



Molecular Orbitals and Organic Chemical Reactions: Reference Edition

By Ian Fleming

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Winner of the PROSE Award for Chemistry & Physics 2010

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Molecular orbital theory is used by chemists to describe the arrangement of electrons in chemical structures. It is also a theory capable of giving some insight into the forces involved in the making and breaking of chemical bonds—the chemical reactions that are often the focus of an organic chemist's interest. Organic chemists with a serious interest in understanding and explaining their work usually express their ideas in molecular orbital terms, so much so that it is now an essential component of every organic chemist's skills to have some acquaintance with molecular orbital theory.

Molecular Orbitals and Organic Chemical Reactions is both a simplified account of molecular orbital theory and a review of its applications in organic chemistry; it provides a basic introduction to the subject and a wealth of illustrative examples. In this book molecular orbital theory is presented in a much simplified, and entirely non-mathematical language, accessible to every organic chemist, whether student or research worker, whether mathematically competent or not. Topics covered include:

- Molecular Orbital Theory
- Molecular Orbitals and the Structures of Organic Molecules
- Chemical Reactions — How Far and How Fast
- Ionic Reactions — Reactivity
- Ionic Reactions — Stereochemistry
- Pericyclic Reactions
- Radical Reactions

- Photochemical Reactions

This expanded Reference Edition of *Molecular Orbitals and Organic Chemical Reactions* takes the content and the same non-mathematical approach of the Student Edition, and adds extensive extra subject coverage, detail and over 1500 references. The additional material adds a deeper understanding of the models used, and includes a broader range of applications and case studies. Providing a complete in-depth reference for a more advanced audience, this edition will find a place on the bookshelves of researchers and advanced students of organic, physical organic and computational chemistry.

The student edition of *Molecular Orbitals and Organic Chemical Reactions* presents molecular orbital theory in a simplified form, and offers an invaluable first textbook on this important subject for students of organic, physical organic and computational chemistry. Further information can be viewed here.

"These books are the result of years of work, which began as an attempt to write a second edition of my 1976 book *Frontier Orbitals and Organic Chemical Reactions*. I wanted to give a rather more thorough introduction to molecular orbitals, while maintaining my focus on the organic chemist who did not want a mathematical account, but still wanted to understand organic chemistry at a physical level. I'm delighted to win this prize, and hope a new generation of chemists will benefit from these books."

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Molecular Orbitals and Organic Chemical Reactions: Reference Edition By Ian Fleming Bibliography

- Sales Rank: #635813 in Books
- Published on: 2010-05-03
- Original language: English
- Number of items: 1
- Dimensions: 10.00" h x 1.40" w x 7.80" l, 2.55 pounds
- Binding: Hardcover
- 528 pages

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Editorial Review

From the Back Cover

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Tenesha Little:

As people who live in often the modest era should be update about what going on or data even knowledge to make these individuals keep up with the era which is always change and progress. Some of you maybe can update themselves by reading through books. It is a good choice for you but the problems coming to a person is you don't know which you should start with. This *Molecular Orbitals and Organic Chemical Reactions: Reference Edition* is our recommendation to cause you to keep up with the world. Why, because this book serves what you want and wish in this era.

Many Shirley:

A lot of people always spent all their free time to vacation as well as go to the outside with them household or their friend. Do you realize? Many a lot of people spent many people free time just watching TV, or playing video games all day long. If you would like try to find a new activity that's look different you can read a book. It is really fun for you. If you enjoy the book that you read you can spent 24 hours a day to reading a book. The book Molecular Orbitals and Organic Chemical Reactions: Reference Edition it doesn't matter what good to read. There are a lot of people that recommended this book. These were enjoying reading this book. Should you did not have enough space to deliver this book you can buy typically the e-book. You can m0ore easily to read this book out of your smart phone. The price is not very costly but this book offers high quality.

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