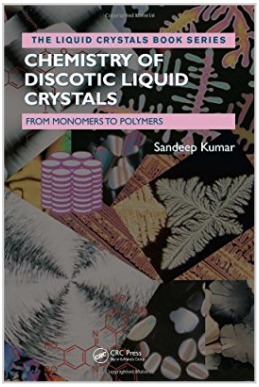

Chemistry of Discotic Liquid Crystals: From Monomers to Polymers (Liquid Crystals Book Series)

By Sandeep Kumar

Chemistry of Discotic Liquid Crystals: From Monomers to Polymers (Liquid Crystals Book Series) By Sandeep Kumar

The self-contained properties of discotic liquid crystals (DLCs) render them powerful functional materials for many semiconducting device applications and models for energy and charge migration in self-organized dynamic functional soft materials. The past three decades have seen tremendous interest in this area, fueled primarily by the possibility of creating a new generation of organic semiconductors and wide viewing displays using DLCs. While a number of books on classical calamitic liquid crystals are available, there are, as yet, no books that are dedicated exclusively to the basic design principles, synthesis, and physical properties of DLCs.

The first reference book to cover DLCs, **Chemistry of Discotic Liquid Crystals: From Monomers to Polymers** highlights the chemistry and thermal behavior of DLCs. Divided into six chapters, each with a general description, background, and context for the concepts involved, the book begins with a basic introduction to liquid crystals, describing molecular self-assembly and various types of liquid crystals. It outlines their classification, covers their history and general applications, and focuses on DLCs and their discovery, structure, characterization, and alignment.

The book goes on to examine the chemistry and physical properties of various monomeric DLCs, including 25 sections describing the synthesis and mesomorphic properties of monomeric DLCs formed by different cores. The bulk of the book covers the chemistry and mesomorphism of discotic dimers, oligomers, and polymers and concludes with a look at some applicable properties of DLCs.

A comprehensive and up-to-date resource, this book is designed to be accessible and of value not just for students and researchers but also to the directors and principal investigators working in this field, providing the foundation and fuel to

advance this fast-growing technological field.

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Editorial Review

Review

"Kumar's book will be a key resource and a "must buy" for all researchers involved in the synthesis and investigation of DLCs, because it combines information scattered over dozens of review articles in a single and concise volume. It will also aid those who cover DLCs in undergraduate and graduate courses by easing their search for key references on specific concepts of DLCs and discotic compounds."
?S. Holger Eichhorn, University of Windsor, in *Journal of the American Chemical Society*, April 2011

About the Author
Raman Research Institute, India

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Tracie Berry:

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