

# Macromolecular Engineering

From Precise Synthesis to Macroscopic  
Materials and Applications

2nd Edition, 5-Volume Set

Edited By *Krzysztof Matyjaszewski, Yves Gnanou, Nikos Hadjichristidis*  
and *Murugappan Muthukumar*

Chemistry | Industrial Chemistry

## Complete and Thorough Resource on Macromolecular Engineering for Researchers and Industry Professionals

This book covers the entire field of macromolecular engineering, from design and preparation of well-defined macromolecules, to precise characterization, all the way to optimization for specific functions and applications. It provides background information, comparative advantages and limitations, the most recent advances of numerous synthetic approaches, characterization techniques, and potential applications.

The second edition of *Macromolecular Engineering* has been completely updated and edited by a world-class team of editors led by K. Matyjaszewski. Sample topics covered within the work include:

- Synthetic tools to precisely control various aspects of macromolecular structure including chain composition, microstructure, functionality, and topology
- Modern characterization techniques at the molecular and macroscopic level for various properties of well-defined (co)polymers in solution, bulk and at surfaces
- The correlation of molecular structure with macroscopic properties additionally affected by processing
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**Murugappan Muthukumar** is Wilmer D. Barrett Professor of Polymer Science and Engineering at the University of Massachusetts. His research group is engaged in understanding how macromolecules, both biological and synthetic, assume their sizes and shapes, organize into assemblies, and move around in crowded environments.

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