

1. Record Nr.	UNINA9910830409603321
Titolo	Handbook of liquid crystals [[electronic resource]] . Volume 2B Low molecular weight liquid crystals II // D. Demus ... [et al.]
Pubbl/distr/stampa	Weinheim ; ; New York, : Wiley-VCH, c1998
ISBN	1-283-86969-1 3-527-62063-X 3-527-62062-1
Descrizione fisica	1 online resource (581 p.)
Altri autori (Persone)	DemusDietrich
Disciplina	530.429
Soggetti	Liquid crystals Molecular weights
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Handbook of Liquid Crystals; Contents; Part II: Discotic Liquid Crystals; Chapter VI: Chiral Smectic Liquid Crystals; 1 Synthesis of Chiral Smectic Liquid Crystals; 1.1 Introduction; 1.2 Long Pitch Chiral Smectic Liquid Crystals or Dopants; 1.2.1 Schiff's bases; 1.2.2 Aromatic Esters with Alkyl Branched Alkyl Chains; 1.2.3 Aromatic Heterocycles with Alkyl-Branched Alkyl Chains; 1.2.4 Esters and Ethers in the Terminal Chain; 1.2.5 Halogens at the Chiral Center; 1.2.6 Cyclohexyl a-Fluorohexanoates; 1.2.7 Gyano Groups at the Chiral Center; 1.2.8 Optically Active Oxiranes and Thiiranes 1.2.9 Optically Active γ -Lactones 1.2.10 Optically Active β -Lactones; 1.2.11 Miscellaneous Optically Active Heterocycles; 1.3 Short Pitch Chiral Smectic Liquid Crystals or Dopants; 1.3.1 Optically Active Terphenyl Diesters; 1.3.2 Optically Active Methyl-Substituted Dioxanes; 1.4 Antiferroelectric Liquid Crystals; 1.5 References; 2 Ferroelectric Liquid Crystals; 2.1 Introduction; 2.2 Polar Materials and Effects; 2.2.1 Polar and Nonpolar Dielectrics; 2.2.2 The Nonpolarity of Liquid Crystals in General; 2.2.3 Behavior of Dielectrics in Electric Fields: Classification of Polar Materials 2.2.4 Developments in the Understanding of Polar Effects 2.2.5 The Simplest Description of a Ferroelectric; 2.2.6 Improper Ferroelectrics; 2.2.7 The Piezoelectric Phase; 2.3 The Necessary Conditions for

Macroscopic Polarization in a Material; 2.3.1 The Neumann and Curie Principles; 2.3.2 Neumann's Principle Applied to Liquid Crystals; 2.3.3 The Surface-Stabilized State; 2.3.4 Chirality and its Consequences; 2.3.5 The Curie Principle and Piezoelectricity; 2.3.6 Hermann's Theorem; 2.3.7 The Importance of Additional Symmetries; 2.4 The Flexoelectric Polarization
 2.4.1 Deformations from the Ground State of a Nematic; 2.4.2 The Flexoelectric Coefficients; 2.4.3 The Molecular Picture; 2.4.4 Analogies and Contrasts to the Piezoelectric Effect; 2.4.5 The Importance of Rational Sign Conventions; 2.4.6 The Flexoelectrooptic Effect; 2.4.7 Why Can a Cholesteric Phase not be Biaxial?; 2.4.8 Flexoelectric Effects in Smectic A Phases; 2.4.9 Flexoelectric Effects in Smectic C Phases; 2.5 The SmA*-SmC* Transition and the Helical C* State; 2.5.1 The Smectic C Order Parameter; 2.5.2 The SmA*-SmC* Transition; 2.5.3 The Smectic C* Order Parameters
 2.5.4 The Helical Smectic C* State; 2.5.5 The Flexoelectric Contribution in the Helical State; 2.5.6 Nonchiral Helielectrics and Antiferroelectrics; 2.5.7 Simple Landau Expansions; 2.5.8 The Electroclinic Effect; 2.5.9 The Deformed Helix Mode in Short Pitch Materials; 2.5.10 The Landau Expansion for the Helical C* State; 2.5.11 The Pikin-Indenbom Order Parameter; 2.6 Electrooptics in the Surface-Stabilized State; 2.6.1 The Linear Electrooptic Effect; 2.6.2 The Quadratic Torque; 2.6.3 Switching Dynamics; 2.6.4 The Scaling Law for the Cone Mode Viscosity
 2.6.5 Simple Solutions of the Director Equation of Motion

Sommario/riassunto

The Handbook of Liquid Crystals is a unique compendium of knowledge on all aspects of liquid crystals. In over 2000 pages the Handbook provides detailed information on the basic principles of both low- and high-molecular weight materials, as well as the synthesis, characterization, modification, and applications (such as in computer displays or as structural materials) of all types of liquid crystals. The five editors of the Handbook are internationally renowned experts from both industry and academia and have drawn together over 70 leading figures in the field as authors. The fo
