

Contents

Part I Nanomaterials Engineering

Nanoliposomes Production by a Protocol Based on a Simil-Microfluidic Approach	3
Sabrina Bochicchio, Annalisa Dalmoro, Federica Recupido, Gaetano Lamberti and Anna Angela Barba	
Production of Nanostructured Microspheres Biopolymer-Active Principle-Magnetic Nanoparticles by Supercritical Assisted Atomization	11
Renata Adami, Mariarosa Scognamiglio and Ernesto Reverchon	
Encapsulation of Hydrophilic and Lipophilic Compounds in Nanosomes Produced with a Supercritical Based Process	23
Paolo Trucillo, Roberta Campardelli and Ernesto Reverchon	
Supercritical Antisolvent Process: PVP/Nimesulide Coprecipitates	37
Iolanda De Marco, Valentina Prosapio and Ernesto Reverchon	
PLA-Based Nanobiocomposites with Modulated Biodegradation Rate	51
Valentina Iozzino, Felice De Santis, Valentina Volpe and Roberto Pantani	

Part II Modelling of Bionanomaterials

Modelling Approach to Enzymatic pH Oscillators in Giant Lipid Vesicles	63
Ylenia Miele, Tamás Bánsági, Jr., Annette F. Taylor and Federico Rossi	
Dissipative Particle Dynamics Study of Alginate/Gelatin Aerogels Obtained by Supercritical Drying	75
Simona Concilio, Stefano Piotto, Lucia Sessa, Lucia Baldino, Stefano Cardea and Ernesto Reverchon	

Molecular Dynamics and Morphing Protocols for High Accuracy Molecular Docking	85
Lucia Sessa, Simona Concilio and Stefano Piotto	
Modelling Giant Lipid Vesicles Designed for Light Energy Transduction	97
Emiliano Altamura, Francesco Milano, Massimo Trotta, Pasquale Stano and Fabio Mavelli	
A Computational Approach to the Design of Scaffolds for Bone Tissue Engineering	111
Antonio Boccaccio, Antonio Emmanuele Uva, Michele Fiorentino, Vitoantonio Bevilacqua, Carmine Pappalettere and Giuseppe Monno	
Air Assisted Production of Alginate Beads Using Focusing Flow Microfluidic Devices: Numerical Modeling of Beads Formation	119
Francesco Marra, Angela De Vivo and Fabrizio Sarghini	
Part III Applications of Bionanomaterials	
Environmental Application of Extra-Framework Oxygen Anions in the Nano-Cages of Mayenite	131
Adriano Intiso, Raffaele Cucciniello, Stefano Castiglione, Antonio Proto and Federico Rossi	
Current Directions in Synthetic Cell Research	141
Pasquale Stano, Giordano Rampioni, Francesca D'Angelo, Emiliano Altamura, Fabio Mavelli, Roberto Marangoni, Federico Rossi and Luisa Damiano	
Green Synthesis of Gold Nanoparticles from Extracts of <i>Cucurbita pepo</i> L. Leaves: Insights on the Role of Plant Ageing	155
Cristina Gonnelli, Cristiana Giordano, Umberto Fontani, Maria Cristina Salvatici and Sandra Ristori	
Photosynthesis Without the Organisms: The Bacterial Chromatophores	165
Emiliano Altamura, Fabio Mavelli, Francesco Milano and Massimo Trotta	
Index	177

Advances in Bionanomaterials

Selected Papers from the 2nd Workshop in

Bionanomaterials, BIONAM 2016, October 4-7, 2016,

Salerno, Italy

Piotto, S.; Rossi, F.; Concilio, S.; Reverchon, E.;

Cattaneo, G. (Eds.)

2018, X, 178 p. 80 illus., 42 illus. in color., Hardcover

ISBN: 978-3-319-62026-8