CONTENTS

Foreword ix
Patrick E. Cassidy

In Memoriam xi

Preface xiii

Contributors xv

About the Editors xxi

1 Fluorinated Polyphosphazenes 1
Harry R. Allcock

2 Mn2(CO)10-Visible Light Photomediated, Controlled Radical Polymerization of Main Chain Fluorinated Monomers and Synthesis of Block Copolymers Thereof 21
Alexandru D. Asandei, Olumide I. Adeboye, and Christopher P. Simpson

3 Interfacial Response of Semifluorinated Multi-block Copolymers 43
Anupriya Agrawal, Dipak Aryal, Dvora Perahia, and Gary S. Grest

4 Fluoropolymer Nanocomposites 57
Hideo Sawada

5 Thermal Degradation and Pyrolysis of Polytetrafluoroethylene 81
Gerard Puts, Philip Crouse, and Bruno Ameduri
6 Molecular Simulation of Fluoropolymers
   Armand Soldera, François Porzio, and Nasim Anousheh

7 Vapor Deposition of Fluoropolymer Surfaces
   Jose Yagüe and Karen K. Gleason

8 Functionalized and Functionalizable Fluoropolymer Membranes
   Tao Cai, Koon-Gee Neoh, and En-Tang Kang

9 Poly[Methyl(3,3,3-Trifluoropropyl)Siloxane]
   Michael J. Owen

10 Functional Fluorous Copolyoxetane Polymer Surface Modifiers
    Kenneth J. Wynne, Pinar Kurt, Umit Makal, Tomoko Fujiwara,
    Kennard Brunson, Asima Chakravorty, Lynn Wood, and Dennis E. Ohman

11 Self-Organizing Semifluorinated Methacrylate Copolymers
    Doris Pospiech and Dieter Jehnichen

12 Synthesis of Fluoropolymers Using Borane-Mediated Control
    Radical Polymerization for Energy Storage Applications
    T.C. Mike Chung

13 Fluoropolymers in Supercritical Carbon Dioxide: Phase Behavior,
    Self-Assembly, and Stabilization of Water/CO₂ Emulsions
    Etienne Girard, Jean-Daniel Marty, and Mathias Destarac

14 Semifluorinated Polymers from Trifluorovinyl Aromatic
    Ether Monomers
    Jianyong Jin, Scott T. Iacono, and Dennis W. Smith Jr.

15 Combustion Characterization of Energetic Fluoropolymer
    Composites
    Oliver Mulamba and Michelle Pantoya

16 Amorphous Perfluoropolymers
    Yoshiyuki Okamoto, František Mikeš, Kotaro Koike, and Yasuhiro Koike

17 Fluoropolymers for Sustainable Energy
    Vincenzo Arcella, Luca Merlo, Riccardo Pieri, Paolo Toniolo,
    Francesco Triulzi, and Marco Apostolo

18 Evolution of Academic Barricades for the Use of
    Tetrafluoroethylene (TFE) in the Preparation of Fluoropolymers
    Daniel A. Hercules, Darryl D. DesMarneau, Richard E. Fernandez,
    James L. Clark Jr., and Joseph S. Thrasher

19 Fluoropolymer Surfaces/Interfaces
    Yuji Higaki, Ryohei Ishige, and Atsushi Takahara
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Fluoropolymer Dielectrics</td>
<td>451</td>
</tr>
<tr>
<td></td>
<td>Mustapha Raihane and Bruno Ameduri</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Fluoropolymers—Environmental Aspects</td>
<td>495</td>
</tr>
<tr>
<td></td>
<td>Klaus Hintzer and Werner Schwertfeger</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Fluorinated Ionomers and Ionomer Membranes Containing the bis[(perfluoroalkyl) sulfonyl]imide Protogenic Group</td>
<td>521</td>
</tr>
<tr>
<td></td>
<td>Iqbal Sharif, Stephen Creager, and Darryl D. DesMarteau</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Fluorinated Silsesquioxanes</td>
<td>545</td>
</tr>
<tr>
<td></td>
<td>Sean Ramirez and Joseph Mabry</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Multidimensional NMR of Fluoropolymers</td>
<td>565</td>
</tr>
<tr>
<td></td>
<td>Xiaohong Li, Jessi Baughman, Chun Gao, Linlin Li, Peter L. Rinaldi,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eric B. Twum, Elizabeth F. McCord, and Faith J. Wyzgoski</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Melt Processible Perfluoroplastics for Demanding Applications</td>
<td>599</td>
</tr>
<tr>
<td></td>
<td>Paul Brothers, Gregory Chapman, Kimberly Farnsworth, and Richard Morgan</td>
<td></td>
</tr>
<tr>
<td>Index</td>
<td></td>
<td>623</td>
</tr>
</tbody>
</table>