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Series: New Developments in NMR

ISSN: 2044-253X

Publisher: Royal Society of Chemistry

ISBN: 978-1-83916-429-3 Price: £169.00 | \$235.00 Publishing date: 16/02/2024

Target Audience: Professional and scholarly

Format: Hardback

**Size:** 234 x 156 (Royal 8vo) mm

Pages: 362

BIC: PHVN, PNFR, PSB THEMA: PHVN, PNFR, PSB

**BISAC:** SCI007000, SCI009000, SCI013010

# Residual Dipolar Couplings Principles and Applications

**Lishan Yao** Qingdao Institute of BioEnergy and Bioprocess Technology, Chinese Academy of Sciences, China

Beat Vogeli University of Colorado, USA

#### Synopsis

Residual dipolar couplings (RDCs) are NMR measurements widely used to determine structural and dynamic information in small molecules and large macromolecules. This book provides a broad view of RDCs, from basic principles to advanced applications in organic molecules and biomolecules (proteins, DNA and RNA). Exploring the newest developments in RDC measurement and analysis through authoritative accounts written by leaders in the field, this book provides a comprehensive overview of the fundamentals, analysis and applications for the first time in one place.

#### **Brief Contents**

- Introduction to Residual Dipolar Coupling
- Theoretical Aspects of Residual Dipolar Couplings
- External Media for Inducing Weak Alignment in Biomacromolecules
- Generating Independent RDCs Using Paramagnetic Tags
- Prediction of Weak Alignment from Molecule Structure
- NMR Experiments for Measuring RDCs in Biomolecules
- Study of Biomolecular Structure and Dynamics with Xplor-NIH
- RDC for Membrane Proteins
- Consistent Protein Structure Determination Using Sparse NMR Data
- RNA Conformational Ensembles from NMR Residual Dipolar Couplings
- Structure Determination of Organic Molecules Using RDCs (and RCSAs)
  Using RDCs and PCSs to Study Structure, Dynamics, and Interactions of
- Using RDCs and PCSs to Study Structure, Dynamics, and Interactions of Carbohydrates
- Anisotropic NMR Methods: Orthogonal Verification of Novel and Complex Natural Product Structures

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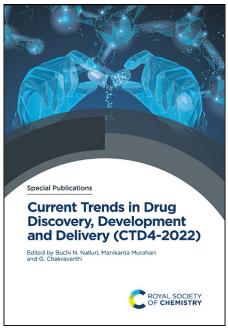
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Series: Special Publications

ISSN: 0260-6291

Publisher: Royal Society of Chemistry

ISBN: 978-1-83767-083-3 Price: £149.00 | \$205.00 Publishing date: 15/12/2023

Target Audience: Professional and scholarly,

College/higher education
Format: Hardback

**Size:** 234 x 156 (Royal 8vo) mm

**Pages:** 796

BIC: MMG, PNN, PSB THEMA: MKG, PNN, PSB

BISAC: MED008000, MED071000, SCI007000,

SCI013040

# Current Trends in Drug Discovery, Development and Delivery (CTD4-2022)

Manikanta Murahari MS Ramaiah University of Applied Sciences, India

**Buchi N Nalluri** KL University, College of Pharmacy, India **G Chakravarthi** KL University, College of Pharmacy, India

#### **Synopsis**

This publication is based on peer-reviewed manuscripts from the 2022 Conference on Current Trends in Drug Discovery, Development and Delivery (CTD4-2022) held at KL University, India. Providing a wide range of up to date topics on the latest advancements in drug design and discovery technologies, this book aims to ensure the reader understands the scope of the field. Aimed towards scientists, students, regulators, academics and consultants throughout the world, this book is an ideal resource for anyone interested in the state of the art in drug design and discovery.

#### **Brief Contents**

- Computational design of small molecules for potential targets
- Development and Validation of drugs and dosage forms by Analytical and Bioanalytical Techniques
- Novel Drug Delivery Systems
- Phytochemical Screening and Biological Evaluation of Indian Medicinal Plants
- Clinical Case Studies

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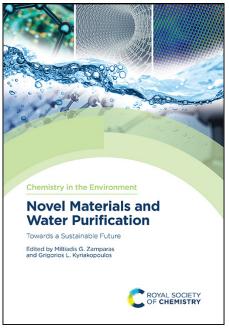
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Publisher: Royal Society of Chemistry

ISBN: 978-1-83767-049-9 Price: £169.00 | \$235.00 Publishing date: 02/02/2024

Target Audience: Professional and scholarly

Format: Hardback

Size:  $234 \times 156$  (Royal 8vo) mm

**Pages:** 377

BIC: RNFD, TGM, TQ

THEMA: PNC, RNFD, TGM, TQSW

BISAC: SCI013080, SCI026000, TEC010030, TEC021000

# Novel Materials and Water Purification Towards a Sustainable Future

**Grigorios L. Kyriakopoulos** National Technical University of Athens, Greece

Miltiadis G. Zamparas Hellenic Open University, Greece

#### **Synopsis**

Ensuring safe water, sanitation and sustainable management of water sources are primary concerns of the UN sustainable development goals. With increasing numbers of people living with water shortages or contaminated water sources and new anthropogenic pollutants emerging constantly there is a great need for new approaches to water purification. This book introduces recent approaches to the fabrication of novel materials for water purification and discusses several significant applications, including the removal of heavy metals and pharmaceuticals. This is a timely work of high interest to researchers and learners in the fields of water science, water management and materials science.

#### **Brief Contents**

- Biomaterials for Water Purification
- Sustainable Synthesis of Green Novel Materials for Water Purification
- MXene-based Separation Membranes for Water Purification and Desalination
- Advanced Nanomaterials for Removal of Emerging Organic Pollutants from Water
- Magnetic Adsorbents/Photocatalysts for Water Purification
- Nanocellulose-based Membranes for Water Purification
- Graphene-based Materials for Water Remediation
- Responsive Polymeric Materials
- Graphene-based Engineered Macrostructures for Water Purification
- Textile Azo Dye Removal Using a Quaternary Ammonium Anion Exchanger Prepared from Sugarcane Bagasse
- Iron Oxide Nanomaterials for Water Purification
- $\bullet$  Factors Influencing  ${\rm TiO_2\text{-}based}$  Composites for Water Decolorization
- Enviro-friendly Nanomaterial Synthesis and Their Utilization for Water Purification

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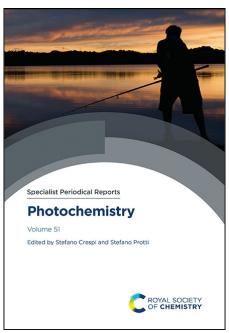
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Series: Specialist Periodical Reports

ISSN: 0556-3860

Publisher: Royal Society of Chemistry

ISBN: 978-1-83767-215-8 Price: £314.95 | \$440.00 Publishing date: 20/12/2023

Target Audience: Professional and scholarly

Format: Hardback

**Size:** 234 x 156 (Royal 8vo) mm

Pages: 583 BIC: PNRL THEMA: PNRL BISAC: SCI013050

# Photochemistry Volume 51

**Stefano Crespi** University of Groningen, The Netherlands **Stefano Protti** University of Pavia, Italy

#### **Synopsis**

Reviewing photo-induced processes that have relevance to a wide number of academic and commercial disciplines, this volume reflects the current interests in chemistry, physics, biology and technology. The volume continues to provide essential reading for postgraduates, academics and industrialists working in the field of photochemistry, enabling them to keep on top of the literature.

#### **Brief Contents**

- Introduction of the year 2022
- Of corpses, light and electricity
- New structural derivatives from indigo: trypthantrin and indirubin
- Light induced reactions in cryogenic matrices
- Photobiological systems studied by time-resolved infrared spectroscopy
- Time resolved spectroscopy applied to heterogeneous photocatalytic materials
- Photophysics of transition metal complexes
- Recent advances in photocatalytic water splitting and hydrogen generation
- Photooxidation of thioethers: preparative and mechanistic investigations
- Photochemical routes to artemisinin
- Advances in polaritonic photochemistry
- New synthetic strategies based on photoinduced halogen-atom transfer
- Metal-based chromophores for photochemical water oxidation
- Visible-light mediated strategies for the synthesis of nitrogen-based heterocycles
- Non-established photoswitchable organic systems
- $\bullet$  Photocatalytic enantioselective radical transformation enabled by radical–polar crossover
- Recent photoswitchable peptides with biological function
- The butterfly effect of photochromes
- Ruthenium-based agents for dual action photochemotherapy and PDT
- Guiding excited state reactivity

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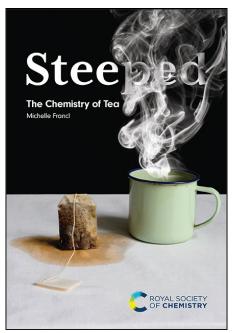
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Publisher: Royal Society of Chemistry

ISBN: 978-1-83916-591-7 Price: £29.99 | \$42.00 Publishing date: 24/01/2024

Target Audience: General/Trade, College/higher

education, Professional and scholarly

Format: Paperback Size: 228 x 152 mm Pages: 182 BIC: PDZ, TDCT

THEMA: PDZ, PND, WBXN1

**BISAC:** TEC012010

# **Steeped**The Chemistry of Tea

Michelle Francl Bryn Mawr College & Vatican Observatory, USA

#### **Synopsis**

Tea is the world's most popular beverage. Brewed from the leaves of the Camelia sinensis plant, tea is drunk in countries all over the world, and the chemistry of both the plant and its preparation is fascinating. Beginning with a leaf to cup introduction, this book looks at the molecular makeup of different types of tea, discusses brewing and steeping and the age-old question of when, or even whether, to add milk.

#### **Brief Contents**

- A Cup of Chemistry
- Reading the Tea Leaves
- The Drug in the Cup
- The Taste of Zen
- The Agony of the Leaves
- Sugar and Spice
- Earth, Water, Fire and Air

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