
Contents

Section 1.1 Theoretical Aspects of Charge Transport in Organic Semiconductors: A Molecular Perspective	1
<i>Demetrio A. da Silva Filho, Yoann Olivier, Veaceslav Coropceanu, Jean-Luc Brédas, and Jérôme Cornil</i>	
Section 2.1 Charge Carrier Transport in Single-Crystal Organic Field-Effect Transistors	27
<i>Vitaly Podzorov</i>	
Section 2.2 Charge Transport in Oligomers.....	73
<i>Gilles Horowitz</i>	
Section 2.3 Charge Transport Physics of Solution-Processed Organic Field-Effect Transistors.....	103
<i>Henning Sirringhaus</i>	
Section 2.4 Contact Effects in Organic Field-Effect Transistors	139
<i>Matthew J. Panzer and C. Daniel Frisbie</i>	
Section 3.1 Design, Synthesis, and Transistor Performance of Organic Semiconductors	159
<i>Abhijit Basu Mallik, Jason Locklin, Stefan C. B. Mannsfeld, Colin Reese, Mark E. Roberts, Michelle L. Senatore, Hong Zi, and Zhenan Bao</i>	
Section 3.2 Dielectric Materials: Selection and Design.....	229
<i>Ashok Maliakal</i>	
Section 4.1 Grazing Incidence X-Ray Diffraction (GIXD)	253
<i>Tae Joo Shin and Hoichang Yang</i>	

Section 4.2 Near-Edge X-Ray Absorption Fine Structure (NEXAFS) Spectroscopy	277
<i>Dean M. DeLongchamp, Eric K. Lin, and Daniel A. Fischer</i>	
Section 4.3 Scanning Probe Techniques	301
<i>Hoichang Yang</i>	
Section 5.1 Vacuum Evaporated Thin Films	341
<i>Alex C. Mayer, Jack M. Blakely, and George G. Malliaras</i>	
Section 5.2 Solution Deposition of Polymers	371
<i>Hoichang Yang</i>	
Section 5.3 Solution Deposition of Oligomers	403
<i>Howard E. Katz and Chad Landis</i>	
Section 5.4 Inkjet Printed Organic Thin Film Transistors	419
<i>Ana Claudia Arias</i>	
Section 5.5 Soft Lithography for Fabricating Organic Thin-Film Transistors	433
<i>Kimberly C. Dickey, Kwang Seok Lee, and Yueh-Lin Loo</i>	
Section 6.1 Radio Frequency Identification Tags	489
<i>Vivek Subramanian</i>	
Section 6.2 Organic Transistor Chemical Sensors.....	507
<i>Luisa Torsi, M. C. Tanese, Brian Crone, Liang Wang, and Ananth Dodabalapur</i>	
Section 6.3 Flexible, Large-Area e-Skins	529
<i>Takao Someya, Takayasu Sakurai, and Tsuyoshi Sekitani</i>	
Section 6.4 Organic Thin-Film Transistors for Flat-Panel Displays.....	551
<i>Michael G. Kane</i>	
Index	595