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Publisher: Royal Society of Chemistry

ISBN: HB 9781788014878

PDF 9781788016032 EPUB 9781839160554

**Price:** £149.00 | \$210.00 | €185.00

**Publication** 21 February 2025

Date:

Target Professional and scholarly

Audience:

Size: 234 x 156 (Royal 8vo) mm

Pages: 189

BIC: PNN, MMG

THEMA: PNN, MKG

BISAC: SCI013040, SCI007000,

MED071000

Series: Drug Discovery 85

# DNA-encoded Library Technology for Drug Discovery

Guansai Liu HitGen Inc., China
Casey J Krusemark Purdue University, USA
Jin Li HitGen Inc., China

## **Synopsis**

DNA-encoded libraries have numerous advantages over traditional screening methods, including easy identification of compounds and the large quantity of compounds that can be screened simultaneously. This book provides a comprehensive guide to the implementation of DNA-encoded library technology (DELT) in drug discovery for screening and hit validation, illustrated with successful case studies. A valuable resource for researchers in drug discovery, this book is complete with successful case studies to illustrate the best practice in implementation and operation of DELT.

#### **Brief Contents**

- Overview of Affinity-based DEL Selections with Select Target Types and Achievements
- Machine Learning with DEL Selection Data and for DEL design
- One bead one compound (OBOC) DELs for Biochemical Screens
- · Live cell-based DEL Selections
- On-DNA Medicinal Chemistry: Focused libraries, fragment expansion, and hit optimization
- DELs with Covalent Warheads
- Application of DELs for E3 Ligase Ligand and PROTAC development

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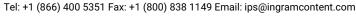
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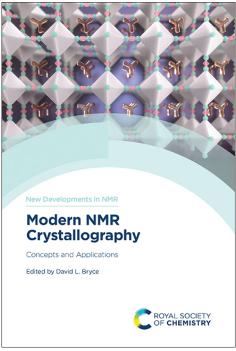
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Publisher: Royal Society of Chemistry

ISBN: HB 9781837670666

PDF 9781837673179 EPUB 9781837673186

**Price:** £219.00 | \$305.00 | €275.00

Publication 31 March 2025

Date:

Target Professional and scholarly

Audience:

Size: 234 x 156 (Royal 8vo) mm

Pages: 832

BIC: PNFR, PNT
THEMA: PNFR, PNT
BISAC: SCI013010,

Series: New Developments in NMR

Volume 36

# **Modern NMR Crystallography**

## **Concepts and Applications**

David L Bryce University of Ottawa, Canada

## **Synopsis**

NMR crystallography includes many NMR-centric approaches which seek to solve or refine crystal structures. This book presents insightful contributions describing the advances in the field as well as a broad range of cutting-edge applications to small molecules, pharmaceuticals, biomolecules, energy materials, and more. The book also highlights the complementarity of NMR, diffraction and computational approaches and presents several examples where complete structure solutions are only possible *via* this synergy. Since the publication of a seminal book on the topic in 2012, there have been numerous advances in experimental methodology and in computational tools. This book strikes a balance between appealing to NMR experts but also to those outside the field, including practitioners of diffraction-based crystallography and computational/theoretical chemists.

### **Brief Contents**

- A Historical Perspective on NMR Crystallography
- Introduction to the Interactions of NMR and Their Application to NMR Crystallography
- . Basics of X-ray and Neutron Diffraction
- First-principles Calculation of NMR parameters
- · Quantitative Tools for Structure Selection in NMR Crystallography
- Experimental Solid-state NMR of the Periodic Table: Fundamentals and Advanced Methods
- Accurate Predictions of Solid-state NMR Parameters
- Crystal Structure Prediction
- · Predicting Solid-state NMR Observables via Machine Learning
- Dynamic Nuclear Polarization for Solid-state NMR Spectroscopy
- Organic Molecules and Polymorphism
- NMR Crystallization: The Application of NMR Strategies to Monitor the Evolution of Crystallization Processes
- The Role of Non-covalent Interactions in Crystal Packing
- NMR Crystallography in Pharmaceutical Development
- Dynamics in Organic Solids
- Resolving Structural Ambiguities via Solid-state NMR
- Disorder in Inorganic Materials
- Guest-Host Systems
- Protein Structure from Magic-angle Spinning NMR
- Applications of MAS DNP to NMR Crystallography of Bulk Molecular Solids
- Metal Halide Perovskite and Perovskite-inspired Materials: Solid-state NMR of Quadrupolar Nuclei Battery Materials
- Difficult Systems

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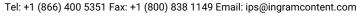
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Publisher: Royal Society of Chemistry

ISBN: HB 9781837671038

PDF 9781837674824 EPUB 9781837674831

**Price:** £80.00 | \$110.00 | €100.00

Publication 07 May 2025

Date:

Target College/higher education, ,
Audience: Professional and scholarly
Size: 234 x 156 (Royal 8vo) mm

Pages: 753
BIC: PNF

THEMA: PNF, 4CT, 4TC

BISAC: SCI013010

## **Analytical Separation Science**

**Bob W J Pirok** University of Amsterdam, The Netherlands **Peter J Schoenmakers** University of Amsterdam, The Netherlands

## **Synopsis**

There is a pervasive need for analytical separations in many fields of science and in many different industries. This book teaches (almost) all the important aspects of analytical separation sciences to students and practicing analysts. For those new to separation science, it features basic modules in which fundamental concepts and analytical practice are described. Master modules provide more in-depth treatments intended for graduate students. Advanced modules bring the reader to the current frontiers of separation sciences and encourage further reading. Emphasis is on the main analytical separation techniques of gas chromatography, liquid chromatography and capillary electrophoresis, but due attention is paid to a number of other methods and to sample preparation. Knowledge on statistics and chemometrics is provided. Finally, the book describes how a sound understanding can be used to successfully develop optimal separation methods.

## **Key Features and Highlights**

- Covers a very broad range of separation methods across three different levels, from (vocational) BSc to analytical scientists.- Will also be of interest to researchers in industrial settings.
- Divided into modules that meet the needs of lecturers, who can design their courses to suit their students and their own competences or preferences.
- Established authors that have taught, and will continue to teach, the subjects that will be treated in this book.

### **Brief Contents**

- · Fundamentals of Chromatography
- · Gas Chromatography
- Liquid Chromatography
- · Size-based Separations
- · Capillary Electrophoresis
- · Supercritical Fluid Chromatography
- · Multi-dimensional Chromatography
- · Sample Preparation
- Data Analysis
- Method Development and Optimization

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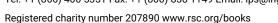
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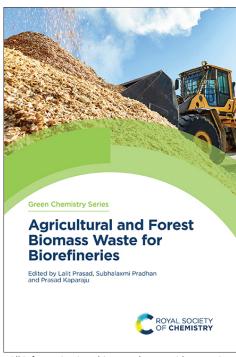
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Publisher: Royal Society of Chemistry

ISBN: HB 9781837671748

EPUB 9781837676088 PDF 9781837676071

**Price:** £199.00 | \$280.00 | €250.00

Publication 07 March 2025

Date:

Target Professional and scholarly

Audience:

Size: 234 x 156 (Royal 8vo) mm

Pages: 416

BIC: RNU, TVF, RNH

THEMA: RNU, TVF, RNH

BISAC: SCI013080, TEC003070,

TEC010020

Series: Green Chemistry Series

Volume 86

# **Agricultural and Forest Biomass Waste for Biorefineries**

Lalit Prasad Galgotias University, India Subhalaxmi Pradhan Galgotias University, India Prasad Kaparaju Griffith University, Australia

## **Synopsis**

Both agriculture and forestry produce a large amount of biomass waste. Historically much of this has either been sent to landfill or burnt, both of which increase greenhouse gas emissions and are a poor use of resources. By converting this biomass instead into useful products, we can reduce greenhouse gas emissions, avoid waste and reduce the need for other sources for these products Introducing the different types of biomass that can be obtained from agriculture and forestry this book looks at the challenges in using them, specific applications and their role in creating a more sustainable and environmentally friendly economy. It will provide useful insights for green chemists, agricultural chemists and anyone interested in biorefinery science.

#### **Brief Contents**

- Prospects and Potential of Agricultural and Forest Biomass in the Context of Food and Fodder
- Physico-chemical Characterization of Agricultural and Forest Biomass
- Characteristic Requirements of Biomass for Biorefineries
- Value Addition of Agricultural and Forest Biomass at the Farm and Community Level and Major Challenges
- Global Initiatives Towards Biomass Value Addition, Utilization and Market Opportunity
- Metagenomics in Agricultural and Forest Biomass Waste for Biorefineries
- Biochar Production from Agricultural and Forest Biomass Waste
- Utilization of Lignocellulosic Biomass for Production of Nanocellulose
- Biofuel from Biomass
- Biofertilizers from Agricultural and Forest Biomass
- Valorization of Agricultural Biomass Towards Biofertilizers and Economic Analysis
- · Biopesticides from Agricultural and Forest Biomass
- Implementation of the Biorefinery Concept in Existing Sugarcane Industries

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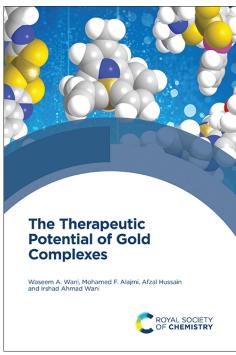
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Publisher: Royal Society of Chemistry

ISBN: HB 9781837678884

EPUB 9781837675814 PDF 9781837678891

**Price:** £149.00 | \$285.00 | €210.00

Publication 31 January 2025

Date:

Target College/higher education, ,
Audience: Professional and scholarly
Size: 234 x 156 (Royal 8vo) mm

Pages: 164

BIC: PNND, MMG, PSB
THEMA: PNND, PNB, PSB

BISAC: SCI013040, MED071000,

SCI007000

# The Therapeutic Potential of Gold Complexes

Waseem A Wani Sri Pratap College, India
Mohamed F Alajmi King Saud University, Saudi Arabia
Afzal Hussain King Saud University, Saudi Arabia
Irshad Ahmad Wani Government Degree College Anantnag, Indi

## **Synopsis**

This concise book reviews the recent advances made in the development of gold complexes as therapeutics, highlighting the different ligand architectures that have been used for their development. The mechanisms of therapeutic action, the development of nanodrugs and the toxicity issues of gold complexes are all discussed in detail. Finally, the book reflects on the future research and development in gold complexes as therapeutic agents. Postgraduates and researchers in drug discovery and development interested in metal-based therapeutics and biomedical applications of gold will find this book enlightening.

## **Brief Contents**

- Introduction
- Emergence of Gold and its Complexes in Medicine
- Gold Complexes as Anticancer Agents
- Gold Complexes as Antibacterial Agents
- Gold Complexes as Antifungal Agents
- Gold Complexes as Antiviral Agents
- Gold Complexes as Antiparasitic Agents
- · Gold Complexes as Anti-inflammatory Agents
- · Nanoformulations of Therapeutic Gold Complexes
- Toxicity of Gold Complexes
- Future Research Outlooks

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