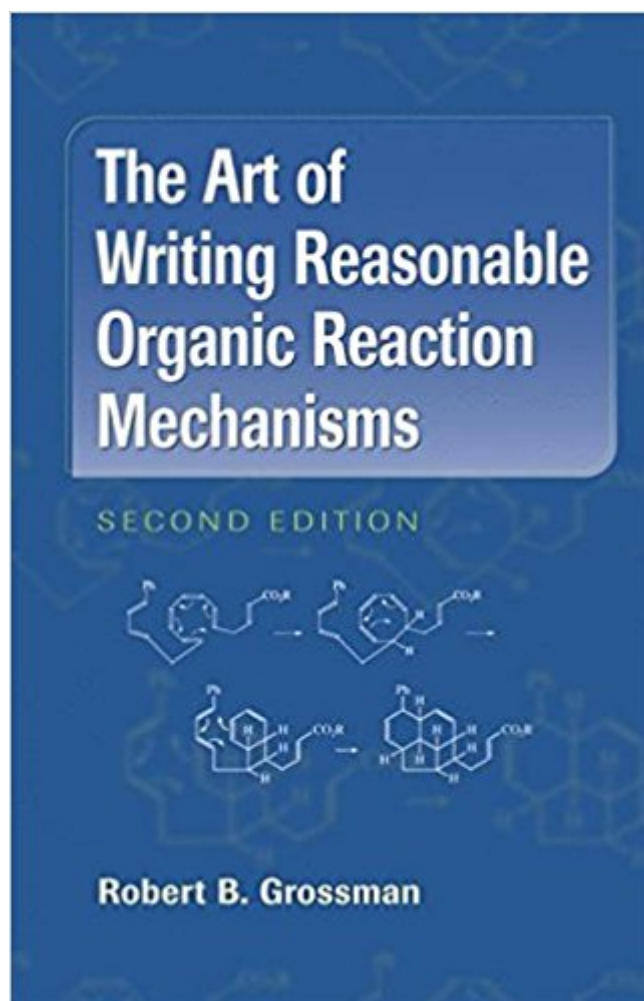


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# The Art Of Writing Reasonable Organic Reaction Mechanisms



## Synopsis

Intended for students of intermediate organic chemistry, this text shows how to write a reasonable mechanism for an organic chemical transformation. The discussion is organized by types of mechanisms and the conditions under which the reaction is executed, rather than by the overall reaction as is the case in most textbooks. Each chapter discusses common mechanistic pathways and suggests practical tips for drawing them. Worked problems are included in the discussion of each mechanism, and "common error alerts" are scattered throughout the text to warn readers about pitfalls and misconceptions that bedevil students. Each chapter is capped by a large problem set.

## Book Information

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## Customer Reviews

From the reviews of the second edition: "Grossman's book differs from others in the scale of the worked examples. The number of problems incorporated into the text is extraordinary. The author provides the student a Web site that includes the detailed mechanisms for every problem in the book, each of which includes explanation and commentary, and the answer set, when printed, exceeds 250 pages! . . . In style, The Art of is unique in that it does not read like a typical textbook. Instead, the feel is like that of having a personal tutor next to you walking you through the chemistry in a step-by-step fashion. The writing is clear, concise, engaging, and, at times, outright entertaining. The lively style includes "Common Error Alerts" that teach students what not to do and includes tips and advice on how to solve problems . . . The highest

compliment a reviewer can give is to adopt the text that he reviews. The next advanced course I teach will use *The Art of Writing Reasonable Reaction Mechanisms* with the goal that students will be able to posit a plausible mechanism for any new reaction that they encounter. To those of you who have taught traditional physical organic chemistry out of the classic texts, I ask you to consider trying something, well, completely different. *The Art of Writing Reasonable Reaction Mechanisms* might just change the way you do things." -Journal of Chemical Education "The Art of Writing Reasonable Organic Reaction Mechanisms has an entirely different scope, dedicated to teaching the application of first principles to the construction of organic mechanisms. The number of problems incorporated into the text is extraordinary. The author provides the student a Web site that includes the detailed mechanisms for every problem in the book. The writing is clear, concise, engaging and, at times, outright entertaining. All sections are expertly written, well organized and up-to-date." (R. W. Holman, Journal of Chemical Education, Vol. 80 (11), 2003) "In principle, most mechanisms are derived from a basis set of fundamental steps. Grossman has succeeded in explaining these fundamentals in detail in an easily accessible monograph. Readers can reinforce their incipient skills with practical illustrations, and are challenged throughout with complicated examples. the present text offers additional lucid explanations and ideal opportunities for practice. This work will thus be indispensable for students who are interested in mechanisms, or who wish to gain an additional perspective."

(www.organische-chemie.ch, July, 2004) "This text shows how to write a reasonable mechanism for an organic chemical transformation. It can be used either in a formal course or by students working on their own, and will be particularly useful for graduate students studying for qualifying examinations. It will also be useful to students and researchers in biochemistry, pharmacology, and inorganic chemistry." (Chimie Nouvelle, Vol. 84 (21), 2003) "Robert Grossman in his book attempts to familiarize the student with the awesome power of reaction mechanisms. What makes this book special and praise-worthy is the clarity of its presentation of the subject matter. The text is lucid and sharp-edged throughout. The production quality of the book is first-class, too. Paper, printing and binding are excellent, the reproduction of the numerous formulae and reaction schemes is outstanding. Full marks for this *survival guide* to the *organic jungle*." (T. Lazar, Synthesis, Issue 17, 2003) "The book entitled *The Art of Writing Reasonable Organic Reaction Mechanisms* shows how to write a reasonable mechanism for an organic chemical transformation. The discussion is organized by types of mechanisms and the conditions under which the reaction is executed, rather than by the overall reaction as is the case in most textbooks. Each chapter is capped by a

large problem set. "The book will be useful to students and researchers in intermediate organic chemistry, biochemistry, pharmacology, and inorganic chemistry." (Process - Magazin für Chemietechnik, Vol. 6 (3), 2003) "Robert Grossman discusses ideas on organic chemical reactivity, selectivity and structure in a logical way that gives the student confidence in attempting the many practice problems provided. This book provides a snapshot of examples of how to consider and approach the writing of simple and sophisticated examples of pushing electrons in and out of orbitals. Students will enormously benefit from using the principles and concepts in this book in writing their own mechanisms." (Helmut Häfner, Chemistry in Australia, 2003)

I bought this book to practice mechanisms because I'll be taking a physical organic class in the spring that uses them heavily. I used this book instead of sitting in on a sophomore organic class, because by job as a TA conflicted. Anyway, this book is extraordinary. Dr. Grossman has taught me so many things about how to write a correct mechanism and how to recognize a bad mechanism when I see one. The book is written in a very clear and friendly manner and it's really quite hard to put down when you start reading it. The book also has practice problems and the book's website has the answers, giving even more incentive to practice mechanisms.

This book was extremely helpful in studying for my PhD qualifier. I would suggest it to any first year (or later) grad student. One warning, though: this book has NO references!! I hope you never want to do any of these reactions in the lab... The lack of refs is the only thing keeping it to four stars instead of five.

I'm in Orgo 2 and this book helps very well. It shows detailed mechanisms, explains the reagents needed to be used, great at explaining acids and bases, and many more. It's a good buy.

This is a very well written book - I mean one that you can read like a novel. In that respect it is probably the best (if not the only) book on the market. I enjoyed reading a lot, although I have learnt about all of the mechanisms way before from the March and other books. \_The March\_ is superior if you want to look at particular reactions, or have a more detailed view. Unfortunately it is a tough job to get through all 3000 pages (almost). March unlike Grossman avoids simplifications, but the latter gives you some (false perhaps?) feeling of certainty what is happening with the molecules. I would recommend this book for learning the basics of mechanisms in organic chemistry.

Really helpful. Buy it. The solutions are free on Springer.

This book is not the first of its kind. Audrey Miller wrote the first one-"Writing Reaction Mechanisms in Organic Chemistry". Miller used a renovating approach to treat organic reaction mechanisms. Mechanisms are not a bunch of random knowledges to be memorized any more. They can be analyzed and mastered. However Grossman did a terrific job writing this book. It covers more material than Miller's. Both books are easy to read. Keys to answers of this book can be downloaded from internet(over 200 pages). This book is great for graduate student who's struggling on his/her cumes, for industrial organic chemist who wants to have a thorough review of organic mechanism. Great value for the money.

Wow. I have been searching for a book like this since my undergrad days at the University of Pittsburgh. Not much more to say about this book than has already been said. I will however say that this is the most concise book that I have ever found on the theory of mechanisms. It is deviously short, for it encompasses all the major topics you will find in your 1200 page O-chem text, and dare I say, may be just as, if not more usefull. In organic chemistry it is not important to memorize a vast amount of material as, incorrectly, most neophyte students believe. The science really is an art with a few major rules that outline the whole of the science. If you truly UNDERSTAND these rules, and use this book for that purpose, you will succeed at any Organic course any school has to offer. Buy this book. Practice your problems. Be prepared to learn, not memorize.

A well written (and humorous) book with a great selection of problems at the end of each chapter. The chapters were not only fun to read but the information was concisely written in a very clear and easily understandable manner. I adore this book.

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