

BioMACROMOLECULES

MARCH 2015

VOLUME 16, NUMBER 3

pubs.acs.org/Biomac



ACS Publications
Most Trusted. Most Cited. Most Read.

www.acs.org

Content

1. Photoinduced Development of Antibacterial Materials Derived from Isosorbide Moiety

Cedric Lorenzini, Adnan Haider, Inn-Kyu Kang, Marco Sangermano, Samir Abbad-Andalloussi, Pierre-Emmanuel Mazeran, Jacques Lalevée, Estelle Renard, Valérie Langlois, and Davy-Louis Versace, 683-694

2. Nanostructural Morphology of Plasticized Wheat Gluten and Modified Potato Starch Composites: Relationship to Mechanical and Barrier Properties

Faraz Muneer, Mariette Andersson, Kristine Koch, Carolin Menzel, Mikael S. Hedenqvist, Mikael Gällstedt, Tomás S. Plivelic, and Ramune Kuktaite, 695-705

3. Repeat-Proteins Films Exhibit Hierarchical Anisotropic Mechanical Properties

Nathan A. Carter and Tijana Zarkovic Grove, 706-714

4. Type, Density, and Presentation of Grafted Adhesion Peptides on Polysaccharide-Based Hydrogels Control Preosteoblast Behavior and Differentiation

Jing Jing, Audrey Fournier, Anna Szarpak-Jankowska, Marc R. Block, and Rachel Auzély-Veltz, 715-722

5. Tea Stains-Inspired Initiator Primer for Surface Grafting of Antifouling and Antimicrobial Polymer Brush Coatings

Dicky Pranantyo, Li Qun Xu, Koon-Gee Neoh, En-Tang Kang, Ying Xian Ng, and Serena Lay-Ming Teo, 723-732

6. Surface Chemistry of Photoluminescent F8BT Conjugated Polymer Nanoparticles Determines Protein Corona Formation and Internalization by Phagocytic Cells

Raha Ahmad Khanbeigi, Thais Fedatto Abelha, Arcadia Woods, Olivia Rastoin, Richard D. Harvey, Marie-Christine Jones, Ben Forbes, Mark A. Green, Helen Collins, and Lea Ann Dailey, 733-742

7. Micelle Stabilization via Entropic Repulsion: Balance of Force Directionality and Geometric Packing of Subunit

He Dong, Reidar Lund, and Ting Xu, 743-747

8. Poly(2-methyl-2-oxazoline)-b-poly(tetrahydrofuran)-b-poly(2-methyl-2-oxazoline) Amphiphilic Triblock Copolymers: Synthesis, Physicochemical Characterizations, and Hydrosolubilizing Properties

Bazoly Rasolonjatovo, Jean-Pierre Gomez, William Même, Cristine Gonçalves, Cécile Huin, Véronique Bennevault-Celton, Tony Le Gall, Tristan Montier, Pierre Lehn, Hervé Cheradame, Patrick Midoux, and Philippe Guégan, 748-756

9. Design of a Homogeneous Multifunctional Supported Lipid Membrane on Layer-by-Layer Coated Microcarriers

Martin Göse, Paula Pescador, and Uta Reibetanz, 757-768

10. Impact of the Structure of Biocompatible Aliphatic Polycarbonates on siRNA Transfection Ability

Antoine Frère, Michal Kawalec, Sarah Tempelaar, Paul Peixoto, Elodie Hendrick, Olivier Peulen, Brigitte Evrard, Philippe Dubois, Laetitia Mespouille, Denis Mottet, and Géraldine Piel, 769-779

11. Evaluation of the Effect of the Structure of Bacterial Cellulose on Full Thickness Skin Wound Repair on a Microfluidic Chip

Ying Li, Shiwen Wang, Rong Huang, Zhuo Huang, Binfeng Hu, Wenfu Zheng, Guang Yang, and Xingyu Jiang, 780-789

12. Colloidally Stabilized Magnetic Carbon Nanotubes Providing MRI Contrast in Mouse Liver Tumors

Yue Liu, Benjamin W. Muir, Lynne J. Waddington, Tracey M. Hinton, Bradford A. Moffat, Xiaojuan Hao, Jieshan Qiu, and Timothy C. Hughes, 790-797

13. Photoresponsive Elastic Properties of Azobenzene-Containing Poly(ethylene-glycol)-Based Hydrogels

Adrienne M. Rosales, Kelly M. Mabry, Eric Michael Nehls, and Kristi S. Anseth, 798-806

14. Engineering Low-Fouling and pH-Degradable Capsules through the Assembly of Metal-Phenolic Networks

Yi Ju, Jiwei Cui, Markus Müllner, Tomoya Suma, Ming Hu, and Frank Caruso, 807-814

15. Biodegradable Protein Nanocontainers

Keti Piradashvili, Michael Fichter, Kristin Mohr, Stephan Gehring, Frederik R. Wurm, and Katharina Landfester, 815-821

16. Mechanisms Behind the Stabilizing Action of Cellulose Nanofibrils in Wet-Stable Cellulose Foams

Nicholas Tchang Cervin, Erik Johansson, Jan-Willem Benjamins, and Lars Wågberg, 822-831

17. Enzyme Degradable Polymersomes from Hyaluronic Acid-block-poly(ϵ -caprolactone) Copolymers for the Detection of Enzymes of Pathogenic Bacteria

Simon Haas, Nicole Hain, Mohammad Raoufi, Stephan Handschuh-Wang, Tao Wang, Xin Jiang, and Holger Schönherr, 832-841

18. Fate of Linear and Branched Polyether-Lipids In Vivo in Comparison to Their Liposomal Formulations by 18F-Radiolabeling and Positron Emission Tomography

Achim T. Reibel, Sophie S. Müller, Stefanie Pektor, Nicole Bausbacher, Matthias Miederer, Holger Frey, and Frank Rösch, 842-851

19. Molecular Dynamics of Spider Dragline Silk Fiber Investigated by 2H MAS NMR

Xiangyan Shi, Gregory P. Holland, and Jeffery L. Yarger, 852-859

20. Coextruded, Aligned, and Gradient-Modified Poly(ϵ -caprolactone) Fibers as Platforms for Neural Growth

Si-Eun Kim, Emily C. Harker, Al C. De Leon, Rigoberto C. Advincula, and Jonathan K. Pokorski, 860-867

21. Copolyesters Made from 1,4-Butanediol, Sebacic Acid, and d-Glucose by Melt and Enzymatic Polycondensation

Cristina Japu, Antxon Martínez de Iiarduya, Abdelilah Alla, Yi Jiang, Katja Loos, and Sebastián Muñoz-Guerra, 868-879

22. Self-Assembling Polymer Micelle/Clay Nanodisk/Doxorubicin Hybrid Injectable Gels for Safe and Efficient Focal Treatment of Cancer

Koji Nagahama, Daichi Kawano, Naho Oyama, Ayaka Takemoto, Takayuki Kumano, and Junji Kawakami, 880-889

23. Coalesced Poly(ϵ -caprolactone) Fibers Are Stronger

Alper Gurarslan, Yavuz Caydamli, Jialong Shen, Shiaomeng Tse, Mahijeeth Yetukuri, and Alan E. Tonelli, 890-893

24. Biophysical Characterization and Molecular Docking Studies of Imidazolium Based Polyelectrolytes–DNA Complexes: Role of Hydrophobicity

Kasina Manojkumar, K. T. Prabhu Charan, Akella Sivaramakrishna, Prakash C. Jha, Vijay M. Khedkar, Ramamoorthy Siva, Gurunathan Jayaraman, and Kari Vijayakrishna, 894-903

25. High-Performance and Moisture-Stable Cellulose–Starch Nanocomposites Based on Bioinspired Core–Shell Nanofibers

Kasinee Prakobna, Sylvain Galland, and Lars A. Berglund, 904-912

26. Conjugation of Aurein 2.2 to HPG Yields an Antimicrobial with Better Properties

Prashant Kumar, Rajesh A. Shenoi, Benjamin F. L. Lai, Michael Nguyen, Jayachandran N. Kizhakkedathu, and Suzana K. Straus, 913-923

27. Biophysical Analysis of the Molecular Interactions between Polysaccharides and Mucin

B. Menchicchi, J. P. Fuenzalida, A. Hensel, M. J. Swamy, L. David, C. Rochas, and F. M. Goycoolea, 924-935

28. Alginate Nanofibrous Mats with Adjustable Degradation Rate for Regenerative Medicine

Hadi Hajiali, José A. Heredia-Guerrero, Ioannis Liakos, Athanassia Athanassiou, and Elisa Mele, 936-943

29. Interaction of A β 1–42 Amyloids with Lipids Promotes “Off-Pathway” Oligomerization and Membrane Damage

Sarah Henry, Hélène Vignaud, Claude Bobo, Marion Decossas, Oliver Lambert, Etienne Harte, Isabel D. Alves, Christophe Cullin, and Sophie Lecomte, 944-950

30. Proteoglycans and Their Heterogeneous Glycosaminoglycans at the Atomic Scale

Benedict M. Sattelle, Javad Shakeri, Matthew J. Cliff, and Andrew Almond, 951-961

31. Enzymatic Biodegradation of Hydrogels for Protein Delivery Targeted to the Small Intestine

Jennifer M. Knipe, Frances Chen, and Nicholas A. Peppas, 962-972

32. Adsorption Force of Fibronectin on Various Surface Chemistries and Its Vital Role in Osteoblast Adhesion

Manping Lin, Huaiyu Wang, Changshun Ruan, Juan Xing, Jinfeng Wang, Yan Li, Yuanliang Wang, and Yanfeng Luo, 973-984

33. Anomalous Stiffening and Ion-Induced Coil–Helix Transition of Carrageenans under Monovalent Salt Conditions

Larissa Schefer, Ivan Usov, and Raffaele Mezzenga, 985-991

34. Nanofibrous Heparin and Heparin-Mimicking Multilayers as Highly Effective Endothelialization and Antithrombogenic Coatings

Chuanxiong Nie, Lang Ma, Chong Cheng, Jie Deng, and Changsheng Zhao, 992-1001

35. Tough Coating Proteins: Subtle Sequence Variation Modulates Cohesion

Saurabh Das, Dusty R. Miller, Yair Kaufman, Nadine R. Martinez Rodriguez, Alessia Pallaoro, Matthew J. Harrington, Maryte Gylys, Jacob N. Israelachvili, and J. Herbert Waite, 1002-1008

36. Amyloid-Like Hierarchical Helical Fibrils and Conformational Reversibility in Functional Polyesters Based on I-Amino Acids

Santhanaraj Anantharaj and Manickam Jayakannan, 1009-1020

37. Bio-Based Alternative to the Diglycidyl Ether of Bisphenol A with Controlled Materials Properties

Anthony Maiorana, Stephen Spinella, and Richard A. Gross, 1021-1031

38. Single Lipid Bilayer Deposition on Polymer Surfaces Using Bicelles

Qasim Saleem, Zhenfu Zhang, Amy Petretic, Claudiu C. Gradinaru, and Peter M. Macdonald, 1032-1039

39. Grafting of Bacterial Polyhydroxybutyrate (PHB) onto Cellulose via In Situ Reactive Extrusion with Dicumyl Peroxide

Liqing Wei, Armando G. McDonald, and Nicole M. Stark, 1040-1049

40. Biomineralized Matrices Dominate Soluble Cues To Direct Osteogenic Differentiation of Human Mesenchymal Stem Cells through Adenosine Signaling

Heemin Kang, Yu-Ru V. Shih, and Shyni Varghese, 1050-1061

41. Water-Resistant, Transparent Hybrid Nanopaper by Physical Cross-Linking with Chitosan

Matti S. Toivonen, Sauli Kurki-Suonio, Felix H. Schacher, Sami Hietala, Orlando J. Rojas, and Olli Ikkala, 1062-1071