

The author's goal in writing this book was "...an attempt to combine ordinary quantitative techniques with relatively new advances in quantitative methodology." His emphasis was on application of the foregoing to shoreline and seashore habitats especially intertidal (littoral) and scuba depth regions.

The book has the following eight chapters:

1. Biological sampling design and related topics;
2. Types of data, standardizations and transformations, introduction to biometrics, experimental design;
3. Quantitative methods in field ecology and other useful techniques and information;
4. Community analyses: similarity–dissimilarity indices, cluster analysis, dendrograms, analysis of similarities, indicator species;
5. Community analysis: ordination and other multivariate techniques;
6. Time trend analysis;
7. Modeling and systems analysis;
8. Marine sampling and measuring devices.

The foregoing chapter titles will give the reader a good overview of the major review and use of statistics in the text. Numerous mathematical examples are given but no student problems are.

A CD-ROM accompanies the book. It contains a condensed and animated version of several basic statistical programs plus hints on running them. The disc also contains additional information amplifying topics covered in the text. Another "modern" technique utilized was a discussion of PowerPoint presentations with instructions for their creation.

Literature citations are even given to such references that tell "how to lie with statistics." Completing the modernization of information transfer was the inclusion of numerous web site locations that could be consulted for more information.

Given my lack of familiarity with the topic, I was fascinated by the numerous pictures of marine water sampling devices shown in Chapter 8. Less interesting, yet impressive, was the list of more than 600 references.

I am certain that this book will be well received by both students in marine biology and practicing marine biologists.

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High-Performance Gradient Elution: The Practical Application of the Linear-Solvent-Strength Model, L.R. Snyder, J.W. Dolan. John Wiley & Sons, Inc., Hoboken, NJ (2007). 489 pp., US\$ 89.95, ISBN: 0-471-70646-9

High-performance liquid chromatography is widely used for separation and analysis. However, many samples cannot be successfully separated by the use of fixed conditions, requiring instead, gradient elution also called solvent programming which causes a change in the mobile phase composition during the separation so as to progressively reduce sample retention.

Prior reviews of this technique need updating and simplifying. Hence this book whose goals are to present: (1) a practical summary of what the reader needs to know in order to carry out gradient separations, (2) a conceptual understanding of how gradient elution works, and (3) a detailed examination of the underlying theoretical framework of gradient elution for application to special situations and to satisfy any lingering doubt of the reader.

The authors' ultimate goal is to show readers that gradient elution can be easier to understand and use than they think. The back jacket of the book notes its features as a "Comprehensive treatment of gradient elution that:

- provides specific, step-by-step recommendations for developing a gradient separation for any sample;
- describes the best approach for troubleshooting problems with gradient methods;
- guides the reader on the equipment used for gradient elution;
- lists which conditions should be varied first during method development, and explains how to interpret scouting gradients;
- explains how to avoid problems in transferring gradient methods."

The beginning of the book describes the application of isocratic and gradient elution for typical samples. In Chapter 2, the authors provide a conceptual basis for better interpretation and use of gradient elution. Following this chapter, is one on method development. "In Chapter 4, the equipment required for gradient elution is discussed. Chapter 5 deals with experimental problems that can be encountered in gradient elution as well as related troubleshooting information. Chapter 6 recognizes important differences in gradient elution when this technique is used for macromolecular samples... Chapter 7 expands the discussion of earlier chapters to the use of gradient elution for preparative separations. ... Chapter 8 examines (a) separations which feature the combination of gradient elution with mass spectrometric detection, (b) the application of gradient elution to normal-phase and ion-exchange separations, and (c) the use of complex gradients formed from three or more solvents. Chapter 9 concludes with a more detailed treatment of the fundamental equations of gradient elution, including attention to so-called 'non ideal' contributions to gradient separation."

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