DESCRIPTION

This is the first monograph to specifically focus on fundamentals and applications of polyelectrolytes, a class of molecules that gained substantial interest due to their unique combination of properties. Combining both features of organic semiconductors and polyelectrolytes, they offer a broad field for fundamental research as well as applications to analytical chemistry, optical imaging, and opto-electronic devices.

The initial chapters introduce readers to the synthesis, optical and electrical properties of various conjugated polyelectrolytes. This is followed by chapters on the applications of these materials in optical sensing and imaging with emphasis on biological systems, while the final section addresses the emerging applications of conjugated polyelectrolytes in optoelectronic devices, concluding with an in-depth discussion of structure-property relationship.

The editors and contributors are all pioneers and experts in this expanding field. This monograph is not only for chemists, materials scientists, and physicists, but also a unique source of knowledge for readers with scientific background interested in polyelectrolytes.
ABOUT THE AUTHOR

Bin Liu is Associate Professor in the Department of Chemical and Biomolecular Engineering, National University of Singapore (NUS). Her research focuses on the development of water-dispersable conjugated polymers with explorations on their sensing, imaging and device applications. She has over 130 scientific publications and has received several awards including the NUS Young Investigator Award, Singapore National Science and Technology Young Scientist Award and L’Oreal-Singapore Women in Science National Fellowship.

Guillermo C. Bazan is Professor of Chemistry and Biochemistry at the University of California, Santa Barbara. He has over 300 publications and an H-index of 72. Much of his work is centered on the applications of conjugated polyelectrolytes in biosensing technologies and the fabrication of optoelectronic devices. Guillermo Bazan's awards and recognitions include the 2006 ACS Cope Scholar Award, the 2005 Bessel Award and the 2003 National Science Foundation Special Creativity Award. In addition, he serves as a member of the editorial advisory boards of Macromolecules and Advanced Materials.

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