

Biomacromolecules

MARCH 2014

VOLUME 15, NUMBER 3

pubs.acs.org/Biomac



ACS Publications

MOST TRUSTED. MOST CITED. MOST READ.

www.acs.org

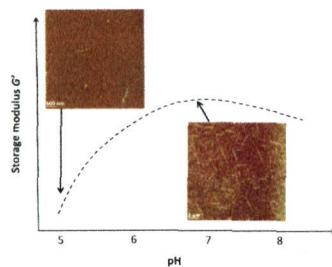
Articles

699



Dilute Self-Healing Hydrogels of Silk-Collagen-Like Block Copolyptides at Neutral pH

Monika D. Golinska, Małgorzata K. Włodarczyk-Biegun, Marc W. T. Werten, Martien A. Cohen Stuart, Frits A. de Wolf, and Renko de Vries*



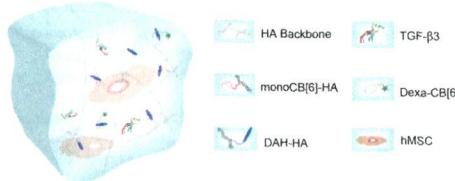
707



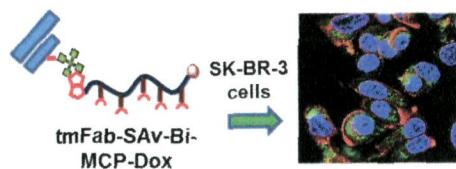
[dx.doi.org/10.1021/bm401123m](https://doi.org/10.1021/bm401123m)

3D Tissue Engineered Supramolecular Hydrogels for Controlled Chondrogenesis of Human Mesenchymal Stem Cells

Hyuntae Jung, Ji Sun Park, Junseok Yeom, Narayanan Selvapalam, Kyeng Min Park, Kyunghoon Oh, Jeong-A Yang, Keun Hong Park,* Sei Kwang Hahn,* and Kimoon Kim*

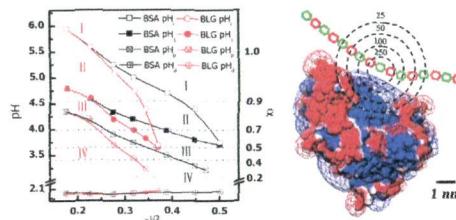


Intracellular Routing in Breast Cancer Cells of Streptavidin-Conjugated Trastuzumab Fab Fragments Linked to Biotinylated Doxorubicin-Functionalized Metal Chelating Polymers
 Peng Liu, Zhongli Cai, Jae W. Kang, Amanda J. Boyle, Jarret Adams, Yijie Lu, Ghislaine Ngo Ndjock Mbong, Sachdev Sidhu, Raymond M. Reilly,* and Mitchell A. Winnik*



[dx.doi.org/10.1021/bm401483a](https://doi.org/10.1021/bm401483a)

Protein-Selective Coacervation with Hyaluronic Acid
 Xiaosong Du, Paul L. Dubin,* David A. Hoagland, and Lianhong Sun



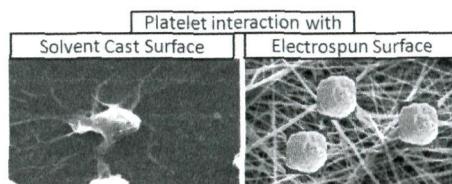
[dx.doi.org/10.1021/bm500041a](https://doi.org/10.1021/bm500041a)

Short One-Pot Chemo-Enzymatic Synthesis of L-Lysine and L-Alanine Diblock Co-Oligopeptides
 Jenny Fagerland, Anna Finne-Wistrand,* and Keiji Numata*



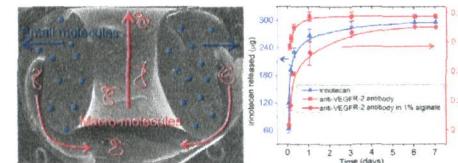
[dx.doi.org/10.1021/bm4015254](https://doi.org/10.1021/bm4015254)

Interaction of Platelets with Poly(vinylidene fluoride-co-hexafluoropropylene) Electrospun Surfaces
 Furqan Ahmed, Namita Roy Choudhury,* Naba K. Dutta, Susana Brito e Abreu, Andrew Zannettino, and Elizabeth Duncan



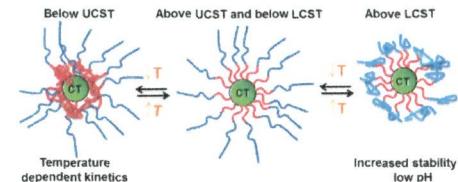
6A

Toroidal-Spiral Particles for Codelivery of Anti-VEGFR-2 Antibody and Irinotecan: A Potential Implant to Hinder Recurrence of Glioblastoma Multiforme
 Vishal Sharma, Melanie Köllmer, Magdalena Szymusiak, Ludwig C. Nitsche, Richard A. Gemeinhart, and Ying Liu*



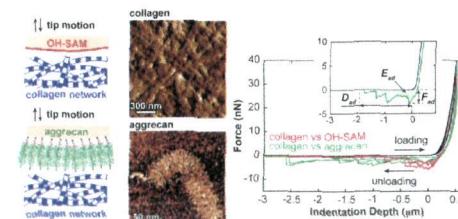
[dx.doi.org/10.1021/bm401550r](https://doi.org/10.1021/bm401550r)

Dramatically Increased pH and Temperature Stability of Chymotrypsin Using Dual Block Polymer-Based Protein Engineering
 Chad Cummings, Hironobu Murata, Richard Koepsel, and Alan J. Russell*



[dx.doi.org/10.1021/bm401575k](https://doi.org/10.1021/bm401575k)

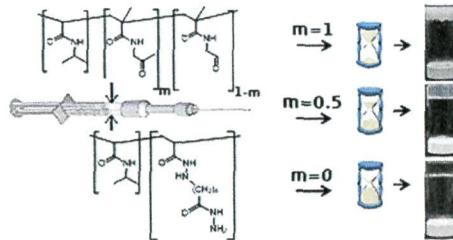
Molecular Adhesion between Cartilage Extracellular Matrix Macromolecules
 Fredrick P. Rojas, Michael A. Batista, C. Alexander Lindburg, Delphine Dean, Alan J. Grodzinsky, Christine Ortiz, and Lin Han*



[dx.doi.org/10.1021/bm401611b](https://doi.org/10.1021/bm401611b)

Tuning Gelation Time and Morphology of Injectable Hydrogels Using Ketone–Hydrazide Cross-Linking

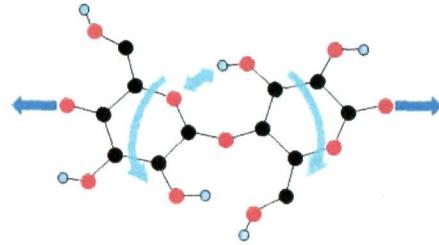
Mathew Patenaude, Scott Campbell, Dennis Kinio, and Todd Hoare*



[dx.doi.org/10.1021/bm401615d](https://doi.org/10.1021/bm401615d)

How Cellulose Stretches: Synergism between Covalent and Hydrogen Bonding

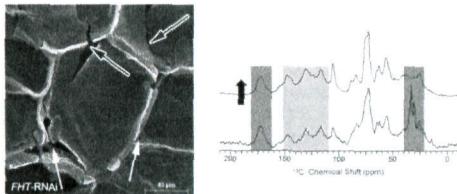
Clemens M. Altaner, Lynne H. Thomas, Anwesha N. Fernandes, and Michael C. Jarvis*



[dx.doi.org/10.1021/bm401616n](https://doi.org/10.1021/bm401616n)

Deconstructing a Plant Macromolecular Assembly: Chemical Architecture, Molecular Flexibility, And Mechanical Performance of Natural and Engineered Potato Suberins

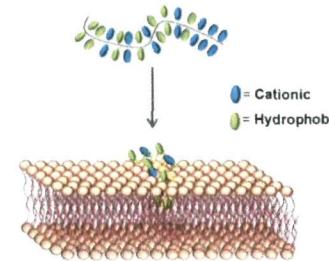
Olga Serra, Subhasish Chatterjee, Mercè Figueras, Marisa Molinas, and Ruth E. Stark*



[dx.doi.org/10.1021/bm401620d](https://doi.org/10.1021/bm401620d)

Importance of Sequence Specific Hydrophobicity in Synthetic Protein Transduction Domain Mimics

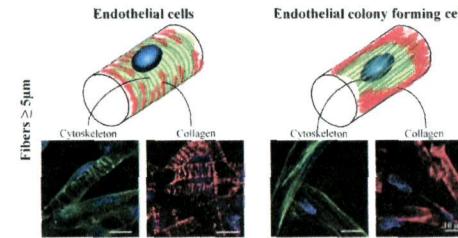
Federica Sgolastra, Lisa M. Minter, Barbara A. Osborne, and Gregory N. Tew*



[dx.doi.org/10.1021/bm401634r](https://doi.org/10.1021/bm401634r)

Differential Response of Endothelial and Endothelial Colony Forming Cells on Electrospun Scaffolds with Distinct Microfiber Diameters

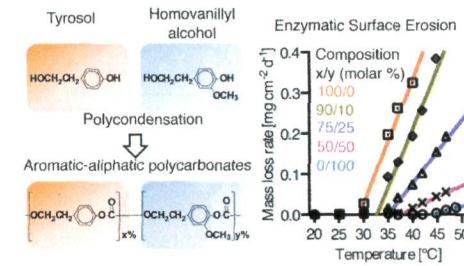
Emanuela S. Fioretta,* Marc Simonet, Anthal I. P. M. Smits, Frank P. T. Baaijens,* and Carlijn V. C. Bouten



[dx.doi.org/10.1021/bm4016418](https://doi.org/10.1021/bm4016418)

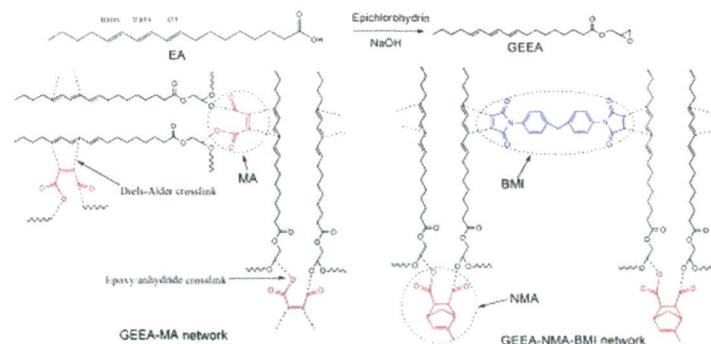
Enzymatic Surface Erosion of High Tensile Strength Polycarbonates Based on Natural Phenols

Sven D. Sommerfeld, Zheng Zhang, Marius C. Costache, Sebastián L. Vega, and Joachim Kohn*

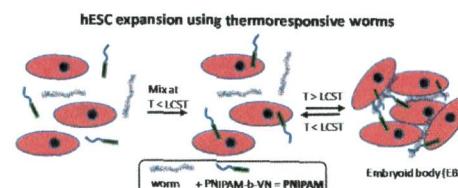


[dx.doi.org/10.1021/bm4016539](https://doi.org/10.1021/bm4016539)

Epoxy Monomers Derived from Tung Oil Fatty Acids and Its Regulable Thermosets Cured in Two Synergistic Ways
Kun Huang, Zengshe Liu,* Jinwen Zhang,* Shouhai Li, Mei Li, Jianling Xia, and Yonghong Zhou



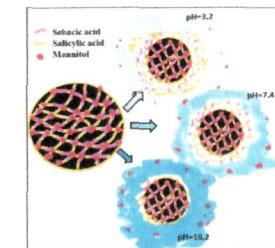
Thermoresponsive Worms for Expansion and Release of Human Embryonic Stem Cells
Xiaoli Chen, Andrew B. J. Prowse, Zhongfan Jia, Helena Tellier, Trent P. Munro, Peter P. Gray, and Michael J. Monteiro*



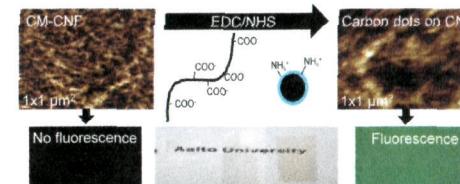
Saponins: A Renewable and Biodegradable Surfactant From Its Microwave-Assisted Extraction to the Synthesis of Monodisperse Latices
C. Schmitt, B. Grassl, G. Lespes, J. Desbrières, V. Pellerin, S. Reynaud,* J. Gigault, and V. A. Hackley



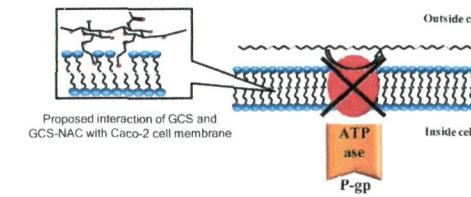
Cross-Linked, Biodegradable, Cyocompatible Salicylic Acid Based Polyesters for Localized, Sustained Delivery of Salicylic Acid: An In Vitro Study
Yashoda Chandorkar, Rajesh K. Bhagat, Giridhar Madras, and Bikramjit Basu*



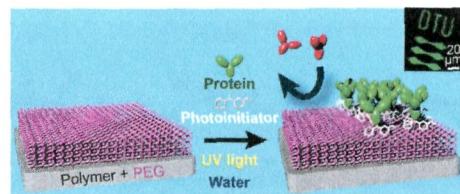
Modification of Cellulose Nanofibrils with Luminescent Carbon Dots
Karoliina Junka, Jiaqi Guo, Ilari Filpponen,* Janne Laine, and Orlando J. Rojas*



Mucoadhesive Properties and Interaction with P-Glycoprotein (P-gp) of Thiolated-Chitosans and -Glycol Chitosans and Corresponding Parent Polymers: A Comparative Study
Adriana Trapani,* Claudio Palazzo, Marialessandra Contino, Maria Grazia Perrone, Nicola Ciolfi, Nicoletta Ditaranto, Nicola Antonio Colabufo, Massimo Conese, Giuseppe Trapani, and Giovanni Puglisi

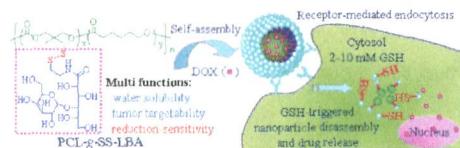


Facile Photoimmobilization of Proteins onto Low-Binding PEG-Coated Polymer Surfaces
Esben Kjær Unmack Larsen, Morten Bo Lindholm Mikkelsen, and Niels B. Larsen*



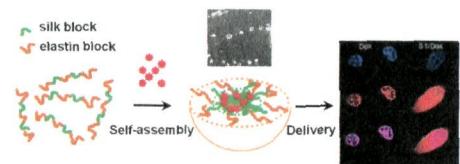
dx.doi.org/10.1021/bm401745a

Glyco-Nanoparticles with Sheddable Saccharide Shells: A Unique and Potent Platform for Hepatoma-Targeting Delivery of Anticancer Drugs
Wei Chen, Yan Zou, Fenghua Meng, Ru Cheng, Chao Deng,* Jan Feijen, and Zhiyuan Zhong*



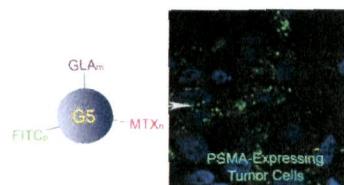
dx.doi.org/10.1021/bm401749t

Hydrophobic Drug-Triggered Self-Assembly of Nanoparticles from Silk-Elastin-Like Protein Polymers for Drug Delivery
Xiao-Xia Xia, Ming Wang, Yinan Lin, Qiaobing Xu, and David L. Kaplan*



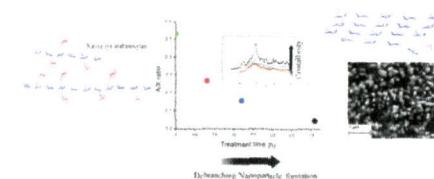
dx.doi.org/10.1021/bm4017594

PSMA-Targeted Stably Linked "Dendrimer-Glutamate Urea-Methotrexate" as a Prostate Cancer Therapeutic
Baohua Huang, James Otis, Melvin Joice, Alina Kotlyar, and Thommey P. Thomas*



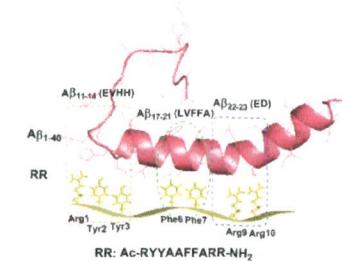
dx.doi.org/10.1021/bm401777w

Assembly of Debranched Xylan from Solution and on Nanocellulosic Surfaces
Toon J. Bosmans, Agnes M. Stépán, Guillermo Toriz, Scott Rennekar, Erdem Karabulut, Lars Wågberg, and Paul Gatenholm*



dx.doi.org/10.1021/bm4017868

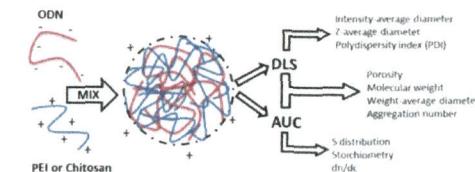
Study on the Efficiency and Interaction Mechanism of a Decapeptide Inhibitor of β -Amyloid Aggregation
Jing Liu, Wei Wang, Qian Zhang, Saihui Zhang, and Zhi Yuan*



dx.doi.org/10.1021/bm401795e

Combined Analysis of Polycation/ODN Polyplexes by Analytical Ultracentrifugation and Dynamic Light Scattering Reveals their Size, Refractive Index Increment, Stoichiometry, Porosity, and Molecular Weight

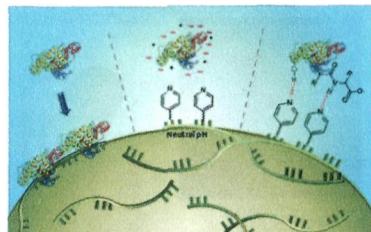
Yves Niebel, Michael D. Buschmann, Marc Lavertu,* and Gregory De Crescenzo*



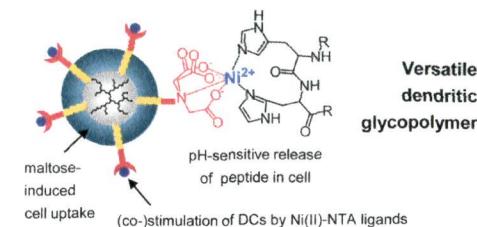
dx.doi.org/10.1021/bm4018148

Facile Co-Assembly Process to Generate Core–Shell Nanoparticles with Functional Protein Corona
Nisaraporn Suthiwangcharoen, Tao Li, Laying Wu, Heidi B. Reno, Preston Thompson, and Qian Wang*

dx.doi.org/10.1021/bm401819x



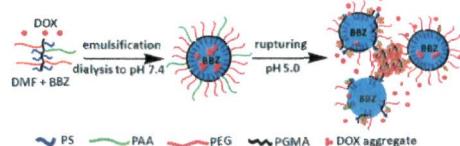
Potential of Ni(II)-NTA-Modified Poly(ethylene imine) Glycopolymers as Carrier System for Future Dendritic Cell-Based Immunotherapy
N. Hauptmann, M. Pion, R. Wehner, M.-Á. Muñoz-Fernández, M. Schmitz, B. Voit, and D. Appelhans*



dx.doi.org/10.1021/bm4018484

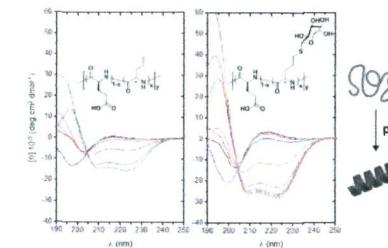
pH-Responsive Nanoemulsions for Controlled Drug Release

Feng Liu, Shudong Lin, Zuoquan Zhang, Jiwen Hu,* Guojun Liu,* Yuanyuan Tu, Yang Yang, Hailiang Zou, Yangmiao Mo, and Lei Miao



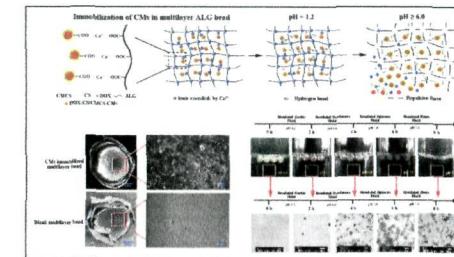
Stimuli-Responsivity of Secondary Structures of Glycopolypeptides Derived from Poly(L-glutamate-co-allylglycine)
Kai-Steffen Krannig, Jing Sun, and Helmut Schlaad*

dx.doi.org/10.1021/bm401883p



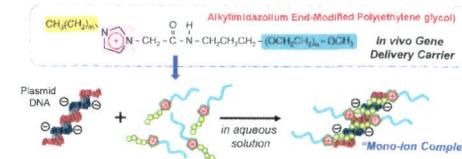
Immobilization of Coacervate Microcapsules in Multilayer Sodium Alginate Beads for Efficient Oral Anticancer Drug Delivery
Chao Feng, Ruixi Song, Guohui Sun, Ming Kong, Zixian Bao, Yang Li, Xiaojie Cheng, Dongsu Cha, Hyunjin Park,* and Xiguang Chen*

dx.doi.org/10.1021/bm401890x



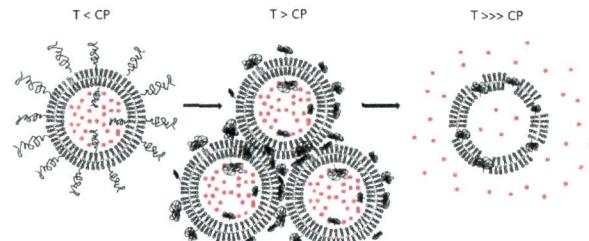
Alkylimidazolium End-Modified Poly(ethylene glycol) To Form the Mono-ion Complex with Plasmid DNA for *In Vivo* Gene Delivery
Shoichiro Asayama,* Atsushi Nohara, Yoichi Negishi, and Hiroyoshi Kawakami

dx.doi.org/10.1021/bm401902j



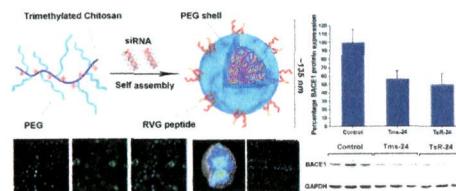
Triggered Release of Doxorubicin from Temperature-Sensitive Poly(*N*-*2*-hydroxypropyl)-methacrylamide mono/dilactate Grafted Liposomes

Merel van Elk, Roel Deckers, Chris Oerlemans, Yang Shi, Gert Storm, Tina Vermonden, and Wim E. Hennink*



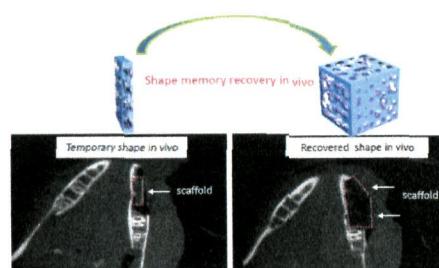
RVG-Peptide-Linked Trimethylated Chitosan for Delivery of siRNA to the Brain

Yikun Gao, Zhan-You Wang, Jinghai Zhang, Youxi Zhang, Hong Huo, Tianyi Wang, Tongying Jiang,* and Siling Wang*



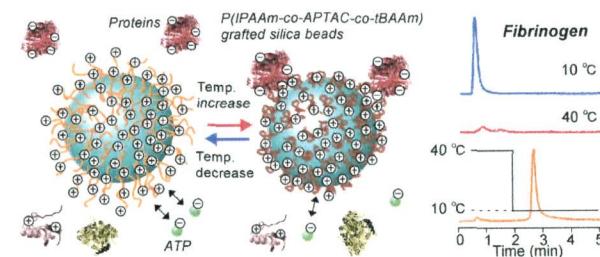
Delivery of Growth Factors Using a Smart Porous Nanocomposite Scaffold to Repair a Mandibular Bone Defect

Xian Liu, Kun Zhao, Tao Gong, Jian Song, Chongyun Bao, En Luo, Jie Weng, and Shaobing Zhou*



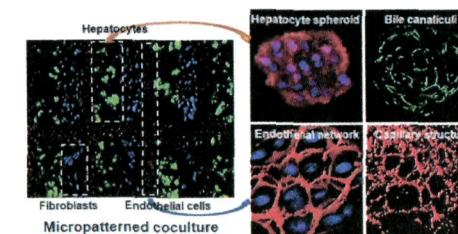
Thermoresponsive Copolymer Brushes Possessing Quaternary Amine Groups for Strong Anion-Exchange Chromatographic Matrices

Kenichi Nagase, Mike Geven, Saori Kimura, Jun Kobayashi, Akihiko Kikuchi, Yoshikatsu Akiyama, Dirk W. Grijpma, Hideko Kanazawa, and Teruo Okano*



Hepatocyte Cocultures with Endothelial Cells and Fibroblasts on Micropatterned Fibrous Mats to Promote Liver-Specific Functions and Capillary Formation Capabilities

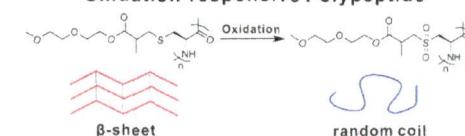
Yaowen Liu, Huinan Li, Shili Yan, Jiaojun Wei, and Xiaohong Li*



Oxidation-Responsive OEGylated Poly-L-cysteine and Solution Properties Studies

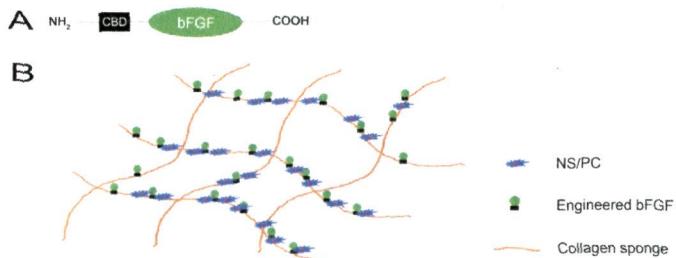
Xiaohui Fu, Yinan Ma, Yong Shen, Wenxin Fu, and Zhibo Li*

Oxidation-responsive Polypeptide



Accelerating Proliferation of Neural Stem/Progenitor Cells in Collagen Sponges Immobilized with Engineered Basic Fibroblast Growth Factor for Nervous System Tissue Engineering

Fukai Ma, Zhifeng Xiao, Biné Chen, Xianglin Hou, Jin Han, Yannan Zhao, Jianwu Dai,* and Ruxiang Xu*



Notes

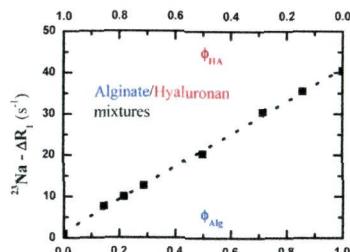
1069



dx.doi.org/10.1021/bm401821s

Determination of the Composition for Binary Mixtures of Polyanions: The Case of Mixed Solutions of Alginate and Hyaluronan

Illaria Geremia, Massimiliano Borgogna, Andrea Travani, Eleonora Marsich, Sergio Paoletti, and Ivan Donati*



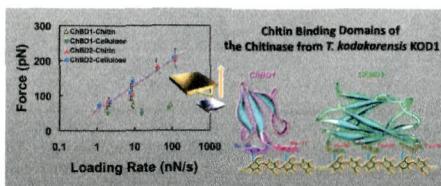
1074



dx.doi.org/10.1021/bm500046f

Atomic Force Microscopic Study of Chitinase Binding onto Chitin and Cellulose Surfaces

Yoshihiro Kikkawa,* Masato Fukuda, Tomoya Kimura, Ayumi Kashiwada, Kiyomi Matsuda, Masatoshi Kaneko, Masahisa Wada, Tadayuki Imanaka, and Takeshi Tanaka*



Supporting Information available via online article