



Organic Conformational Analysis and Stereochemistry from Circular Dichroism

By David A. Lightner, Jerome E. Gurst

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A unique guide to variable temperature CD spectroscopy and its application in organic chemistry

This timely, original, thought-provoking work looks at organic stereochemistry from the perspective of circular dichroism (CD), using variable temperature CD spectroscopy to determine the conformation or absolute configuration of chiral molecules. With an emphasis on the analysis of optically active ketones and the carbonyl chromophore, the authors demonstrate the advantages of this highly sensitive spectroscopic tool for obtaining stereochemical information in diverse areas of organic chemistry, biochemistry, and medicinal/pharmaceutical chemistry. They combine detailed examples of stereochemical analysis with clear, thorough presentations, correlating chiroptical data with molecular mechanics calculations as well as data from NMR spectroscopy and other spectroscopic techniques. In addition, they provide a systematic survey of the professional literature, featuring an extraordinary collection of original CD spectra run at varying temperatures. Coverage includes:

- * Chiroptical measurements: CD and ORD (Optical Rotatory Dispersion)
- * Conformational analysis of compounds ranging from simple cyclic ketones to polycyclics
- * Conjugated and homoconjugated systems
- * Stereochemistry of the carbon-carbon double bond
- * Stereochemistry from exciton coupling of two or more chromophores
- * An interesting historical account of the development of stereochemical concepts

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Organic Conformational Analysis and Stereochemistry from Circular Dichroism By David A. Lightner, Jerome E. Gurst Bibliography

- Sales Rank: #5373946 in Books
- Published on: 2000-02-18
- Original language: English
- Number of items: 1
- Dimensions: 9.31" h x 1.15" w x 6.26" l, 1.86 pounds
- Binding: Hardcover
- 496 pages



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Review

"I feel that this book will form a valuable source to all those interested in stereochemistry and conformational analysis of small molecules. This book will very useful..." (Talanta, Vol 53, 2001)

"It is a must for libraries and for all research groups engaged in experimental or theoretical work in this area." (Angewandte Chemie International Edition, Vol. 40 No. 9)

"...strongly recommended for research libraries serving organic and pharmaceutical chemists and...to some individuals working in those areas." (Journal of the American Chemical Society, Vol. 124, No. 12, 2002)

From the Back Cover

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