



Graphical Abstracts/Eur Polym J 49 (2013) 753–758

Preface759

FEATURE ARTICLES

Group transfer polymerization of biobased monomers

Eur Polym J 49 (2013) 761

Eleni Kassi Michalis S. Constantinou, Costas S. Patrickios

Department of Chemistry, University of Cyprus, P.O. Box 20537, 1678 Nicosia, Cyprus

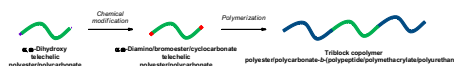
**Recent advances in ring-opening polymerization strategies toward α,ω -hydroxy telechelic polyesters and resulting copolymers**

Eur Polym J 49 (2013) 768

Sophie M. Guillaume

Institut des Sciences Chimiques de Rennes, Organometallics, Materials and Catalysis, UMR 6226 CNRS-Université de Rennes 1, Campus de Beaulieu, F-35042 Rennes Cedex, France

α,ω -Dihydroxy telechelic polymers such as poly(ϵ -caprolactone) (PCL), poly(3-hydroxybutyrate) (PHB) or poly(trimethylene carbonate) (PTMC) diols, can be chemically modified into the corresponding di(amino), di(α -bromoester) or di(cyclocarbonate) polyester/polycarbonate. These latter pre-polymers allow access, upon ring-opening polymerization of γ -benzyl-L-glutamate *N*-carboxyanhydride (BLG), or radical polymerization of methyl methacrylate (MMA) or polycondensation with a diamine, to triblock polyester/polycarbonate copolymer architectures featuring polypeptide (PBLG), polymethacrylate (PMMA) or polyurethane (PU) segments, respectively.

**Chitosan-based biomaterials for tissue engineering**

Eur Polym J 49 (2013) 780

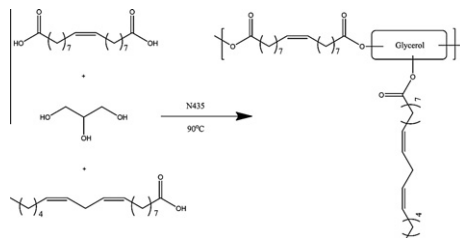
Florence Croisier Christine Jérôme

Center for Education and Research on Macromolecules (CERM), Department of Chemistry, University of Liège, Allée de la Chimie 3, B6a, 4000 Liège, Belgium



PART I: BIOBASED POLYMERS: MACROMOLECULAR ENGINEERING**Polymeric triglyceride analogs prepared by enzyme-catalyzed condensation polymerization**

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Yu-Rong Zhang^{a,b}, Stephen Spinella^a, Wenchun Xie^a, Jiali Cai^a, Yixin Yang^a, Yu-Zhong Wang^b, Richard A. Gross^a^aCenter for Biocatalysis and Bioprocessing of Macromolecules, Department of Chemical and Biomolecular Science, Polytechnic Institute of NYU, Six Metrotech Center, Brooklyn, NY 11201, United States^bCenter for Degradable and Flame-Retardant Polymeric Materials, National Engineering Laboratory of Eco-Friendly Polymeric Materials, College of Chemistry, Sichuan University, Chengdu 610064, China**Renewable sulfur-containing thermoplastics via AB-type thiol-ene polyaddition**

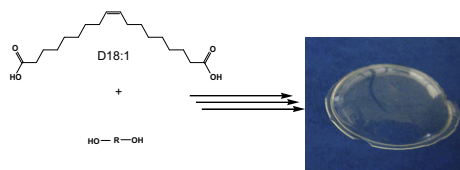
Eur Polym J 49 (2013) 804

Otto van den Berg, Tugba Dispinar, Bart Hommez, Filip E. Du Prez

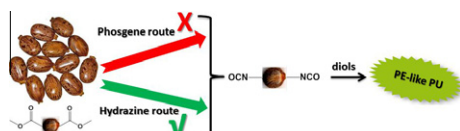
Department of Organic Chemistry, Polymer Chemistry Research Group, Ghent University, Krijgslaan 281, S4-bis, B-9000 Ghent, Belgium

**Novel aliphatic polyesters from an oleic acid based monomer. Synthesis, epoxidation, cross-linking and biodegradation**

Eur Polym J 49 (2013) 813

Pierre-Jean Roumanet^a, Fabrice Lafèche^a, Nathalie Jarroux^a, Yann Raoul^b, Sylvain Claude^b, Philippe Guégan^a^aCNRS UMR 8587, Université d'Evry-Val-d'Essonne, Laboratoire d'Analyse et de Modélisation pour la Biologie et l'Environnement, 91025 Evry, France^bONIDOL, 12 Avenue George V 75008 Paris, France**Novel fatty acid based di-isocyanates towards the synthesis of thermoplastic polyurethanes**

Eur Polym J 49 (2013) 823

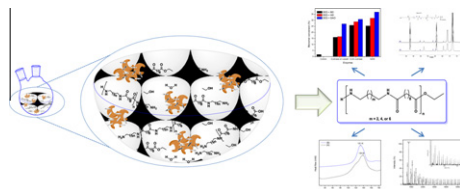
Arvind S. More^{a,b}, Thomas Lebarbé^{a,b,c}, Lise Maisonneuve^{a,b}, Benoit Gadenne^d, Carine Alfos^d, Henri Cramail^{a,b}^aUniv. Bordeaux, LCPO, UMR 5629, F-33600 Pessac, France^bCNRS, LCPO, UMR 5629, F-33600 Pessac, France^cFrench Environment and Energy Management Agency, 20 Avenue du Grésillé-BP 90406, F-49004 Angers Cedex 01, France^dITERG, 11, rue Gaspard Monge, F-33600 Pessac, France

Fusarium solani pisi cutinase-catalyzed synthesis of polyamides

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E. Stavila, R.Z. Arsyi, D.M. Petrovic, K. Loos

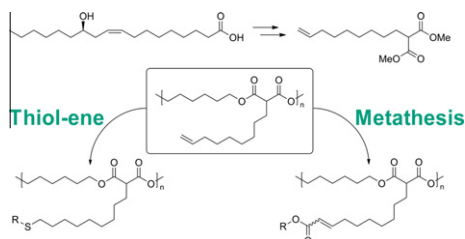
Polymer Chemistry Department, Zernike Institute for Advanced Materials, University of Groningen, Nijenborgh 4, 9747 AG Groningen, The Netherlands

**PART II: BIOBASED POLYMERS: FROM CHEMICAL FUNCTIONALIZATION/MODIFICATION TO PROPERTIES****Grafting onto a renewable unsaturated polyester via thiol-ene chemistry and cross-metathesis**

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Nicolai Kolb, Michael A.R. Meier

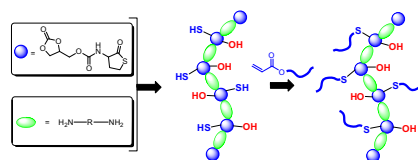
Karlsruhe Institute of Technology, Institute of Organic Chemistry, Fritz-Haber-Weg-6, Building 30.42, 76131 Karlsruhe, Germany

**Poly(amide urethane)s with functional/reactive side groups based on a bis-cyclic bio-based monomer/coupling agent**

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Helmut Keul, Stefan Mommer, Martin Möller

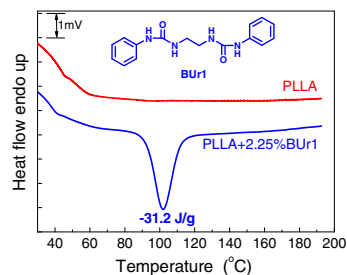
DWI an der RWTH Aachen e.V. and Institute of Technical and Macromolecular Chemistry, RWTH Aachen University, Forckenbeckstr. 50, D-52056 Aachen, Germany

**Synthesis of organic bisurea compounds and their roles as crystallization nucleating agents of poly(L-lactic acid)**

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Yutao Xu, Linbo Wu

State Key Laboratory of Chemical Engineering at ZJU, Department of Chemical and Biological Engineering, Zhejiang University, Hangzhou 310027, China



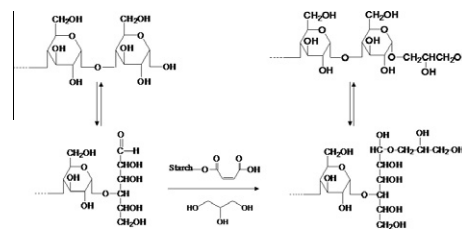
Reactive extrusion of glycerylated starch and starch–polyester graft copolymers

Elodie Hablot, Sudhanwa Dewasthale, Yanjie Zhao, Yang Zhiguan, Xiangke Shi, Dan Graiver, Ramani Narayan

Michigan State University, Department of Chemical Engineering and Material Science, East Lansing, MI 48910, USA

Studies in the reactive extrusion chemistry of glycerylated starch and starch–polyester graft copolymers.

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Plasma-polymer coatings onto different biodegradable polyesters surfaces

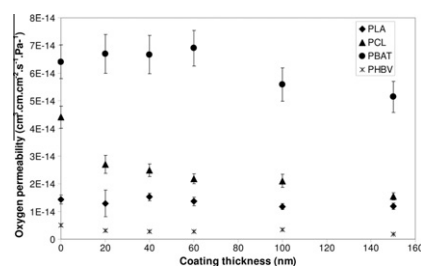
Laurent B elard^a, Fabienne Poncin-Epaillard^b, Patrice Dole^a, Luc Av erous^c

^aUMR (INRA/URCA) FARE, BP 1039, F-51687 Reims Cedex 2, France

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Synthesis and characterization of PCL–PLLA polyurethane with shape memory behavior

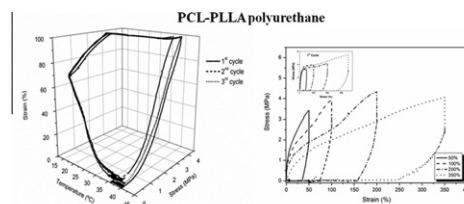
Laura Peponi^a, Ivan Navarro-Baena^{a,b}, Agueda Sonseca^c, Enrique Gimenez^c, Angel Marcos-Fernandez^a, Jos e M. Kenny^{a,b}

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Physicochemical and mechanical properties of mixed culture polyhydroxyalkanoate (PHBV)

M onica V. Arcos-Hern andez^{a,b}, Bronwyn Laycock^a, Bogdan C. Donose^b, Steven Pratt^a, Peter Halley^{a,c}, Salah Al-Luaibi^d, Alan Werker^e, Paul A. Lant^a

^aUniversity of Queensland, School of Chemical Engineering, St. Lucia, QLD 4072, Australia

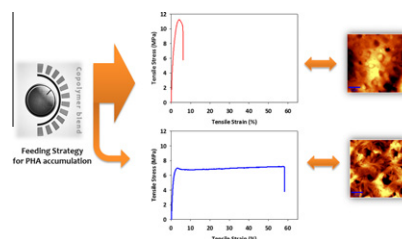
^bUniversity of Queensland, Advanced Water Management Centre, St. Lucia, QLD 4072, Australia

^cUniversity of Queensland, Australian Institute for Bioengineering and Nanotechnology and the Centre for High Performance Polymers, St. Lucia, QLD 4072, Australia

^dUniversity of Basrah, Chemistry Department, College of Science, Karmat Ali B.P. 49, Basrah, Iraq

^eAnoxKaldnes AB, Kloster angsv gen 11A, SE-226 47 Lund, Sweden

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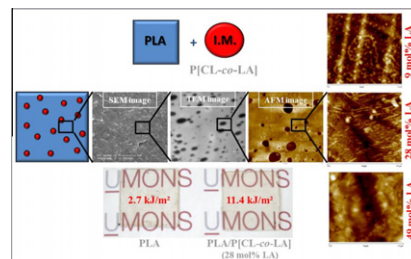
Toughening of polylactide by tailoring phase-morphology with P[CL-co-LA] random copolyesters as biodegradable impact modifiers

Jérémy Odent^a, Philippe Leclère^b, Jean-Marie Raquez^a, Philippe Dubois^a

^aLaboratory of Polymeric and Composite Materials (LPCM), Center of Innovation and Research in Materials and Polymers (CIRMAP), University of Mons, Place du Parc 23, B-7000 Mons, Belgium

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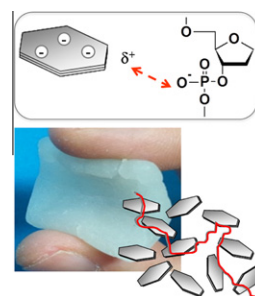
PART III: BIOBASED POLYMERS: FROM (NANO) FILLERS TO (NANO) COMPOSITES

Structure and rheology of nanocomposite hydrogels composed of DNA and clay

Akihiro Taki, Baiju John, Shuichi Arakawa, Masami Okamoto

Advanced Polymeric Nanostructured Materials Engineering, Graduate School of Engineering, Toyota Technological Institute, 2-12-1 Hisakata, Tempaku, Nagoya 468-8511, Japan

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Nanocomposites combustion peculiarities. A case history: Poly(lactide)-clays

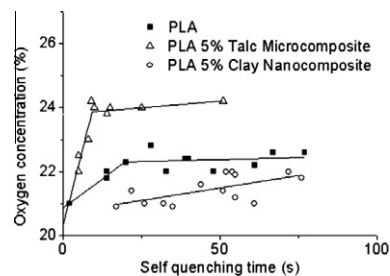
Ping Wei^a, Sergio Bocchini^b, Giovanni Camino^c

^aSchool of Chemistry and Chemical Engineering, Shanghai Jiao Tong University, Shanghai 200240, People's Republic of China

^bCenter for Space Human Robotics@PoliTo, Istituto Italiano di Tecnologia, C.so Trento 21, 10129 Torino, Italy

^cDipartimento di Scienza Applicata e Tecnologia, Politecnico di Torino, Sede di Alessandria, Local INSTM Unit, Via Teresa Michel 5, 15121 Alessandria, Italy

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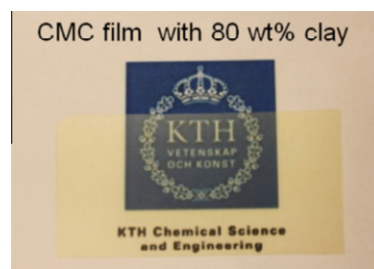
Fire-retardant and ductile clay nanopaper biocomposites based on montmorillonite in matrix of cellulose nanofibers and carboxymethyl cellulose

Andong Liu, Lars A. Berglund

Department of Fiber and Polymer Technology, Royal Institute of Technology, SE-10044 Stockholm, Sweden

Wallenberg Wood Science Center, Royal Institute of Technology (KTH), SE-10044 Stockholm, Sweden

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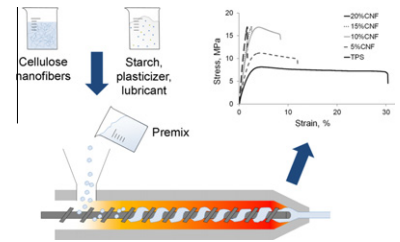
Bionanocomposites of thermoplastic starch and cellulose nanofibers manufactured using twin-screw extrusion

Maiju Hietala^{a,b}, Aji P. Mathew^a, Kristiina Oksman^a

^aDivision of Materials Science, Department of Engineering Sciences and Mathematics, Luleå University of Technology, SE 97187, Luleå, Sweden

^bFibre and Particle Engineering Laboratory, Department of Process and Environmental Engineering, FI-90014 University of Oulu, Finland

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Potential transparent PLA impact modifiers based on PMMA copolymers

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Department of Polymer Science and Engineering, Inha University, Incheon 402-751, Republic of Korea

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