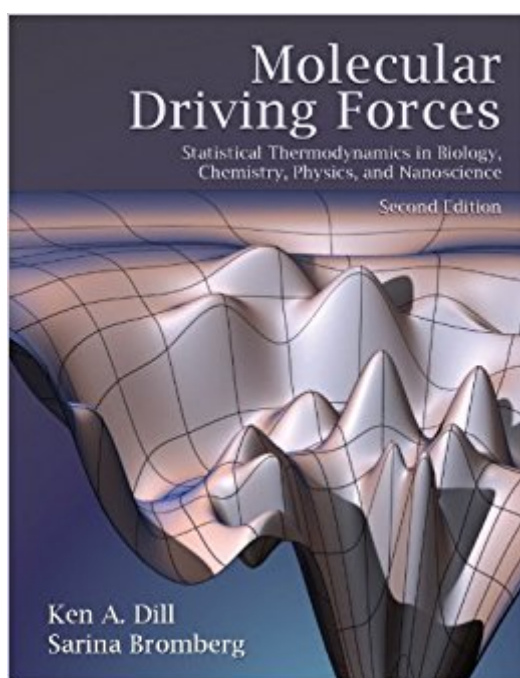


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Molecular Driving Forces: Statistical Thermodynamics In Biology, Chemistry, Physics, And Nanoscience, Second Edition



Synopsis

Widely adopted in its First Edition, *Molecular Driving Forces* is regarded by teachers and students as an accessible textbook that illuminates underlying principles and concepts. The Second Edition includes two brand new chapters: (1) "Microscopic Dynamics" introduces single molecule experiments; and (2) "Molecular Machines" considers how nanoscale machines and engines work. "The Logic of Thermodynamics" has been expanded to its own chapter and now covers heat, work, processes, pathways, and cycles. New practical applications, examples, and end-of-chapter questions are integrated throughout the revised and updated text, exploring topics in biology, environmental and energy science, and nanotechnology. Written in a clear and reader-friendly style, the book provides an excellent introduction to the subject for novices while remaining a valuable resource for experts.

Book Information

File Size: 27442 KB

Print Length: 784 pages

Publisher: Garland Science; 2nd edition (August 20, 2012)

Publication Date: August 20, 2012

Sold by: Amazon Digital Services LLC

Language: English

ASIN: B008ZJKXGY

Text-to-Speech: Not enabled

X-Ray for Textbooks: Enabled

Word Wise: Not Enabled

Lending: Not Enabled

Enhanced Typesetting: Not Enabled

Best Sellers Rank: #284,688 Paid in Kindle Store (See Top 100 Paid in Kindle Store) #12

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Customer Reviews

This is a fine introductory text covering the basics of molecular statistical mechanics and thermodynamics, as well as their applications to a number of systems that are likely to be of interest

to those studying the biosciences or other areas that depend on the concepts covered in this book. It is not a book for "experts" or an advanced graduate level text. One nice feature of the book, especially for bioscience students whose math may be rusty, are the chapters devoted to mathematical tools in the context of the book's subject matter. If you want a more in-depth text at an advanced level, look elsewhere. If you want a solid down-to-earth introduction to these subjects, this is a good place to start, especially if your math background is not particularly strong.

Dill and Bromberg's effort is extraordinary. I don't think there are other text books out there that explain complex matters in such a rigorous but accessible way. I would recommend this book to anyone who's taking an undergrad or grad course in thermodynamics, statistical thermodynamics or anything remotely similar, as this book will really enlighten you. It may happen because of the main text, the examples or the exercises, but it will happen. I've had the chance to read both the first and second edition. Information has been reorganized a little bit and the new chapters are great. Go get this book.

this is not a manual for new automobile drivers, but maybe it should be!

The author does a great job in explaining complicated topics in a simple straight-forward manner.

The book illustrated important concepts very well without having to go through lengthy mathematical derivations. I say this coming from a life science background with minimal exposure to mathematics beyond calculus. I recommend this book for anyone in the sciences (and engineering) due to the broad applicability of the topics covered in the text. Great read and goes well with Israelachvili's Intermolecular and Surface Forces.

Clearly written, brings you through statistics to molecular mechanics.

Very good product

This book is very easy to understand and has plenty of examples imbedded within the text. Perfect for upper division physical chemistry classes. I bought this specifically for a class but found that I enjoyed reading it. Dill (the author) lays out the facts of physical chemistry almost like a story that is fascinating to read.

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