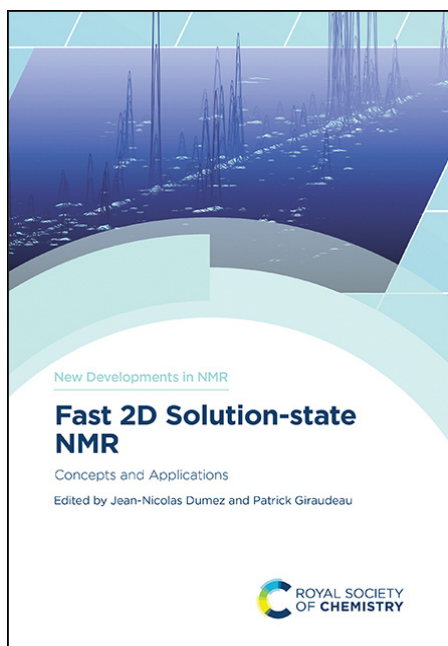


# Advance Book Information



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**BIC:** PNF, PNR

**THEMA:** PNF, PNR

**BISAC:** SCI013010, SCI013050

## Fast 2D Solution-state NMR Concepts and Applications

Jan-Nichlas Dumez University of Nantes, France  
Patrick Giraudeau University of Nantes, France

### Synopsis

Written by active investigators in the field, this book describes state-of-the-art methods that can accelerate the acquisition of 2D NMR spectra in solution-state NMR. The first part of the book provides an in-depth description of the concepts and implementation of major fast 2D NMR methods. In part two, it illustrates how such methods can be used in applications that require the acquisition of fast 2D NMR spectra, from reaction monitoring to hyperpolarisation, including applications to a broad variety of samples and experimental conditions. Appealing to readers from both the methodology and applications communities, this title fills a gap in the market for a book focused on small molecule NMR and researchers from both academia and industry will find a rich plethora of knowledge.

### Brief Contents

- The Role of Pulsed Field Gradients in Modern NMR Pulse Sequence Design
- Top Resolution in 2D NMR Spectroscopy Using Spectral Aliasing
- Fast Pulsing 2D NMR Methods
- Multi-FID Detected 2D NMR
- The Non-uniform Sampling of 2D NMR Data
- Signal Processing for Highly Resolved 2D NMR
- Ultrafast 2D NMR
- Pure Shift 2D NMR Spectroscopy
- Fast 2D NMR for Reaction and Process Monitoring
- Fast 2D NMR to Investigate Dynamic Events in Biomolecules
- Application of Fast 2D NMR Methods in the Pharmaceutical Industry
- Fast 2D NMR and Hyperpolarization
- Fast 2D NMR for Metabolomics
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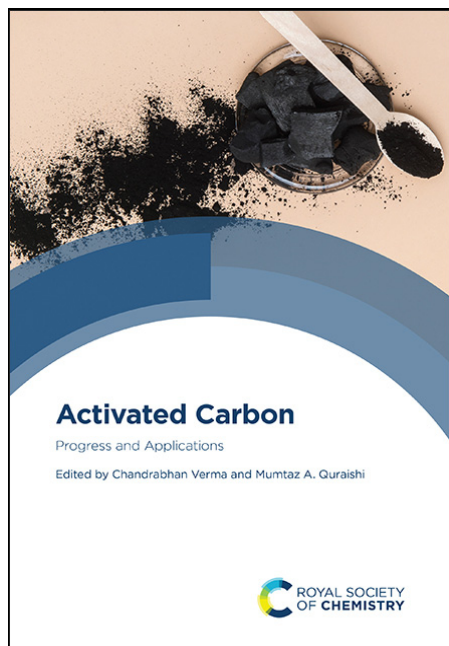
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## Activated Carbon Progress and Applications

**Chandrabhan Verma** King Fahd University Petroleum and Minerals, Saudi Arabia

**Mumtaz A. Quraishi** King Fahd University of Petroleum and Minerals, Saudi Arabia

### Synopsis

Activated carbon, which is also called activated charcoal, is a form of carbon that has low-volume pores and increased surface area available for chemical reactions and adsorption. This book focuses on all aspects of synthesis, functionalization, and properties of activated carbon, as well as industrial, biological and environmental applications. It is an important reference source for those researching carbon from a chemical, physical, materials science or engineering background.

### Brief Contents

- Activated Carbon: Fundamentals, Classification and Properties
- Industrial Applications of Activated Carbon
- Medical Applications of Activated Carbon
- Analytical Applications of Activated Carbon
- Activated Carbon for Environmental Applications
- Environmental Applications of Activated Carbon
- Agricultural Applications of Activated Carbon
- Alcoholic Beverage Purification Applications of Activated Carbon
- Fuel Storage Application of Activated Carbon
- Trends and Perspectives Toward Activated Carbon and Activated Carbon Derived Materials in Environmental Catalysis Applications
- Advanced Applications of Activated Carbon: Catalysis and Engineering
- Activated Carbon in Food Industry Applications of Activated Carbon
- Influence of Activated Carbon on Metallic Corrosion

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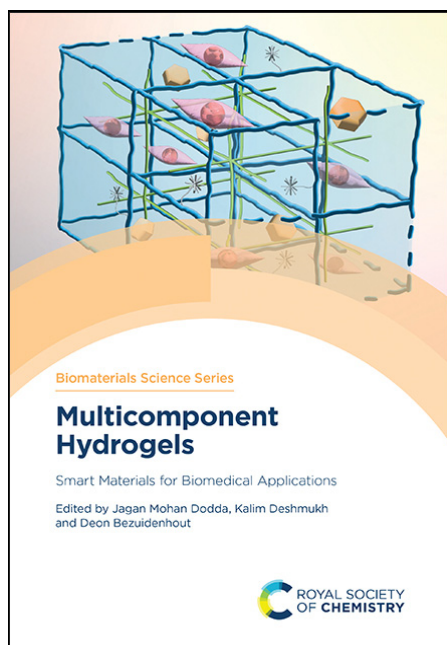
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## Multicomponent Hydrogels Smart Materials for Biomedical Applications

Jagan Mohan Dodda University of West Bohemia, Czech Republic

Kalim Deshmukh University of West Bohemia, Czech Republic

### Synopsis

Hydrogels are highly hydrated 3D networks with the ability to mimic the extracellular matrix of bodily tissues and have thus found application in a wide range of biomedical applications. This book critically discusses the fundamental chemistry, synthesis, characterisation, physicochemical and biological properties of multicomponent hydrogels. The work is suitable for researchers working in the specific area of multicomponent hydrogels, and also more generally for those working in materials science, biomedical engineering, biomaterials science and tissue engineering.

### Brief Contents

- Hydrogels
- Multicomponent Hydrogels
- Multicomponent Low Molecular Weight Gels and Gelators
- Characterization Techniques of Multicomponent Hydrogels
- Dendritic Hydrogels and Their Biomedical Applications
- Click Hydrogels for Biomedical Applications
- Electrospinning of Multicomponent Hydrogels
- 3D Printing of Multicomponent Hydrogels
- Modeling and Simulations of Multicomponent Hydrogels
- Multicomponent Hybrid Hydrogels for Biomedical Applications
- Multicomponent Hydrogels for Tissue Engineering Applications
- Multicomponent Hydrogels for Controlled Drug Release and Delivery
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