

# Contents

<b>Multifunctional Pharmaceutical Nanocarriers: Development of the Concept</b> .....	1
Vladimir P. Torchilin	
<b>Multifunctional Polymeric Nanosystems for Tumor-Targeted Delivery</b> .....	33
Padmaja Magadala, Lilian E. van Vlerken, Aliasgar Shahiwala, and Mansoor M. Amiji	
<b>Nanogels as Pharmaceutical Carriers</b> .....	67
Alexander V. Kabanov and Serguei V. Vinogradov	
<b>Multifunctional Water-Soluble Polymers for Drug Delivery</b> .....	81
Huaizhong Pan and Jindřich Kopeček	
<b>“Smart” pH-Responsive Carriers for Intracellular Delivery of Biomolecular Drugs</b> .....	143
P.S. Stayton and A.S. Hoffman	
<b>Stimuli-Sensitive Nanosystems: For Drug and Gene Delivery</b> .....	161
Han Chang Kang, Eun Seong Lee, Kun Na, and You Han Bae	
<b>Functionalized Dendrimers as Nanoscale Drug Carriers</b> .....	201
Rohit Kolhatkar, Deborah Sweet, and Hamidreza Ghandehari	
<b>Biodegradable Multitargeting Nanoconjugates for Drug Delivery</b> .....	233
Julia Y. Ljubimova, Keith L. Black, Alexander V. Ljubimov, and Eggehard Holler	

<b>Pharmaceutical Micelles: Combining Longevity, Stability, and Stimuli Sensitivity</b> .....	263
Myrra G. Carstens, Cristianne J.F. Rijcken, Cornelus F. van Nostrum, and Wim E. Hennink	
<b>Multifunctional Nanotherapeutics for Cancer</b> .....	309
T. Minko, J.J. Khandare, A.A. Vetcher, V.A. Soldatenkov, O.B. Garbuzenko, M. Saad, and V.P. Pozharov	
<b>Charge Modification of Pharmaceutical Nanocarriers: Biological Implications</b> .....	337
N. Nafee, M. Schneider, and C.-M. Lehr	
<b>Functionalization of Pharmaceutical Nanocarriers for Mitochondria-Targeted Drug and DNA Delivery</b> .....	363
Volkmar Weissig, Sarathi Boddapati, Gerard D'Souza, and Richard W. Horobin	
<b>Multifunctional Magnetic Nanosystems for Tumor Imaging, Targeted Delivery, and Thermal Medicine</b> .....	381
Dattatri Nagesha, Harikrishna Devalapally, Srinivas Sridhar, and Mansoor Amiji	
<b>Nanosystems for Multimodality In vivo Imaging</b> .....	409
Jinzi Zheng, David A. Jaffray, and Christine Allen	
<b>Long-Circulating Liposomes with Attached Diagnostic Moieties: Application for Gamma and MR Imaging</b> .....	431
William Phillips, Beth Goins, and Ande Bao	
<b>Index</b> .....	457