THE DEFINITIVE GUIDE TO CHIROPTICAL SPECTROSCOPY

Providing an introduction to the methods of chiroptical spectroscopy, this two-volume set presents comprehensive coverage of the most important and up-to-date methods of dealing with chiral molecules, which can discriminate between left and right circularly polarized light. Addressing basic principles, instrumentation, and applications in the natural sciences, *Comprehensive Chiroptical Spectroscopy* is the only book of its kind to provide cutting-edge, in-depth coverage of recent developments and frontier topics in the field, looking at the most important applications of chiroptical spectroscopy to problems in organic and inorganic chemistry, biochemistry, and structural biology.

Topics covered in the first volume include:

- Electronic circular dichroism
- Optical rotatory dispersion
- Infrared vibrational circular dichroism
- Nonlinear chiroptical spectroscopy
- Raman optical activity
- Time-resolved spectroscopy
- X-ray-detected and photoelectron circular dichroism
- Imaging of crystals
- Theoretical simulation of chiroptical spectra
- And much more

With each chapter written by one or more leading authorities in the field, *Comprehensive Chiroptical Spectroscopy* presents the ideal tools needed to determine chiral molecular structures and associated molecular properties, making it a must-have for both students and researchers.

NINA BEROVA is a Research Professor in the Department of Chemistry at Columbia University. She has been a coeditor of the journal *Chirality* (Wiley) since 1998.

PRASAD L. POLAVARAPU is currently a Professor of Chemistry at Vanderbilt University.

KOJI NAKANISHI is one of the world's leading natural products chemists and was editor of the journal, *The Chemical Record* (Wiley). He retired from Columbia University in 2007, but continues to conduct research.

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Topics covered in the second volume include:

- Aromatic chromophores
- Exciton chirality method
- Inorganic systems
- Chiral natural products
- Peptides, proteins, nucleic acids, and carbohydrates
- Drug and natural product binding to nucleic acids
- And much more

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