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PREFACE

This textbook was originally written in Japanese as the first volume of the series “Introduction to Chemistry” (eight volumes in total) published by Iwanami Publishing Co. in 1996.

The purpose of the author to write this textbook, “**Basic Chemistry**”, is to provide a compact guide to modern chemistry not only to the 1st year students who are going to major science/technology, but also to so-called “arts” students or citizens in general. Accordingly, there is not much mathematics. However, a large number of pages were allocated to the introduction of structural chemistry (Chs. 1-4). According to the author, the concepts of orbital and its geometry are the most crucial part of basic chemistry. Without this knowledge, one can never understand the highlight of modern chemistry, *i.e.*, the relation between the molecular structure and its function.



The second feature is in Chs. 11-13. By learning these chapters, students can have a look at what chemists (bench chemists in particular) are doing everyday in their laboratories. Students can at the same time learn a flavor of the methodology of modern chemistry.

Finally, Ch. 14 briefly describes sociological aspect of modern chemistry which naturally includes the environmental issue. The role of chemistry to maintain the sustainable society is also discussed.

It must be pointed out that use of molecular model (*e.g.*, HGS molecular model) will make the study of some of the chapters (particularly Chs. 1, 2, 3 and 9) much easier. The reason is obvious. Molecules are 3-dimensional. Molecular structures printed on the page of the textbook are necessarily 2-dimensional. The ability of 2-dimensional drawings to convey 3-dimensional information is necessarily limited.

Finally the author wishes to express his sincere thanks to Prof. M. M. Ito, member of IUPAC CCE, for his tremendous efforts from the beginning of this project. Without his initiative and action, this project could never be realized.

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changes—additions and deletions—to make the English of the book to an acceptable level.

The author likes to extend his thanks to Iwanami Shoten and Mr. Masao Kuwabara, the editor. The publisher generously allowed the translation and free distribution of the book via IUPAC CCE homepage, and Mr. Kuwabara organized this delicate business very skillfully.

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Yoshito Takeuchi

Professor Emeritus, the University of Tokyo
Professor Emeritus, Kanagawa University