



# Generation of Core–Sheath Polymer Nanofibers by Pressurised Gyration

*Polymers*, Volume 12, Issue 8 (August 2020)

## Table of Contents

### Featured Papers

**Article: Comparative Study on Protein-Rich Electrospun Fibers for In Vitro Applications**

Iriczalli Cruz-Maya, Alessio Varesano, Claudia Vineis and Vincenzo Guarino

*Polymers* **2020**, *12*(8), 1671; doi:10.3390/polym12081671

**Article: Accelerated Reaction Rates within Self-Assembled Polymer Nanoreactors with Tunable Hydrophobic Microenvironments**

Andrew Harrison, Michael P. Zeevi, Christopher L. Vasey, Matthew D. Nguyen and Christina Tang

*Polymers* **2020**, *12*(8), 1774; doi:10.3390/polym12081774

### General

**Review: Insoluble Polymers in Solid Dispersions for Improving Bioavailability of**

### **Poorly Water-Soluble Drugs**

Thao T.D. Tran and Phuong H.L. Tran

*Polymers* **2020**, *12*(8), 1679; doi:10.3390/polym12081679

### **Review: Flame Retardant Polypropylenes: A Review**

Farzad Seidi, Elnaz Movahedifar, Ghasem Naderi, Vahideh Akbari, Franck Ducos, Ramin Shamsi, Henri Vahabi and Mohammad Reza Saeb

*Polymers* **2020**, *12*(8), 1701; doi:10.3390/polym12081701

### **Review: Synthetic Polymers for Organ 3D Printing**

Fan Liu and Xiaohong Wang

*Polymers* **2020**, *12*(8), 1765; doi:10.3390/polym12081765

### **Article: Characterizing the Core-Shell Architecture of Block Copolymer Nanoparticles with Electron Microscopy: A Multi-Technique Approach**

Vitalii Tkachenko, Loïc Vidal, Ludovic Josien, Marc Schmutz, Julien Poly and Abraham Chemtob

*Polymers* **2020**, *12*(8), 1656; doi:10.3390/polym12081656

### **Article: Effect of the Fiber Treatment on the Stiffness of Date Palm Fiber Reinforced PP Composites: Macro and Micromechanical Evaluation of the Young's Modulus**

Belgacem Chihaoui, Ferran Serra-Parareda, Quim Tarrés, Francesc Xavier Espinach, Sami Boufi and Marc Delgado-Aguilar

*Polymers* **2020**, *12*(8), 1693; doi:10.3390/polym12081693

### **Article: Synthesis and Structural Characterization of Sequential Structure and Crystallization Properties for Hydrophilic Modified Polyester**

Lina Sun, Liqian Huang, Xueli Wang, Hongmei Hu, Juanzi Guo, Ruishu Zhu and Shuang He

*Polymers* **2020**, *12*(8), 1733; doi:10.3390/polym12081733

### **Article: Effect of Mixing Method on Properties of Ethylene Vinyl Acetate Copolymer/Natural Rubber Thermoplastic Vulcanizates**

Nappaphan Kunanusont, Chavakorn Samthong, Fan Bowen, Masayuki Yamaguchi and Anongnat Somwangthanaroj

*Polymers* **2020**, *12*(8), 1739; doi:10.3390/polym12081739

### **Article: Energy Utilization of Building Insulation Waste Expanded Polystyrene: Pyrolysis Kinetic Estimation by a New Comprehensive Method**

Xiaoyang Ni, Zheng Wu, Wenlong Zhang, Kaihua Lu, Yanming Ding and Shaohua Mao

*Polymers* **2020**, *12*(8), 1744; doi:10.3390/polym12081744

**Article: Photoresponsive Photoacid-Macroion Nano-Assemblies**

Alexander Zika, Sarah Bernhardt and Franziska Gröhn

*Polymers* **2020**, *12*(8), 1746; doi:10.3390/polym12081746

**Article: Blowing Kinetics, Pressure Resistance, Thermal Stability, and Relaxation of the Amorphous Phase of the PET Container in the SBM Process with Hot and Cold Mold. Part I: Research Methodology and Results**

Paweł Wawrzyniak and Waldemar Karaszewski

*Polymers* **2020**, *12*(8), 1749; doi:10.3390/polym12081749

**Article: Biofunctional Glycol-Modified Polyethylene Terephthalate and Thermoplastic Polyurethane Implants by Extrusion-Based Additive Manufacturing for Medical 3D Maxillofacial Defect Reconstruction**

Matthias Katschnig, Juergen Wallner, Thomas Janics, Christoph Burgstaller, Wolfgang Zemann and Clemens Holzer

*Polymers* **2020**, *12*(8), 1751; doi:10.3390/polym12081751

**Article: Blowing Kinetics, Pressure Resistance, Thermal Stability, and Relaxation of the Amorphous Phase of the PET Container in the SBM Process with Hot and Cold Mold. Part II: Statistical Analysis and Interpretation of Tests**

Paweł Wawrzyniak and Waldemar Karaszewski

*Polymers* **2020**, *12*(8), 1761; doi:10.3390/polym12081761

**Article: Progressive Failure and Energy Absorption of Chopped Bamboo Fiber Reinforced Polybenzoxazine Composite under Impact Loadings**

Kai Zhang, Yongyang Sun, Fangxin Wang, Wenyan Liang and Zhenqing Wang

*Polymers* **2020**, *12*(8), 1809; doi:10.3390/polym12081809

**Article: Influence Mechanism and Optimization Analysis of Technological Parameters for the Composite Prepreg Tape Winding Process**

Bo Deng, Yaoyao Shi, Tao Yu and Pan Zhao

*Polymers* **2020**, *12*(8), 1843; doi:10.3390/polym12081843

**Article: Natural Formulations Provide Antioxidant Complement to Hyaluronic Acid-**

## **Based Topical Applications Used in Wound Healing**

Pooyan Makvandi, Caterina Caccavale, Francesca Della Sala, Stefania Zeppetelli, Rosanna Veneziano and Assunta Borzacchiello

*Polymers* **2020**, *12*(8), 1847; doi:10.3390/polym12081847

## **Editorial: State-of-the-Art Polymer Science and Technology in Italy**

Ignazio Blanco, Roberto Pantani, Antonio Pizzi and Andrea Sorrentino

*Polymers* **2020**, *12*(8), 1721; doi:10.3390/polym12081721

## **Polymer Processing and Performance**

### **Review: Silver Nanoparticles for Water Pollution Monitoring and Treatments: Ecosafety Challenge and Cellulose-Based Hybrids Solution**

Andrea Fiorati, Arianna Bellingeri, Carlo Punta, Ilaria Corsi and Iole Venditti

*Polymers* **2020**, *12*(8), 1635; doi:10.3390/polym12081635

### **Review: 3D Printing and Bioprinting Nerve Conduits for Neural Tissue Engineering**

Xiaoling Yu, Tian Zhang and Yuan Li

*Polymers* **2020**, *12*(8), 1637; doi:10.3390/polym12081637

### **Review: Fused Filament Fabrication of PEEK: A Review of Process-Structure-Property Relationships**

Ali Reza Zanjanijam, Ian Major, John G. Lyons, Ugo Lafont and Declan M. Devine

*Polymers* **2020**, *12*(8), 1665; doi:10.3390/polym12081665

### **Review: 3D Bioprinting in Tissue Engineering for Medical Applications: The Classic and the Hybrid**

Zelong Xie, Ming Gao, Anderson O. Lobo and Thomas J. Webster

*Polymers* **2020**, *12*(8), 1717; doi:10.3390/polym12081717

### **Article: High-Performance Polymer Dispersed Liquid Crystal Enabled by Uniquely Designed Acrylate Monomer**

Rijeesh Kizhakidathazhath, Hiroya Nishikawa, Yasushi Okumura, Hiroki Higuchi and Hirotsugu Kikuchi

*Polymers* **2020**, *12*(8), 1625; doi:10.3390/polym12081625

### **Article: Extrusion Characteristics of Thin Walled Tubes for Catheters Using Thermoplastic Elastomer**

Soonmo Cho, Euntaek Lee, Seunggi Jo, Gyu Man Kim and Woojin Kim

*Polymers* **2020**, *12*(8), 1628; doi:10.3390/polym12081628

**Article: Microstructural and Tribological Properties of a Dopamine Hydrochloride and Graphene Oxide Coating Applied to Multifilament Surgical Sutures**

Gangqiang Zhang, Jiewen Hu, Tianhui Ren and Ping Zhu

*Polymers* **2020**, *12*(8), 1630; doi:10.3390/polym12081630

**Article: Surface Thermo-Dynamic Characterization of Poly (Vinylidene Chloride-Co-Acrylonitrile) (P(VDC-co-AN)) Using Inverse-Gas Chromatography and Investigation of Visual Traits Using Computer Vision Image Processing Algorithms**

Vijay Kakani, Hakil Kim, Praveen Kumar Basivi and Visweswara Rao Pasupuleti

*Polymers* **2020**, *12*(8), 1631; doi:10.3390/polym12081631

**Article: Durability of Accoya Wood in Ground Stake Testing after 10 Years of Exposure in Greece**

George I. Mantanis, Charalampos Lykidis and Antonios N. Papadopoulos

*Polymers* **2020**, *12*(8), 1638; doi:10.3390/polym12081638

**Article: Thermoresponsive Nanogels of Modified Poly((di(ethylene glycol) methyl ether methacrylate)-co-(2-aminoethyl methacrylate))s**

Daria Lipowska-Kur, Łukasz Otulakowski, Barbara Trzebicka, Alicja Utrata-Wesołek and Andrzej Dworak

*Polymers* **2020**, *12*(8), 1645; doi:10.3390/polym12081645

**Article: Effects of Different Grafting Density of Amino Silane Coupling Agents on Thermomechanical Properties of Cross-Linked Epoxy Resin**

Dongyuan Du, Yujing Tang, Lu Yang and Chao Tang

*Polymers* **2020**, *12*(8), 1662; doi:10.3390/polym12081662

**Article: Effect of Metal-Ligand Coordination Complexes on Molecular Dynamics and Structure of Cross-Linked Poly(dimethylsiloxane)**

Angelika Wrzesińska, Izabela Bobowska, Paulina Maczugowska, Joanna Małolepsza, Katarzyna M. Błazewska and Aleksandra Wypych-Puszkarcz

*Polymers* **2020**, *12*(8), 1680; doi:10.3390/polym12081680

**Article: Development of a Chitosan/PVA/TiO<sub>2</sub> Nanocomposite for Application as a Solid Polymeric Electrolyte in Fuel Cells**

Elio Enrique Ruiz Gómez, José Hermínsul Mina Hernández and Jesús Evelio Diosa Astaiza

*Polymers* **2020**, *12*(8), 1691; doi:10.3390/polym12081691

**Article: Flame-Retardant Polyamide Powder for Laser Sintering: Powder Characterization, Processing Behavior and Component Properties**

Kevin Schneider, Katrin Wudy and Dietmar Drummer

*Polymers* **2020**, *12*(8), 1697; doi:10.3390/polym12081697

**Article: Generation of Core–Sheath Polymer Nanofibers by Pressurised Gyration**

Suntharavathanan Mahalingam, Suguo Huo, Shervanthi Homer-Vanniasinkam and Mohan Edirisinghe

*Polymers* **2020**, *12*(8), 1709; doi:10.3390/polym12081709

**Article: Influence of Graphene Platelet Aspect Ratio on the Mechanical Properties of HDPE Nanocomposites: Microscopic Observation and Micromechanical Modeling**

Evangelia Tarani, Iouliana Chrysafi, Alfréd Kállay-Menyhárd, Eleni Pavlidou, Thomas Kehagias, Dimitrios N. Bikiaris, George Vourlias and Konstantinos Chrissafis

*Polymers* **2020**, *12*(8), 1719; doi:10.3390/polym12081719

**Article: Mechanical Performances of Lightweight Sandwich Structures Produced by Material Extrusion-Based Additive Manufacturing**

Sebastian Marian Zaharia, Larisa Anamaria Enescu and Mihai Alin Pop

*Polymers* **2020**, *12*(8), 1740; doi:10.3390/polym12081740

**Article: The Effect of Recycling on Wood-Fiber Thermoplastic Composites**

Luísa Rosenstock Völtz, Irangeli Di Guisepe, Shiyu Geng and Kristiina Oksman

*Polymers* **2020**, *12*(8), 1750; doi:10.3390/polym12081750

**Article: Poly( $\epsilon$ -caprolactone) Titanium Dioxide and Cefuroxime Antimicrobial Scaffolds for Cultivation of Human Limbal Stem Cells**

Mirna Tominac Trcin, Emilija Zdraveva, Tamara Dolenc, Ivana Vrgoč Zimić, Marina Bujić Mihica, Ivanka Batarilo, Iva Dekaris, Valentina Blažević, Igor Slivac, Tamara Holjevac Grgurić, Emi Govorčin Bajsić, Ksenija Markov, Iva Čanak, Sunčica Kuzmić, Anita Tarbuk, Antoneta Tomljenović, Nikolina Mrkonjić and Budimir Mijović

*Polymers* **2020**, *12*(8), 1758; doi:10.3390/polym12081758

**Article: Preparation, Thermal Analysis, and Mechanical Properties of Basalt Fiber/Epoxy Composites**

Konstantinos Karvanis, Soňa Rusnáková, Ondřej Krejčí and Milan Žaludek

*Polymers* **2020**, *12*(8), 1785; doi:10.3390/polym12081785

**Article: Physical and Morphological Properties of Tough and Transparent PMMA-Based Blends Modified with Polyrotaxane**

Akira Ishigami, Kazuki Watanabe, Takashi Kurose and Hiroshi Ito

*Polymers* **2020**, *12*(8), 1790; doi:10.3390/polym12081790

**Article: Biopolymeric Membrane Enriched with Chitosan and Silver for Metallic Ions Removal**

Simona Căprărescu, Roxana Gabriela Zgârian, Grațiela Teodora Tihan, Violeta Purcar, Eugenia Eftimie Totu, Cristina Modrogoan, Anita-Laura Chiriac and Cristian Andi Nicolae

*Polymers* **2020**, *12*(8), 1792; doi:10.3390/polym12081792

**Article: Quality Prediction for Injection Molding by Using a Multilayer Perceptron Neural Network**

Kun-Cheng Ke and Ming-Shyan Huang

*Polymers* **2020**, *12*(8), 1812; doi:10.3390/polym12081812

**Article: Influence of the Architecture of Soft Polymer-Functionalized Polymer Nanoparticles on Their Dynamics in Suspension**

Young-Gon Kim, Waraporn Wichaita and Héloïse Thérien-Aubin

*Polymers* **2020**, *12*(8), 1844; doi:10.3390/polym12081844

**Article: Improvement of PLLA Ductility by Blending with PVDF: Localization of Compatibilizers at Interface and Its Glycidyl Methacrylate Content Dependency**

Yan Zhang, Xiaoying Gu, Chunjun Ni, Fei Li, Yongjin Li and Jichun You

*Polymers* **2020**, *12*(8), 1846; doi:10.3390/polym12081846

## Polymer Recycling

**Review: Progress in Reaction Mechanisms and Reactor Technologies for Thermochemical Recycling of Poly(methyl methacrylate)**

Eli K.C. Moens, Kyann De Smit, Yoshi W. Marien, Alessandro D. Trigilio, Paul H.M. Van Steenberge, Kevin M. Van Geem, Jean-Luc Dubois and Dagmar R. D'hooge

*Polymers* **2020**, *12*(8), 1667; doi:10.3390/polym12081667

### **Review: Polyurethane Recycling and Disposal: Methods and Prospects**

Aleksandra Kemono and Małgorzata Piotrowska

*Polymers* **2020**, *12*(8), 1752; doi:10.3390/polym12081752

### **Article: Degradation Behavior of Polypropylene during Reprocessing and Its Biocomposites: Thermal and Oxidative Degradation Kinetics**

Elnaz Esmizadeh, Costas Tzoganakis and Tizazu H. Mekonnen

*Polymers* **2020**, *12*(8), 1627; doi:10.3390/polym12081627

### **Article: Influence of Interactions among Polymeric Components of Automobile Shredder Residue on the Pyrolysis Temperature and Characterization of Pyrolytic Products**

Bin Yang and Ming Chen

*Polymers* **2020**, *12*(8), 1682; doi:10.3390/polym12081682

### **Article: 3D Printing of Polymer Waste for Improving People's Awareness about Marine Litter**

Francesca Ferrari, Carola Esposito Corcione, Francesco Montagna and Alfonso Maffezzoli

*Polymers* **2020**, *12*(8), 1738; doi:10.3390/polym12081738

### **Article: Application of Artificial Neural Networks to Predict the Catalytic Pyrolysis of HDPE Using Non-Isothermal TGA Data**

Mohammed Al-Yaari and Ibrahim Dubdub

*Polymers* **2020**, *12*(8), 1813; doi:10.3390/polym12081813

### **Article: Risk and Opportunity of Using Plastics from Waste Collected in a Yellow Bag**

Jacek Połomka, Andrzej Jędrzak and Sylwia Myszograj

*Polymers* **2020**, *12*(8), 1815; doi:10.3390/polym12081815

## **Polymer Applications**

### **Review: Advanced Design of Fiber-Based Particulate Filters: Materials, Morphology, and Construction of Fibrous Assembly**

Seojin Jung and Jooyoun Kim

*Polymers* **2020**, *12*(8), 1714; doi:10.3390/polym12081714



**Review: A Review on Plant Cellulose Nanofibre-Based Aerogels for Biomedical Applications**

H.P.S. Abdul Khalil, A.S. Adnan, Esam Bashir Yahya, N.G. Olaiya, Safrida Safrida, Md. Sohrab Hossain, Venugopal Balakrishnan, Deepu A. Gopakumar, C.K. Abdullah, A.A. Oyekanmi and Daniel Pasquini  
*Polymers* **2020**, *12*(8), 1759; doi:10.3390/polym12081759

**Review: Composites and Copolymers Containing Redox-Active Molecules and Intrinsically Conducting Polymers as Active Masses for Supercapacitor Electrodes—An Introduction**

Rudolf Holze  
*Polymers* **2020**, *12*(8), 1835; doi:10.3390/polym12081835

**Article: Preparation and Characterization of Tris(trimethylsiloxy)silyl Modified Polyurethane Acrylates and Their Application in Textile Treatment**

Xuecheng Yu, Ying Xiong, Zhen Li and Hongding Tang  
*Polymers* **2020**, *12*(8), 1629; doi:10.3390/polym12081629

**Article: Nonlinear Conductive Characteristics of ZnO-Coated Graphene Nanoplatelets-Carbon Nanotubes/Epoxy Resin Composites**

Yang Yuan, Zhaoming Qu, Qingguo Wang and Xiaoning Sun  
*Polymers* **2020**, *12*(8), 1634; doi:10.3390/polym12081634

**Article: Combining Fluorinated Polymers with Ag Nanoparticles as a Route to Enhance Optical Properties of Composite Materials**

Veronica Satulu, Bogdana Mitu, Valentin Ion, Valentina Marascu, Elena Matei, Cristian Stancu and Gheorghe Dinescu  
*Polymers* **2020**, *12*(8), 1640; doi:10.3390/polym12081640

**Article: Antibacterial Activity of Biocellulose with Oregano Essential Oil against *Cronobacter* Strains**

Gulden Nagmetova, Anna Berthold-Pluta, Monika Garbowska, Askar Kurmanbayev and Lidia Stasiak-Róžańska  
*Polymers* **2020**, *12*(8), 1647; doi:10.3390/polym12081647

**Article: A Study of the Mechanical Properties of Composite Materials with a Dammar-Based Hybrid Matrix and Two Types of Flax Fabric Reinforcement**

Dumitru Bolcu and Marius Marinel Stănescu

*Polymers* **2020**, *12*(8), 1649; doi:10.3390/polym12081649

**Article: Double-Layered Microcapsules Significantly Improve the Long-Term Effectiveness of Essential Oil**

Ting Zhang, Yu Luo, Mingxing Wang, Feng Chen, Jinkang Liu, Kai Meng and Huijing Zhao

*Polymers* **2020**, *12*(8), 1651; doi:10.3390/polym12081651

**Article: DLP 3D Printing Meets Lignocellulosic Biopolymers: Carboxymethyl Cellulose Inks for 3D Biocompatible Hydrogels**

Giuseppe Melilli, Irene Carmagnola, Chiara Tonda-Turo, Fabrizio Pirri, Gianluca Ciardelli, Marco Sangermano, Minna Hakkarainen and Annalisa Chiappone

*Polymers* **2020**, *12*(8), 1655; doi:10.3390/polym12081655

**Article: Enhanced Biodegradation/Photodegradation of Organophosphorus Fire Retardant Using an Integrated Method of Modified Pharmacophore Model with Molecular Dynamics and Polarizable Continuum Model**

Jiawen Yang, Qing Li and Yu Li

*Polymers* **2020**, *12*(8), 1672; doi:10.3390/polym12081672

**Article: Nonlinear Optical Pigments. Two-Photon Absorption in Crosslinked Conjugated Polymers and Prospects for Remote Nonlinear Optical Thermometry**

Jan K. Zaręba, Marcin Nyk and Marek Samoć

*Polymers* **2020**, *12*(8), 1670; doi:10.3390/polym12081670

**Article: Dyeing and Antibacterial Properties of Chemically Recycled PET Thermal-Bonded Nonwovens Dyed with *Terminalia chebula* Dye**

Joo Hyung Lee, Jong Sun Jung and Seong Hun Kim

*Polymers* **2020**, *12*(8), 1675; doi:10.3390/polym12081675

**Article: Micellization Behaviour of Linear and Nonlinear Block Copolymers Based on Poly(*n*-hexyl isocyanate) in Selective Solvents**

Aggelos Vazaios, Athanasios Touris, Mikel Echeverria, Georgia Zorba and Marinos Pitsikalis

*Polymers* **2020**, *12*(8), 1678; doi:10.3390/polym12081678

**Article: Investigation of Biocidal Effect of Microfiltration Membranes Impregnated with Silver Nanoparticles by Sputtering Technique**

Aline M. F. Linhares, Cristiano P. Borges and Fabiana V. Fonseca

*Polymers* **2020**, *12*(8), 1686; doi:10.3390/polym12081686

**Article: Removal and Oxidation of As(III) from Water Using Iron Oxide Coated CTAB as Adsorbent**

Daniela Predoi, Simona Liliana Iconaru, Mihai Valentin Predoi and Mikael Motelica-Heino

*Polymers* **2020**, *12*(8), 1687; doi:10.3390/polym12081687

**Article: Novel Histone-Based DNA Carrier Targeting Cancer-Associated Fibroblasts**

Alexey Kuzmich, Olga Rakitina, Dmitry Didych, Victor Potapov, Marina Zinovyeva, Irina Alekseenko and Eugene Sverdlov

*Polymers* **2020**, *12*(8), 1695; doi:10.3390/polym12081695

**Article: Establishment of Complex Modulus Master Curves Based on Generalized Sigmoidal Model for Freeze–Thaw Resistance Evaluation of Basalt Fiber-Modified Asphalt Mixtures**

Guojin Tan, Wensheng Wang, Yongchun Cheng, Yong Wang and Zhiqing Zhu

*Polymers* **2020**, *12*(8), 1698; doi:10.3390/polym12081698

**Article: Development and Characterization of Polyester and Acrylate-Based Composites with Hydroxyapatite and Halloysite Nanotubes for Medical Applications**

Elena Torres, Ivan Dominguez-Candela, Sergio Castello-Palacios, Anna Vallés-Lluch and Vicent Fombuena

*Polymers* **2020**, *12*(8), 1703; doi:10.3390/polym12081703

**Article: Synthesis of Poly(Dimethylmalic Acid) Homo- and Copolymers to Produce Biodegradable Nanoparticles for Drug Delivery: Cell Uptake and Biocompatibility Evaluation in Human Heparg Hepatoma Cells**

Ali Khalil, Saad Saba, Catherine Ribault, Manuel Vlach, Pascal Loyer, Olivier Coulembier and Sandrine Cammas-Marion

*Polymers* **2020**, *12*(8), 1705; doi:10.3390/polym12081705

**Article: In Situ Preparation of Crosslinked Polymer Electrolytes for Lithium Ion Batteries: A Comparison of Monomer Systems**

Eike T. Röchow, Matthias Coeler, Doris Pospiech, Oliver Kobsch, Elizaveta Mechtaeva, Roland Vogel, Brigitte Voit, Kristian Nikolowski and Mareike Wolter

*Polymers* **2020**, *12*(8), 1707; doi:10.3390/polym12081707

**Article: Improving the Sensory Properties of Layered Phospholipid-Graphene Films Due to the Curvature of Graphene Layers**

Michael M. Slepchenkov and Olga E. Glukhova

*Polymers* **2020**, *12*(8), 1710; doi:10.3390/polym12081710

**Article: Micro-Clotting of Platelet-Rich Plasma Upon Loading in Hydrogel Microspheres Leads to Prolonged Protein Release and Slower Microsphere Degradation**

Miran Hannah Choi, Alexandra Blanco, Samuel Stealey, Xin Duan, Natasha Case, Scott Allen Sell, Muhammad Farooq Rai and Silviya Petrova Zustiak

*Polymers* **2020**, *12*(8), 1712; doi:10.3390/polym12081712

**Article: LLDPE Composites with Nanosized Copper and Copper Oxides for Water Disinfection**

Yanna Gurianov, Faina Nakonechny, Yael Albo and Marina Nisnevitch

*Polymers* **2020**, *12*(8), 1713; doi:10.3390/polym12081713

**Article: Improvement in the Microbial Resistance of Resin-Based Dental Sealant by Sulfobetaine Methacrylate Incorporation**

Myung-Jin Lee, Utkarsh Mangal, Se-Jin Kim, Yeo-Phil Yoon, Eun-So Ahn, Ee-Seul Jang, Jae-Sung Kwon and Sung-Hwan Choi

*Polymers* **2020**, *12*(8), 1716; doi:10.3390/polym12081716

**Article: Water-Resistant Mechanoluminescent Electrospun Fabrics with Protected Sensitivity in Wet Condition via Plasma-Enhanced Chemical Vapor Deposition Process**

Halim Lee, Eunjin Cho, Tomas Webbe Kerekes, Seung Lee Kwon, Gun Jin Yun and Jooyoun Kim

*Polymers* **2020**, *12*(8), 1720; doi:10.3390/polym12081720

**Article: Prediction of Moisture and Aging Conditions of Oil-Immersed Cellulose Insulation Based on Fingerprints Database of Dielectric Modulus**

Yiyi Zhang, Sheng Li, Xianhao Fan, Jiefeng Liu and Jiayi Li

*Polymers* **2020**, *12*(8), 1722; doi:10.3390/polym12081722

**Article: Application of Zinc Oxide to Obtain and Modify Properties of Adipate Plasticizer of Polyvinyl Chloride**

Aliya K. Mazitova, Irina N. Vikhareva, Guliya K Aminova and Juliya N. Savicheva

*Polymers* **2020**, *12*(8), 1728; doi:10.3390/polym12081728

**Article: Tetrafunctional Epoxy Resin-Based Buoyancy Materials: Curing Kinetics and**

## Properties

Sizhu Yu, Xiaodong Li, Meishuai Zou, Zhiren Li, Shuo Wang and Danhui Wang

*Polymers* **2020**, *12*(8), 1732; doi:10.3390/polym12081732

### **Article: Surface Quality Evaluation of Removable Thermoplastic Dental Appliances Related to Staining Beverages and Cleaning Agents**

Liliana Porojan, Roxana-Diana Vasiliu, Sorin-Daniel Porojan and Mihaela-Ionela Bîrdeanu

*Polymers* **2020**, *12*(8), 1736; doi:10.3390/polym12081736

### **Article: Vascular Stents Coated with Electrospun Drug-Eluting Material: Functioning in Rabbit Iliac Artery**

Konstantin A. Kuznetsov, Ivan S. Murashov, Vera S. Chernonosova, Boris P. Chelobanov, Alena O. Stepanova, David S. Sergeevichev, Andrey A. Karpenko and Pavel P. Laktionov

*Polymers* **2020**, *12*(8), 1741; doi:10.3390/polym12081741

### **Article: Accelerated Weathering Effects on Poly(3-hydroxybutyrate-co-3-hydroxyvalerate) (PHBV) and PHBV/TiO<sub>2</sub> Nanocomposites**

Ana Antunes, Anton Popelka, Omar Aljarod, Mohammad K. Hassan, Peter Kasak and Adriaan S. Luyt

*Polymers* **2020**, *12*(8), 1743; doi:10.3390/polym12081743

### **Article: Doxorubicin–Gelatin/Fe<sub>3</sub>O<sub>4</sub>–Alginate Dual-Layer Magnetic Nanoparticles as Targeted Anticancer Drug Delivery Vehicles**

Chiung-Hua Huang, Ting-Ju Chuang, Cherng-Jyh Ke and Chun-Hsu Yao

*Polymers* **2020**, *12*(8), 1747; doi:10.3390/polym12081747

### **Article: Formulation and Characterization of Antimicrobial Edible Films Based on Whey Protein Isolate and Tarragon Essential Oil**

Maria-Ioana Socaciu, Melinda Fogarasi, Cristina Anamaria Semeniuc, Sonia Ancuța Socaci, Mihaela Ancuța Rotar, Vlad Mureșan, Oana Lelia Pop and Dan Cristian Vodnar

*Polymers* **2020**, *12*(8), 1748; doi:10.3390/polym12081748

### **Article: Ionic Liquid-Incorporated Zn-Ion Conducting Polymer Electrolyte Membranes**

Jianghe Liu, Sultan Ahmed, Zeba Khanam, Ting Wang and Shenhua Song

*Polymers* **2020**, *12*(8), 1755; doi:10.3390/polym12081755

### **Article: Novel Low-Temperature Chemical Vapor Deposition of Hydrothermal**

## **Delignified Wood for Hydrophobic Property**

Rui Yang, Yunyi Liang, Shu Hong, Shida Zuo, Yingji Wu, Jiangtao Shi, Liping Cai, Jianzhang Li, Haiyan Mao, Shengbo Ge and Changlei Xia

*Polymers* **2020**, *12*(8), 1757; doi:10.3390/polym12081757

## **Article: Modeling of Metalized Food Packaging Plastics Pyrolysis Kinetics Using an Independent Parallel Reactions Kinetic Model**

Samy Yousef, Justas Eimontas, Nerijus Striūgas and Mohammed Ali Abdelnaby

*Polymers* **2020**, *12*(8), 1763; doi:10.3390/polym12081763

## **Article: An Improved Physical-Stochastic Model for Simulating Electrical Tree Propagation in Solid Polymeric Dielectrics**

Johnatan M. Rodríguez-Serna, Ricardo Albarracín-Sánchez and Isabel Carrillo

*Polymers* **2020**, *12*(8), 1768; doi:10.3390/polym12081768

## **Article: 3D Printing of Tunable Zero-Order Release Printlets**

Fabrizio Fina, Alvaro Goyanes, Martin Rowland, Simon Gaisford and Abdul W. Basit

*Polymers* **2020**, *12*(8), 1769; doi:10.3390/polym12081769

## **Article: Strength of Floccs Formed by the Complexation of Lysozyme with Leonardite Humic Acid**

Wan Khairunnisa Wan Abdul Khodir, Azizul Hakim and Motoyoshi Kobayashi

*Polymers* **2020**, *12*(8), 1770; doi:10.3390/polym12081770

## **Article: Promising Mechanical, Thermal, and Ballistic Properties of Novel Epoxy Composites Reinforced with *Cyperus malaccensis* Sedge Fiber**

Lucas de Mendonça Neuba, Raí Felipe Pereira Junio, Matheus Pereira Ribeiro, Andressa Teixeira Souza, Eduardo de Sousa Lima, Fábio da Costa Garcia Filho, André Ben-Hur da Silva Figueiredo, Fábio de Oliveira Braga, Afonso Rangel Garcez de Azevedo and Sergio Neves Monteiro

*Polymers* **2020**, *12*(8), 1776; doi:10.3390/polym12081776

## **Article: Transforming Marble Waste into High-Performance, Water-Resistant, and Thermally Insulative Hybrid Polymer Composites for Environmental Sustainability**

Payal Bakshi, Asokan Pappu, Ravi Patidar, Manoj Kumar Gupta and Vijay Kumar Thakur

*Polymers* **2020**, *12*(8), 1781; doi:10.3390/polym12081781

## **Article: Characterization of Polyamide 6/Multilayer Graphene Nanoplatelet**

## **Composite Textile Filaments Obtained Via In Situ Polymerization and Melt Spinning**

Jelena Vasiljević, Andrej Demšar, Mirjam Leskovšek, Barbara Simončič, Nataša Čelan Korošin, Ivan Jerman, Matic Šobak, Gregor Žitko, Nigel Van de Velde and Marija Čolović

*Polymers* **2020**, *12*(8), 1787; doi:10.3390/polym12081787

## **Article: A Refined Theory for Characterizing Adhesion of Elastic Coatings on Rigid Substrates Based on Pressurized Blister Test Methods: Closed-Form Solution and Energy Release Rate**

Yong-Sheng Lian, Jun-Yi Sun, Zhi-Hang Zhao, Shou-Zhen Li and Zhou-Lian Zheng

*Polymers* **2020**, *12*(8), 1788; doi:10.3390/polym12081788

## **Article: A Case Study of Polyether Ether Ketone (I): Investigating the Thermal and Fire Behavior of a High-Performance Material**

Aditya Ramgobin, Gaëlle Fontaine and Serge Bourbigot

*Polymers* **2020**, *12*(8), 1789; doi:10.3390/polym12081789

## **Article: Heteroaromatic Polyamides with Improved Thermal and Mechanical Properties**

Miriam Trigo-López, Ana M. Sanjuán, Aranzazu Mendía, Asunción Muñoz, Félix C. García and José M. García

*Polymers* **2020**, *12*(8), 1793; doi:10.3390/polym12081793

## **Article: Heat Shock Protein 90 (Hsp90)-Inhibitor-Luminespib-Loaded-Protein-Based Nanoformulation for Cancer Therapy**

Ankit K. Rochani, Sivakumar Balasubramanian, Aswathy Ravindran Girija, Toru Maekawa, Gagan Kaushal and D. Sakthi Kumar

*Polymers* **2020**, *12*(8), 1798; doi:10.3390/polym12081798

## **Article: Mechanistic Aspects of Condensed- and Gaseous-Phase Activities of Some Phosphorus-Containing Fire Retardants**

Ananya Thomas, Malavika Arun, Khalid Moinuddin and Paul Joseph

*Polymers* **2020**, *12*(8), 1801; doi:10.3390/polym12081801

## **Article: Study on Viscoelastic Properties of Asphalt Mixtures Incorporating SBS Polymer and Basalt Fiber under Freeze–Thaw Cycles**

Wensheng Wang, Guojin Tan, Chunyu Liang, Yong Wang and Yongchun Cheng

*Polymers* **2020**, *12*(8), 1804; doi:10.3390/polym12081804

**Article: One-Pot Polymerization of Dopamine as an Additive to Enhance Permeability and Antifouling Properties of Polyethersulfone Membrane**

Sri Mulyati, Syawaliah Muchtar, Nasrul Arahman, Friska Meirisa, Yanna Syamsuddin, Zuhra Zuhra, Cut Meurah Rosnelly, Norazanita Shamsuddin, Normi Izati Mat Nawi, Mohd Dzul Hakim Wirzal, Muhammad Roil Bilad, Ryosuke Takagi and Hideto Matsuyama

*Polymers* **2020**, *12*(8), 1807; doi:10.3390/polym12081807

**Article: Antibacterial Activity of Non-Cytotoxic, Amino Acid-Modified Polycationic Dendrimers against *Pseudomonas aeruginosa* and Other Non-Fermenting Gram-Negative Bacteria**

Anna Maria Schito and Silvana Alfei

*Polymers* **2020**, *12*(8), 1818; doi:10.3390/polym12081818

**Article: Reduction of Postharvest Quality Loss and Microbiological Decay of Tomato "Chonto" (*Solanum lycopersicum* L.) Using Chitosan-*E* Essential Oil-Based Edible Coatings under Low-Temperature Storage**

Yeimmy Peralta-Ruiz, Carlos David Grande Tovar, Angie Sinning-Mangonez, Edgar A. Coronell, Marcos F. Marino and Clemencia Chaves-Lopez

*Polymers* **2020**, *12*(8), 1822; doi:10.3390/polym12081822

**Article: Improving the Reactivity of Sugarcane Bagasse Kraft Lignin by a Combination of Fractionation and Phenolation for Phenol-Formaldehyde Adhesive Applications**

Bin Luo, Zhuan Jia, Hongrui Jiang, Shuangfei Wang and Douyong Min

*Polymers* **2020**, *12*(8), 1825; doi:10.3390/polym12081825

**Article: Dyeing of m-Aramid Fibers in Ionic Liquids**

Klaus Opwis, Bilal Celik, Rainer Benken, Dierk Knittel and Jochen Stefan Gutmann

*Polymers* **2020**, *12*(8), 1824; doi:10.3390/polym12081824

**Article: Control the System and Environment of Post-Production Wind Turbine Blade Waste Using Life Cycle Models. Part 1. Environmental Transformation Models**

Izabela Piasecka, Patrycja Bałdowska-Witos, Józef Flizikowski, Katarzyna Piotrowska and Andrzej Tomporowski

*Polymers* **2020**, *12*(8), 1828; doi:10.3390/polym12081828

**Article: Preparation of Antimicrobial Fibres from the EVOH/EPC Blend Containing**



## **Silver Nanoparticles**

Dorota Biniś, Włodzimierz Biniś, Alicja Machnicka and Monika Hanus

*Polymers* **2020**, *12*(8), 1827; doi:10.3390/polym12081827

## **Article: A Kinetic Analysis of the Thermal Degradation Behaviours of Some Bio-Based Substrates**

Ananya Thomas, Khalid Moinuddin, Svetlana Tretsiakova-McNally and Paul Joseph

*Polymers* **2020**, *12*(8), 1830; doi:10.3390/polym12081830

## **Article: Nanoformulation Design Including MamC-Mediated Biomimetic Nanoparticles Allows the Simultaneous Application of Targeted Drug Delivery and Magnetic Hyperthermia**

Ylenia Jabalera, Francesca Oltolina, Ana Peigneux, Alberto Sola-Leyva, Maria P. Carrasco-Jiménez, Maria Prat, Concepcion Jimenez-Lopez and Guillermo R. Iglesias

*Polymers* **2020**, *12*(8), 1832; doi:10.3390/polym12081832

## **Article: Mechanical Strength, Thermal Conductivity and Electrical Breakdown of Kenaf Core Fiber/Lignin/Polypropylene Biocomposite**

Harmaen Ahmad Saffian, Mohd Aizam Talib, Seng Hua Lee, Paridah Md Tahir, Ching Hao Lee, Hidayah Ariffin and Ainun Zuriyati Mohamed Asa'ari

*Polymers* **2020**, *12*(8), 1833; doi:10.3390/polym12081833

## **Article: Plasticized Polystyrene by Addition of -Diene Based Molecules for Defect-Less CVD Graphene Transfer**

Tuqeer Nasir, Bum Jun Kim, Muhammad Hassnain, Sang Hoon Lee, Byung Joo Jeong, Ik Jun Choi, Youngho Kim, Hak Ki Yu and Jae-Young Choi

*Polymers* **2020**, *12*(8), 1839; doi:10.3390/polym12081839

## **Article: Near-Infrared Radiation-Based Mild Photohyperthermia Therapy of Non-Melanoma Skin Cancer with PEGylated Reduced Nanographene Oxide**

Raquel Costa-Almeida, Diana Bogas, José R. Fernandes, Licinia Timochenco, Filipa A. L. S. Silva, João Meneses, Inês C. Gonçalves, Fernão D. Magalhães and Artur M. Pinto

*Polymers* **2020**, *12*(8), 1840; doi:10.3390/polym12081840

## **Article: Production of Biodegradable Palm Oil-Based Polyurethane as Potential Biomaterial for Biomedical Applications**

Fang Hoong Yeoh, Choy Sin Lee, Yew Beng Kang, Shew Fung Wong, Sit Foon Cheng and Wei Seng Ng

*Polymers* **2020**, *12*(8), 1842; doi:10.3390/polym12081842

**Article: Preparation and Electrochemical Properties of Porous Carbon Nanofiber Electrodes Derived from New Precursor Polymer: 6FDA-TFMB**

Byeongil Jeon, Taehwa Ha, Dong Yun Lee, Myung-Seok Choi, Seung Woo Lee and Kyung-Hye Jung

*Polymers* **2020**, *12*(8), 1851; doi:10.3390/polym12081851

**Article: Adsorption and Release of Rose Bengal on Layer-by-Layer Films of Poly(Vinyl Alcohol) and Poly(Amidoamine) Dendrimers Bearing 4-Carboxyphenylboronic Acid**

Kentaro Yoshida, Akane Yamaguchi, Hiroki Midorikawa, Toshio Kamijo, Tetsuya Ono, Takenori Dairaku, Takaya Sato, Tsutomu Fujimura, Yoshitomo Kashiwagi and Katsuhiko Sato

*Polymers* **2020**, *12*(8), 1854; doi:10.3390/polym12081854

**Communication: Stretchable Electronics Based on Laser Structured, Vapor Phase Polymerized PEDOT/Tosylate**

Zaid Aqrawe, Christian Boehler, Mahima Bansal, Simon J. O'Carroll, Maria Asplund and Darren Svirskis

*Polymers* **2020**, *12*(8), 1654; doi:10.3390/polym12081654

**Communication: Ultrathin Electrolyte Membranes with PFSA-Vinylon Intermediate Layers for PEM Fuel Cells**

Jedeok KIM, Kazuya Yamasaki, Hitoshi Ishimoto and Yusuke Takata

*Polymers* **2020**, *12*(8), 1730; doi:10.3390/polym12081730

**Communication: Thiol-Substituted Poly(2-oxazoline)s with Photolabile Protecting Groups—Tandem Network Formation by Light**

Niklas Jung, Fiona Diehl and Ulrich Jonas

*Polymers* **2020**, *12*(8), 1767; doi:10.3390/polym12081767

**Communication: Metal-Organic Decomposition-Mediated Nanoparticulate Vanadium Oxide Hole Transporting Buffer Layer for Polymer Bulk-Heterojunction Solar Cells**

Chengkai Xia, Won Tae Hong, Young Eun Kim, Woo-Seok Choe, Dong-Hwan Kim and Jung Kyu Kim

*Polymers* **2020**, *12*(8), 1791; doi:10.3390/polym12081791

**Communication: Micro/Nanostructured Coating for Cotton Textiles That Repel Oil, Water, and Chemical Warfare Agents**

Jihyun Kwon, Hyunsook Jung, Heesoo Jung and Juno Lee

*Polymers* **2020**, *12*(8), 1826; doi:10.3390/polym12081826

**Erratum: Erratum: Synthesis, Characterization, and Analysis of Hybrid Carbon Nanotubes by Chemical Vapor Deposition: Application for Aluminum Removal.**  
***Polymers* 2020, 12, 1305**

Alfarooq O. Basheer, Marlia M. Hanafiah, Mohammed Abdulhakim Alsaadi, Wan Zuhairi Wan Yaacob and Y. Al-Douri

*Polymers* **2020**, *12*(8), 1702; doi:10.3390/polym12081702

**Technical Note: Procedure for the Selection of Rubber Compound in Rubber-Metal Springs for Vibration Isolation**

Milan Banić, Dušan Stamenković, Aleksandar Miltenović, Dragan Jovanović and Milan Tica

*Polymers* **2020**, *12*(8), 1737; doi:10.3390/polym12081737

**Editorial: Education and Research during Pandemics: Illustrated by the Example of Experimental Biocomposites Research**

Oisik Das and Seeram Ramakrishna

*Polymers* **2020**, *12*(8), 1848; doi:10.3390/polym12081848

## **Polymer Theory and Simulation**

**Article: Polymeric Carbon Nitride Armored Centimeter-Wide Organic Droplets in Water for All-Liquid Heterophase Emission Technology**

Qian Cao and Baris Kumru

*Polymers* **2020**, *12*(8), 1626; doi:10.3390/polym12081626

**Article: Viscoelastic Effects on Drop Deformation Using a Machine Learning-Enhanced, Finite Element method**

Juan Luis Prieto

*Polymers* **2020**, *12*(8), 1652; doi:10.3390/polym12081652

**Article: Conductivity of Insulating Diblock Copolymer System Filled with Conductive Particles Having Different Affinities for Dissimilar Copolymer Blocks**

A.I. Chervanyov

*Polymers* **2020**, *12*(8), 1659; doi:10.3390/polym12081659

**Article: Self-Consistent Field Modeling of Pulling a Test-Chain away from or Pushing**

## **It into a Polymer Adsorption Layer**

Franciscus A.M. Leermakers

*Polymers* **2020**, *12*(8), 1684; doi:10.3390/polym12081684

## **Article: Atomistic Investigation on the Wetting Behavior and Interfacial Joining of Polymer-Metal Interface**

Mingyong Zhou, Liang Fu, Fengze Jiang, Bingyan Jiang and Dietmar Drummer

*Polymers* **2020**, *12*(8), 1696; doi:10.3390/polym12081696

## **Article: Effect of Thermal Annealing on Conformation of MEH-PPV Chains in Polymer Matrix: Coexistence of H- and J-Aggregates**

Shu Hu, Yang Liao, Yang Zhang, Xiaoliang Yan, Zhenlu Zhao, Weiqiang Chen, Xin Zhang, Hongxing Liu, Heng Li, Li Li, Ming Sun and Chuanxiang Sheng

*Polymers* **2020**, *12*(8), 1771; doi:10.3390/polym12081771

## **Article: Theoretical and Numerical Analysis of Mechanical Behaviors of a Metamaterial-Based Shape Memory Polymer Stent**

Ruoxuan Liu, Shuai Xu, Xiaoyu Luo and Zishun Liu

*Polymers* **2020**, *12*(8), 1784; doi:10.3390/polym12081784

## **Article: Stress Distributions for Hybrid Composite Endodontic Post Designs with and without a Ferrule: FEA Study**

Pietro Ausiello, Antonio Gloria, Saverio Maietta, David C. Watts and Massimo Martorelli

*Polymers* **2020**, *12*(8), 1836; doi:10.3390/polym12081836

## **Polymer Composites and Nanocomposites**

### **Review: Strength Degradation in Curved Fiber-reinforced Polymer (FRP) Bars Used as Concrete Reinforcement**

Thanongsak Imjai, Reyes Garcia, Maurizio Guadagnini and Kypros Pilakoutas

*Polymers* **2020**, *12*(8), 1653; doi:10.3390/polym12081653

### **Review: Mechanical Joining of Fibre Reinforced Polymer Composites to Metals—A Review. Part II: Riveting, Clinching, Non-Adhesive Form-Locked Joints, Pin and Loop Joining**

Anna Galińska and Cezary Galiński

*Polymers* **2020**, *12*(8), 1681; doi:10.3390/polym12081681

**Article: Improvement of Mechanical, Hydrophobicity and Thermal Properties of Chinese Fir Wood by Impregnation of Nano Silica Sol**

Enguang Xu, Yanjuan Zhang and Lanying Lin

*Polymers* **2020**, *12*(8), 1632; doi:10.3390/polym12081632

**Article: Effects of High-Temperature Exposure on the Mechanical Properties of Kenaf Composites**

Nabilah Afiqah Mohd Radzuan, Dulina Tholibon, Abu Bakar Sulong, Norhamidi Muhamad and Che Hassan Che Haron

*Polymers* **2020**, *12*(8), 1643; doi:10.3390/polym12081643

**Article: Effect of Injection Molding Conditions on Crystalline Structure and Electrical Resistivity of PP/MWCNT Nanocomposites**

Marta Zaccone, Iliara Armentano, Federico Cesano, Domenica Scarano, Alberto Frache, Luigi Torre and Marco Monti

*Polymers* **2020**, *12*(8), 1685; doi:10.3390/polym12081685

**Article: Surface Modification of Carbon Microspheres with Guanidine Phosphate and Its Application as a Flame Retardant in PET**

Shan Jiang, Cheng Ji, Dan Zha, Yonghong Ding, Dun Wu and Qiang Yu

*Polymers* **2020**, *12*(8), 1689; doi:10.3390/polym12081689

**Article: Tribo-Mechanical Characterization of Carbon Fiber-Reinforced Cyanate Ester Resins Modified With Fillers**

Ankur Bajpai, Prateek Saxena and Klaus Kunze

*Polymers* **2020**, *12*(8), 1725; doi:10.3390/polym12081725

**Article: 3D Printing and Solvent Dissolution Recycling of Polylactide–Lunar Regolith Composites by Material Extrusion Approach**

Han Li, Wei Zhao, Xinhui Wu, Hong Tang, Qiushi Li, Jing Tan and Gong Wang

*Polymers* **2020**, *12*(8), 1724; doi:10.3390/polym12081724

**Article: Water-Resistant Casein-Based Adhesives for Veneer Bonding in Biodegradable Ski Cores**

Ronald Schwarzenbrunner, Marius Catalin Barbu, Alexander Petutschnigg and Eugenia Mariana Tudor

*Polymers* **2020**, *12*(8), 1745; doi:10.3390/polym12081745

**Article: Thermal Degradation Kinetics of ZnO/polyester Nanocomposites**

E. A. Franco-Urquiza, J. F. May-Crespo, C. A. Escalante Velázquez, R. Pérez Mora and P. González García  
*Polymers* **2020**, *12*(8), 1753; doi:10.3390/polym12081753

**Article: In Situ Polymerization of Polypyrrole @ Aluminum Fumarate Metal–Organic Framework Hybrid Nanocomposites for the Application of Wastewater Treatment**

Sarah Zayan, Ahmed Elshazly and Marwa Elkady  
*Polymers* **2020**, *12*(8), 1764; doi:10.3390/polym12081764

**Article: Superhydrophobic, Elastic, and Conducting Polyurethane–Carbon Nanotube–Silane–Aerogel Composite Microfiber**

Taekuk Hong, Sang-Mi Jeong, Yong Kyu Choi, Taekyung Lim and Sanghyun Ju  
*Polymers* **2020**, *12*(8), 1772; doi:10.3390/polym12081772

**Article: Acrylic Bone Cements Modified with Graphene Oxide: Mechanical, Physical, and Antibacterial Properties**

Mayra Eliana Valencia Zapata, Lina Marcela Ruiz Rojas, José Herminul Mina Hernández, Johannes Delgado-Ospina and Carlos David Grande Tovar  
*Polymers* **2020**, *12*(8), 1773; doi:10.3390/polym12081773

**Article: Preparation of High Strength Plywood from Partially Delignified Densified Wood**

Matthias Jakob, Gregor Stemmer, Ivana Czabany, Ulrich Müller and Wolfgang Gindl-Altmutter  
*Polymers* **2020**, *12*(8), 1796; doi:10.3390/polym12081796

**Article: A Facile Strategy to Fabricate Antistatic Polyamide 1012/Multi-Walled Carbon Nanotube Pipes for Fuel Delivery Applications**

Wanli Li, Lili Wang, Xia Dong and Dujin Wang  
*Polymers* **2020**, *12*(8), 1797; doi:10.3390/polym12081797

**Article: Electromagnetic Interference Shield of Highly Thermal-Conducting, Light-Weight, and Flexible Electrospun Nylon 66 Nanofiber-Silver Multi-Layer Film**

Jaeyeon Kim, Suyeong Lee, Changho Kim, Yeongcheol Park, Mi-Hyun Kim and Jae Hun Seol  
*Polymers* **2020**, *12*(8), 1805; doi:10.3390/polym12081805

**Article: Near-Linear Responsive and Wide-Range Pressure and Stretch Sensor Based on Hierarchical Graphene-Based Structures via Solvent-Free Preparation**

Jian Wang, Ryuki Suzuki, Kentaro Ogata, Takuto Nakamura, Aixue Dong and Wei Weng

*Polymers* **2020**, *12*(8), 1814; doi:10.3390/polym12081814

**Article: Bulk-Surface Modification of Nanoparticles for Developing Highly-Crosslinked Polymer Nanocomposites**

Maryam Jouyandeh, Mohammad Reza Ganjali, Mustafa Aghazadeh, Sajjad Habibzadeh, Krzysztof Formela and Mohammad Reza Saeb

*Polymers* **2020**, *12*(8), 1820; doi:10.3390/polym12081820

**Article: Analysis of Three-Phase Structure of Epoxy Resin/CNT/Graphene by Molecular Simulation**

Shun Naito, Jun Koyanagi, Takuji Komukai and Toshikazu Uno

*Polymers* **2020**, *12*(8), 1821; doi:10.3390/polym12081821

## **Biomacromolecules, Biobased and Biodegradable Polymers**

**Review: Enzymatic Protein Biopolymers as a Tool to Synthesize Eukaryotic Messenger Ribonucleic Acid (mRNA) with Uses in Vaccination, Immunotherapy and Nanotechnology**

Fabiola Urbina, Sebastián Morales-Pison and Edio Maldonado

*Polymers* **2020**, *12*(8), 1633; doi:10.3390/polym12081633

**Review: Extraction of Nanochitin from Marine Resources and Fabrication of Polymer Nanocomposites: Recent Advances**

Blessy Joseph, Rubie Mavelil Sam, Preetha Balakrishnan, Hanna J. Maria, Sreeraj Gopi, Tatiana Volova, Susana C. M. Fernandes and Sabu Thomas

*Polymers* **2020**, *12*(8), 1664; doi:10.3390/polym12081664

**Review: A Review on Citric Acid as Green Modifying Agent and Binder for Wood**

Seng Hua Lee, Paridah Md Tahir, Wei Chen Lum, Li Peng Tan, Paiman Bawon, Byung-Dae Park, Syeed SaifulAzry Osman Al Edrus and Umami Hani Abdullah

*Polymers* **2020**, *12*(8), 1692; doi:10.3390/polym12081692

**Review: Polymers in the Medical Antiviral Front-Line**

Natanel Jarach, Hanna Dodiuk and Samuel Kenig

*Polymers* **2020**, *12*(8), 1727; doi:10.3390/polym12081727

**Review: Hemicellulose-Based Film: Potential Green Films for Food Packaging**

Yuelong Zhao, Hui Sun, Biao Yang and Yunxuan Weng

*Polymers* **2020**, *12*(8), 1775; doi:10.3390/polym12081775

**Review: Natural 3D-Printed Bioinks for Skin Regeneration and Wound Healing: A Systematic Review**

Ali Smandri, Abid Nordin, Ng Min Hwei, Kok-Yong Chin, Izhar Abd Aziz and Mh Busra Fauzi

*Polymers* **2020**, *12*(8), 1782; doi:10.3390/polym12081782

**Review: Clinical Effectiveness of Bulk-Fill and Conventional Resin Composite Restorations: Systematic Review and Meta-Analysis**

Heber Isac Arbildo-Vega, Barbara Lapinska, Saurav Panda, César Lamas-Lara, Abdul Samad Khan and Monika Lukomska-Szymanska

*Polymers* **2020**, *12*(8), 1786; doi:10.3390/polym12081786

**Review: Insights into the Potential of Hardwood Kraft Lignin to Be a Green Platform Material for Emergence of the Biorefinery**

Juliana M. Jardim, Peter W. Hart, Lucian Lucia and Hasan Jameel

*Polymers* **2020**, *12*(8), 1795; doi:10.3390/polym12081795

**Review: Hyaluronic Acid: The Influence of Molecular Weight on Structural, Physical, Physico-Chemical, and Degradable Properties of Biopolymer**

Petr Snetkov, Kseniia Zakharova, Svetlana Morozkina, Roman Olekhovich and Mayya Uspenskaya

*Polymers* **2020**, *12*(8), 1800; doi:10.3390/polym12081800

**Review: State of the Art on Biomaterials for Soft Tissue Augmentation in the Oral Cavity. Part II: Synthetic Polymers-Based Biomaterials**

Manuel Toledano, Manuel Toledano-Osorio, Álvaro Carrasco-Carmona, Cristina Vallecillo, Raquel Toledano, Antonio Luis Medina-Castillo and Raquel Osorio

*Polymers* **2020**, *12*(8), 1845; doi:10.3390/polym12081845

**Review: State of the Art on Biomaterials for Soft Tissue Augmentation in the Oral Cavity. Part I: Natural Polymers-Based Biomaterials**

Manuel Toledano, Manuel Toledano-Osorio, Álvaro Carrasco-Carmona, Cristina Vallecillo, Christopher D. Lynch, María T. Osorio and Raquel Osorio

*Polymers* **2020**, *12*(8), 1850; doi:10.3390/polym12081850



**Article: Evaluation of the Rheologic and Physicochemical Properties of a Novel Hyaluronic Acid Filler Range with eXcellent Three-Dimensional Reticulation (XTR™) Technology**

Giovanni Salti and Salvatore Piero Fundarò

*Polymers* **2020**, *12*(8), 1644; doi:10.3390/polym12081644

**Article: Isolation and Biophysical Characterisation of Bioactive Polysaccharides from Cucurbita Moschata (Butternut Squash)**

Shahwar Imran Jiwani, Richard B. Gillis, David Besong, Fahad Almutairi, Tayyibe Erten, M. Samil Kök, Stephen E. Harding, Berit S. Paulsen and Gary G. Adams

*Polymers* **2020**, *12*(8), 1650; doi:10.3390/polym12081650

**Article: Comparison of Structure and Local Dynamics of Two Peptide Dendrimers with the Same Backbone but with Different Side Groups in Their Spacers**

Sofia E. Mikhtaniuk, Valeriy V. Bezrodnyi, Oleg V. Shavykin, Igor M. Neelov, Nadezhda N. Sheveleva, Anastasia V. Penkova and Denis A. Markelov

*Polymers* **2020**, *12*(8), 1657; doi:10.3390/polym12081657

**Article: Properties of Potato Starch Roasted with Apple Distillery Wastewater**

Tomasz Zięba, Dominika Solińska, Małgorzata Kapelko-Żeberska, Artur Gryszkin, Jurislav Babić, Đurđica Ačkar, Francisca Hernández, Ante Lončarić, Domagoj Šubarić and Antun Jozinović

*Polymers* **2020**, *12*(8), 1668; doi:10.3390/polym12081668

**Article: Development of Biodegradable Cosmetic Patch Using a Polylactic Acid/Phycocyanin–Alginate Composite**

Sarah Amalina Adli, Fathilah Ali, Azlin Suhaida Azmi, Hazleen Anuar, Nur Aimi Mohd Nasir, Rosnani Hasham and Mohamad Khairul Hafiz Idris

*Polymers* **2020**, *12*(8), 1669; doi:10.3390/polym12081669

**Article: Bioinspired Hydrogel Coating Based on Methacryloyl Gelatin Bioactivates Polypropylene Meshes for Abdominal Wall Repair**

Andrada Serafim, Sergiu Cecoltan, Elena Olăreț, Diana-Maria Dragusin, Eugeniu Vasile, Valentin Popescu, Bogdan Stelian Manolescu Mastalier, Horia Iovu and Izabela-Cristina Stancu

*Polymers* **2020**, *12*(8), 1677; doi:10.3390/polym12081677

**Article: A Study of Some Mechanical Properties of Composite Materials with a Dammar-Based Hybrid Matrix and Reinforced by Waste Paper**

Marius Marinel Stănescu and Dumitru Bolcu

*Polymers* **2020**, *12*(8), 1688; doi:10.3390/polym12081688

**Article: Effect of Iignocellulosic Nanoparticles Extracted from Yerba Mate (*Ilex paraguariensis*) on the Structural, Thermal, Optical and Barrier Properties of Mechanically Recycled Poly(lactic acid)**

Freddys R. Beltrán, Marina P. Arrieta, Gerald Gaspar, María U. de la Orden and Joaquín Martínez Urreaga

*Polymers* **2020**, *12*(8), 1690; doi:10.3390/polym12081690

**Article: Copolymerized Natural Fibre from the Mesocarp of *Orbignya phalerata* (Babassu Fruit) as an Irrigating-Fertilizer for Growing Cactus Pears**

Ricardo Edvan, Mariane Sá, Regina Magalhães, Rafael Ratke, Heldeney R. Sousa, Lucas Mateus Lima Neri, Edson C. Silva-Filho, Jose Pereira Filho and Leilson Bezerra

*Polymers* **2020**, *12*(8), 1699; doi:10.3390/polym12081699

**Article: Utilization of Noxious Weed Water Hyacinth Biomass as a Potential Feedstock for Biopolymers Production: A Novel Approach**

Rijuta Ganesh Saratale, Si-Kyung Cho, Gajanan S. Ghodake, Han-Seung Shin, Ganesh Dattatraya Saratale, Yooheon Park, Hee-Seok Lee, Ram Naresh Bharagava and Dong-Su Kim

*Polymers* **2020**, *12*(8), 1704; doi:10.3390/polym12081704

**Article: Thermally Reversible Polymeric Networks from Vegetable Oils**

Frita Yuliati, Jennifer Hong, Keshia S. Indriadi, Francesco Picchioni and Ranjita K. Bose

*Polymers* **2020**, *12*(8), 1708; doi:10.3390/polym12081708

**Article: Surface Etching of 3D Printed Poly(lactic acid) with NaOH: A Systematic Approach**

Matthias Schneider, Nora Fritzsche, Agnieszka Puciul-Malinowska, Andrzej Baliś, Amr Mostafa, Ilko Bald, Szczepan Zapotoczny and Andreas Taubert

*Polymers* **2020**, *12*(8), 1711; doi:10.3390/polym12081711

**Article: Effect of Ultrasonic and Microwave Dual-Treatment on the Physicochemical Properties of Chestnut Starch**

Meng Wang, Yanwen Wu, Yongguo Liu and Jie Ouyang

*Polymers* **2020**, *12*(8), 1718; doi:10.3390/polym12081718

**Article: Bending Behavior of Lightweight Wood-Based Sandwich Beams with Auxetic Cellular Core**

Krzysztof Peliński and Jerzy Smardzewski

*Polymers* **2020**, *12*(8), 1723; doi:10.3390/polym12081723

**Article: Poly(Glycerol Succinate) as an Eco-Friendly Component of PLLA and PLCL Fibres towards Medical Applications**

Dorota Kolbuk, Oliwia Jeznach, Michał Wrzecieć and Agnieszka Gadomska-Gajadhur

*Polymers* **2020**, *12*(8), 1731; doi:10.3390/polym12081731

**Article: Mechanical Stress Inhibits Early Stages of Endogenous Cell Migration: A Pilot Study in an Ex Vivo Osteochondral Model**

Maria L. Vainieri, Mauro Alini, Avner Yayon, Gerjo J. V. M. van Osch and Sibylle Grad

*Polymers* **2020**, *12*(8), 1754; doi:10.3390/polym12081754

**Article: Xylan-Derived Light Conversion Nanocomposite Film**

Yunyi Yang, Yushuang Zhao, Yijie Hu, Xinwen Peng and Linxin Zhong

*Polymers* **2020**, *12*(8), 1779; doi:10.3390/polym12081779

**Article: Developed Chitosan/Oregano Essential Oil Biocomposite Packaging Film Enhanced by Cellulose Nanofibril**

Shunli Chen, Min Wu, Caixia Wang, Shun Yan, Peng Lu and Shuangfei Wang

*Polymers* **2020**, *12*(8), 1780; doi:10.3390/polym12081780

**Article: Semi-Natural Superabsorbents Based on Starch-g-poly(acrylic acid): Modification, Synthesis and Application**

Elżbieta Czarnecka and Jacek Nowaczyk

*Polymers* **2020**, *12*(8), 1794; doi:10.3390/polym12081794

**Article: Low-Density Cardoon (*Cynara cardunculus* L.) Particleboards Bound with Potato Starch-Based Adhesive**

Sandra Monteiro, Lina Nunes, Jorge Martins, Fernão D. Magalhães and Luísa Carvalho

*Polymers* **2020**, *12*(8), 1799; doi:10.3390/polym12081799

**Article: Enzymatic Synthesis of Formate Ester through Immobilized Lipase and Its Reuse**

Yesol Baek, Jonghwa Lee, Jemin Son, Taek Lee, Abdus Sobhan, Jinyoung Lee, Sang-Mo Koo, Weon Ho Shin, Jong-Min Oh and Chulhwan Park

*Polymers* **2020**, *12*(8), 1802; doi:10.3390/polym12081802

**Article: Composite Fiber Networks Based on Polycaprolactone and Bioactive Glass-Ceramics for Tissue Engineering Applications**

Sorin-Ion Jinga, Claudiu-Constantin Costea, Andreea-Ioana Zamfirescu, Adela Banciu, Daniel-Dumitru Banciu and Cristina Busuioc

*Polymers* **2020**, *12*(8), 1806; doi:10.3390/polym12081806

**Article: Development of Thermoplastic Starch (TPS) Including Leather Waste Fragments**

Silvio Pompei, Jacopo Tirillò, Fabrizio Sarasini and Carlo Santulli

*Polymers* **2020**, *12*(8), 1811; doi:10.3390/polym12081811

**Article: Biopolymer-Waste Fiber Reinforcement for Earthen Materials: Capillary, Mechanical, Impact, and Abrasion Performance**

Héctor Gonzalez-Calderon, Gerardo Araya-Letelier, Sabine Kunze, Claudia Burbano-Garcia, Úrsula Reidel, Cristián Sandoval, Rodrigo Astroza and Fernando Bas

*Polymers* **2020**, *12*(8), 1819; doi:10.3390/polym12081819

**Article: Development of Biocomposite Polymeric Systems Loaded with Antibacterial Nanoparticles for the Coating of Polypropylene Biomaterials**

Mar Fernández-Gutiérrez, Bárbara Pérez-Köhler, Selma Benito-Martínez, Francisca García-Moreno, Gemma Pascual, Luis García-Fernández, María Rosa Aguilar, Blanca Vázquez-Lasa and Juan Manuel Bellón

*Polymers* **2020**, *12*(8), 1829; doi:10.3390/polym12081829

**Article: In-Situ Deposition of Metal Oxides Nanoparticles in Cellulose Derivative and Its Utilization for Wastewater Disinfection**

Mohamed Gouda, Wedad Al-Bokheet and Mohamed Al-Omair

*Polymers* **2020**, *12*(8), 1834; doi:10.3390/polym12081834

**Article: Hydrolytic Degradation of Porous Crosslinked Poly( $\epsilon$ -Caprolactone) Synthesized by High Internal Phase Emulsion Templating**

Nejla Benyahia Erdal, Gabriela Albara Lando, Anilkumar Yadav, Rajiv K. Srivastava and Minna Hakkarainen

*Polymers* **2020**, *12*(8), 1849; doi:10.3390/polym12081849

**Communication: Glycerin/NaOH Aqueous Solution as a Green Solvent System for Dissolution of Cellulose**

Ke Li, Huiyu Yang, Lang Jiang, Xin Liu, Peng Lang, Bo Deng, Na Li and Weilin Xu

*Polymers* **2020**, *12*(8), 1735; doi:10.3390/polym12081735

## Polymer Analysis

### **Review: Bio-Polyethylene (Bio-PE), Bio-Polypropylene (Bio-PP) and Bio-Poly(ethylene terephthalate) (Bio-PET): Recent Developments in Bio-Based Polymers Analogous to Petroleum-Derived Ones for Packaging and Engineering Applications**

Valentina Siracusa and Ignazio Blanco

*Polymers* **2020**, *12*(8), 1641; doi:10.3390/polym12081641

### **Review: Nanosilica-Toughened Epoxy Resins**

Stephan Sprenger

*Polymers* **2020**, *12*(8), 1777; doi:10.3390/polym12081777

### **Review: Thiolation of Biopolymers for Developing Drug Delivery Systems with Enhanced Mechanical and Mucoadhesive Properties: A Review**

Vivek Puri, Ameya Sharma, Pradeep Kumar and Inderbir Singh

*Polymers* **2020**, *12*(8), 1803; doi:10.3390/polym12081803

### **Review: The Application of Polysaccharides and Their Derivatives in Pigment, Barrier, and Functional Paper Coatings**

Qianlong Li, Shanyong Wang, Xuchen Jin, Caoxing Huang and Zhouyang Xiang

*Polymers* **2020**, *12*(8), 1837; doi:10.3390/polym12081837

### **Article: Systematic Investigation on the Structure-Property Relationship in Isotactic Polypropylene Films Processed via Cast Film Extrusion**

Federico Di Sacco, Markus Gahleitner, Jingbo Wang and Giuseppe Portale

*Polymers* **2020**, *12*(8), 1636; doi:10.3390/polym12081636

### **Article: Synthesis and Characterisation of Acrylic Resin-Al Powder Composites Suitable for Additive Manufacturing**

J. J. Relinque, Ismael Romero-Ocaña, Francisco J. Navas-Martos, F. J. Delgado, M. Domínguez and S. I. Molina

*Polymers* **2020**, *12*(8), 1642; doi:10.3390/polym12081642

### **Article: PEG/PPG-PDMS-Adamantane-Based Crosslinked Terpolymer Using the ROMP Technique to Prepare a Highly Permeable and CO<sub>2</sub>-Selective Polymer Membrane**

Dongyoung Kim, Iqubal Hossain, Yeonho Kim, Ook Choi and Tae-Hyun Kim

*Polymers* **2020**, *12*(8), 1674; doi:10.3390/polym12081674

**Article: Temperature-Frequency-Dependent Viscoelastic Properties of Neat Epoxy and Fiber Reinforced Polymer Composites: Experimental Characterization and Theoretical Predictions**

Kakur Naresh, Kamran Ahmed Khan, Rehan Umer and Alagumalai Vasudevan

*Polymers* **2020**, *12*(8), 1700; doi:10.3390/polym12081700

**Article: Physically Crosslinked Hydrogels Based on Poly (Vinyl Alcohol) and Fish Gelatin for Wound Dressing Application: Fabrication and Characterization**

Teng Ren, Jing Gan, Liping Zhou and Hao Chen

*Polymers* **2020**, *12*(8), 1729; doi:10.3390/polym12081729

**Article: Crystallization Induced Enhanced Emission in Two New Zn(II) and Cd(II) Supramolecular Coordination Complexes with the 1-(3,4-Dimethylphenyl)-5-Methyl-1H-1,2,3-Triazole-4-Carboxylate Ligand**

Pilar Narea, Jonathan Cisterna, Alejandro Cárdenas, Pilar Amo-Ochoa, Félix Zamora, Clàudia Climent, Pere Alemany, Sergio Conejeros, Jaime Llanos and Iván Brito

*Polymers* **2020**, *12*(8), 1756; doi:10.3390/polym12081756

**Article: In Vitro Degradation of Electrospun Poly(Lactic-Co-Glycolic Acid) (PLGA) for Oral Mucosa Regeneration**

Ana Chor, Raquel Pires Gonçalves, Andrea Machado Costa, Marcos Farina, Arnaud Ponche, Lys Sirelli, Gautier Schrodj, Simon Gree, Leonardo Rodrigues de Andrade, Karine Anselme and Marcos Lopes Dias

*Polymers* **2020**, *12*(8), 1853; doi:10.3390/polym12081853

## Polymer Physics

**Article: Correlation between Tribological Properties and the Quantified Structural Changes of Lysozyme on Poly (2-hydroxyethyl methacrylate) Contact Lens**

You-Cheng Chang, Chen-Ying Su, Chia-Hua Chang, Hsu-Wei Fang and Yang Wei

*Polymers* **2020**, *12*(8), 1639; doi:10.3390/polym12081639

**Article: Quantify the Protein-Protein Interaction Effects on Adsorption Related Lubricating Behaviors of  $\alpha$ -Amylase on a Glass Surface**

Nareshkumar Baskaran, You-Cheng Chang, Chia-Hua Chang, Shun-Kai Hung, Chuan-Tse Kao and Yang Wei

*Polymers* **2020**, *12*(8), 1658; doi:10.3390/polym12081658

**Article: Tribological and Mechanical Behavior of Graphite Composites of Polytetrafluoroethylene (PTFE) Irradiated by the Electron Beam**

Adrian Barylski, Andrzej S. Swinarew, Krzysztof Aniołek, Sławomir Kaptacz, Jadwiga Gabor, Arkadiusz Stanula, Zbigniew Waśkiewicz and Beat Knechtle

*Polymers* **2020**, *12*(8), 1676; doi:10.3390/polym12081676

**Article: New Insights into Crystallization of Heterophasic Isotactic Polypropylene by Fast Scanning Chip Calorimetry**

Daniela Mileva, Jingbo Wang, Markus Gahleitner, Katalee Jariyavidyanont and René Androsch

*Polymers* **2020**, *12*(8), 1683; doi:10.3390/polym12081683

**Article: Effects of Carbonyl Iron Powder (CIP) Content on the Electromagnetic Wave Absorption and Mechanical Properties of CIP/ABS Composites**

Wenwen Lai, Yan Wang and Junkun He

*Polymers* **2020**, *12*(8), 1694; doi:10.3390/polym12081694

**Article: Phase Behavior of Amorphous/Semicrystalline Conjugated Polymer Blends**

Gada Muleta Fanta, Pawel Jarka, Urszula Szeluga, Tomasz Tański and Jung Yong Kim

*Polymers* **2020**, *12*(8), 1726; doi:10.3390/polym12081726

**Article: Heat-Stable Hazelnut Profilin: Molecular Dynamics Simulations and Immunoinformatics Analysis**

Haruna L. Barazorda-Ccahuana, Vinicius Theiss-De-Rosso, Diego Ernesto Valencia and Badhin Gómez

*Polymers* **2020**, *12*(8), 1742; doi:10.3390/polym12081742

**Article: Microfluidic Fabrication of Click Chemistry-Mediated Hyaluronic Acid Microgels: A Bottom-Up Material Guide to Tailor a Microgel's Physicochemical and Mechanical Properties**

Thomas Heida, Oliver Otto, Doreen Biedenweg, Nicolas Hauck and Julian Thiele

*Polymers* **2020**, *12*(8), 1760; doi:10.3390/polym12081760

**Article: Halloysite Nanotubes Coated by Chitosan for the Controlled Release of Khellin**

Lorenzo Lisuzzo, Giuseppe Cavallaro, Stefana Milioto and Giuseppe Lazzara

*Polymers* **2020**, *12*(8), 1766; doi:10.3390/polym12081766

**Article: Competition between Structural Relaxation and Crystallization in the Glass Transition Range of Random Copolymers**

Jürgen E. K. Schawe and Claus Wrana

*Polymers* **2020**, *12*(8), 1778; doi:10.3390/polym12081778

**Article: Effects of Scanning Strategy and Printing Temperature on the Compressive Behaviors of 3D Printed Polyamide-Based Composites**

Jin Wang, Jiangyang Xiang, Hao Lin, Kui Wang, Song Yao, Yong Peng and Yanni Rao

*Polymers* **2020**, *12*(8), 1783; doi:10.3390/polym12081783

**Article: Epoxy Nanocomposites Reinforced with Functionalized Carbon Nanotubes**

Anton Mostovoy, Andrey Yakovlev, Vitaly Tseluikin and Marina Lopukhova

*Polymers* **2020**, *12*(8), 1816; doi:10.3390/polym12081816

**Article: On the Synergistic Effect of Multi-Walled Carbon Nanotubes and Graphene Nanoplatelets to Enhance the Functional Properties of SLS 3D-Printed Elastomeric Structures**

Gennaro Rollo, Alfredo Ronca, Pierfrancesco Cerruti, Xin Peng Gan, Guoxia Fei, Hesheng Xia, Gleb Gorokhov, Dzmitry Bychanok, Polina Kuzhir, Marino Lavorgna and Luigi Ambrosio

*Polymers* **2020**, *12*(8), 1841; doi:10.3390/polym12081841

## Polymer Chemistry

**Review: Antioxidant Activity of Synthetic Polymers of Phenolic Compounds**

Subhalakshmi Nagarajan, Ramaswamy Nagarajan, Jayant Kumar, Adele Salemme, Anna Rita Togna, Luciano Saso and Ferdinando Bruno

*Polymers* **2020**, *12*(8), 1646; doi:10.3390/polym12081646

**Review: The Impact of Vitrimers on the Industry of the Future: Chemistry, Properties and Sustainable Forward-Looking Applications**

Walter Alabiso and Sandra Schlögl

*Polymers* **2020**, *12*(8), 1660; doi:10.3390/polym12081660

**Article: Gene Cloning, Characterization, and Molecular Simulations of a Novel Recombinant Chitinase from Chitinibacter Tainanensis CT01 Appropriate for Chitin Enzymatic Hydrolysis**

Yeng-Tseng Wang and Po-Long Wu



*Polymers* **2020**, *12*(8), 1648; doi:10.3390/polym12081648

**Article: Thermal and Fire Behavior of a Bio-Based Epoxy/Silica Hybrid Cured with Methyl Nadic Anhydride**

Aurelio Bifulco, Angela Marotta, Jessica Passaro, Aniello Costantini, Pierfrancesco Cerruti, Gennaro Gentile, Veronica Ambrogi, Giulio Malucelli and Francesco Branda

*Polymers* **2020**, *12*(8), 1661; doi:10.3390/polym12081661

**Article: Synthesis of Poly(2-Acrylamido-2-Methylpropane Sulfonic Acid) and its Block Copolymers with Methyl Methacrylate and 2-Hydroxyethyl Methacrylate by Quasiliving Radical Polymerization Catalyzed by a Cyclometalated Ruthenium(II) Complex**

Vanessa Martínez-Cornejo, Joaquin Velázquez-Roblero, Veronica Rosiles-González, Monica Correa-Duran, Alejandro Avila-Ortega, Emanuel Hernández-Núñez, Ronan Le Lagadec and Maria Ortencia González-Díaz

*Polymers* **2020**, *12*(8), 1663; doi:10.3390/polym12081663

**Article: Nickel-Graphene Nanoplatelet Deposited on Carbon Fiber as Binder-Free Electrode for Electrochemical Supercapacitor Application**

Hemraj M. Yadav, Narayan Chandra Deb Nath, Jeonghun Kim, S. K. Shinde, Sivalingam Ramesh, Faruk Hossain, Olaniyan Ibukun and Jae-Joon Lee

*Polymers* **2020**, *12*(8), 1666; doi:10.3390/polym12081666

**Article: Application of the Finite Element Method to the Incremental Forming of Polymer Sheets: The Thermomechanical Coupled Model and Experimental Validations**

A. García-Collado, Gustavo Medina-Sanchez, Munish Kumar Gupta and R. Dorado-Vicente

*Polymers* **2020**, *12*(8), 1715; doi:10.3390/polym12081715

**Article: Does Subunit Composition Influence the Intermolecular Crosslinking of Fish Collagen? A Study with Hake and Blue Shark Skin Collagens**

María Blanco, Noelia Sanz, Jesús Valcarcel, Ricardo I. Pérez-Martín and Carmen G. Sotelo

*Polymers* **2020**, *12*(8), 1734; doi:10.3390/polym12081734

**Article: Water-Soluble and Cytocompatible Phospholipid Polymers for Molecular Complexation to Enhance Biomolecule Transportation to Cells In Vitro**

Kazuhiko Ishihara, Shohei Hachiya, Yuuki Inoue, Kyoko Fukazawa and Tomohiro Konno

*Polymers* **2020**, *12*(8), 1762; doi:10.3390/polym12081762

**Article: Synthesis of Amphiphilic Statistical Copolymers Bearing Methoxyethyl and Phosphorylcholine Groups and Their Self-Association Behavior in Water**

Thi Lien Nguyen, Yuuki Kawata, Kazuhiko Ishihara and Shin-ichi Yusa

*Polymers* **2020**, *12*(8), 1808; doi:10.3390/polym12081808

**Article: Thermal Degradation Processes of Aromatic Poly(Ether Sulfone) Random Copolymers Bearing Pendant Carboxyl Groups**

Sandro Dattilo, Concetto Puglisi, Emanuele Francesco Mirabella, Angela Spina, Andrea Antonino Scamporrino, Daniela Clotilde Zampino, Ignazio Blanco, Gianluca Cicala, Giulia Ognibene, Chiara Di Mauro and Filippo Samperi

*Polymers* **2020**, *12*(8), 1810; doi:10.3390/polym12081810

**Article: Synthesis and Characterization of Copoly(Ether Sulfone)s with Different Percentages of Diphenolic Acid Units**

Andrea A. Scamporrino, Concetto Puglisi, Angela Spina, Maurizio Montaudo, Daniela C. Zampino, Gianluca Cicala, Giulia Ognibene, Chiara Di Mauro, Sandro Dattilo, Emanuele F. Mirabella, Giuseppe Recca and Filippo Samperi

*Polymers* **2020**, *12*(8), 1817; doi:10.3390/polym12081817

**Article: Straight Versus Branched Chain Substituents in 4'-(Butoxyphenyl)-3,2':6',3"-terpyridines: Effects on (4,4) Coordination Network Assemblies**

Dalila Rocco, Alessandro Prescimone, Edwin C. Constable and Catherine E. Housecroft

*Polymers* **2020**, *12*(8), 1823; doi:10.3390/polym12081823

**Article: Association between Nonionic Amphiphilic Polymer and Ionic Surfactant in Aqueous Solutions: Effect of Polymer Hydrophobicity and Micellization**

Samhitha Kancharla, Nathan A. Zoyhofski, Lucas Bufalini, Boris F. Chatelais and Paschalis Alexandridis

*Polymers* **2020**, *12*(8), 1831; doi:10.3390/polym12081831

**Article: Synthesis and Properties of Moisture-Cured Reactive Polyurethane Containing Castor Oil and Oxime Compounds**

Zheng-Ying Wu

*Polymers* **2020**, *12*(8), 1838; doi:10.3390/polym12081838

**Article: Long-Term Formaldehyde Emission Potential from UF- and NAF-Bonded Particleboards**

Charles R. Frihart, Timothy L. Chaffee and James M. Wescott

*Polymers* **2020**, *12*(8), 1852; doi:10.3390/polym12081852

### **Perspective: Macromolecular Engineering by Applying Concurrent Reactions with ATRP**

Yu Wang, Mary Nguyen and Amanda J. Gildersleeve

*Polymers* **2020**, *12*(8), 1706; doi:10.3390/polym12081706

## **Green and Sustainable Chemistry in Polymer Science**

### **Article: Comparing Benzodithiophene Unit with Alkylthionaphthyl and Alkylthiobiphenyl Side-Chains in Constructing High-Performance Nonfullerene Solar Cells**

Ruyi Xie, Li Song and Zhihui Zhao

*Polymers* **2020**, *12*(8), 1673; doi:10.3390/polym12081673

## **Special Issues Open for Submissions**

### **Polymer Issues in Orthopaedic Implants**

(Deadline: 15 September 2020)

### **Smart Polymeric Nanoparticles for Applications in Nanomedicine**

(Deadline: 25 September 2020)

### **Polymeric and Polymer Nanocomposite Materials for Photonic Applications**

(Deadline: 25 September 2020)

### **Organic-Inorganic Hybrid Materials**

(Deadline: 30 September 2020)

### **Mechanical Reinforcement and Multifunctionality of Polymer Nanocomposites**

(Deadline: 30 September 2020)

To access the full list of Special Issues, please click [here](#)

## **Topical Collections (without Deadline)**

### **Polymeric Adhesives**

**Polymer Materials for Adsorption Applications**

**Polymer/Biopolymer Stabilization and Degradation**

**Innovative Functional Textiles**

**Sustainable Polymeric Materials from Renewable Resources**

To access the full list of Topical Collections, please click [here](#)

## Recent Special Issue Reprints

### **Polymer Biointerfaces**

Marián Lehotský and Petr Humpolíček (Eds.)

ISBN 978-3-03928-977-6 (Hbk) ; ISBN 978-3-03928-978-3 (PDF)

doi: [10.3390/books978-3-03928-978-3](https://doi.org/10.3390/books978-3-03928-978-3)

### **Antimicrobial Polymer-Based Materials for Food Packaging Applications**

Ana María Díez-Pascual (Ed.)

ISBN 978-3-03928-989-9 (Pbk); ISBN 978-3-03928-990-5 (PDF)

doi: [10.3390/books978-3-03928-990-5](https://doi.org/10.3390/books978-3-03928-990-5)

### **Carbon-Based Polymer Nanocomposites for High-Performance Applications**

Ana María Díez-Pascual (Ed.)

ISBN 978-3-03928-991-2 (Pbk); ISBN 978-3-03928-992-9 (PDF)

doi: [10.3390/books978-3-03928-992-9](https://doi.org/10.3390/books978-3-03928-992-9)

### **Bio-Based Polymers for Engineered Green Materials**

Gianluca Tondi and Thomas Schnabel (Eds.)

ISBN 978-3-03928-925-7 (Pbk); ISBN 978-3-03928-926-4 (PDF)

doi: [10.3390/books978-3-03928-926-4](https://doi.org/10.3390/books978-3-03928-926-4)

### **Advances in Mucoadhesive Polymers and Formulations for Transmucosal Drug Delivery**

Vitaliy Khutoryanskiy (Ed.)

ISBN 978-3-03928-752-9 (Hbk) ; ISBN 978-3-03928-753-6 (PDF)

doi: [10.3390/books978-3-03928-753-6](https://doi.org/10.3390/books978-3-03928-753-6)

To access the full list of books, please click [here](#)

## Upcoming Conferences

The 4th ISFMS: Biochemistry, Molecular Biology and Druggability of Proteins (Florence, Italy, 7–10 September 2021)

The First International Conference on “Green” Polymer Materials 2020 (online, 5–25 November 2020)

1st International Electronic Conference on Actuator Technology: Materials, Devices and Applications

(Online, 23–27 November 2020)

3rd Coatings and Interfaces Conference (Florence, Italy, 17–19 March 2021)

Polymers 2021 -New Trends in Polymer Science: Health of the Planet, Health of the People (Turin, Italy, 17–19 May 2021)

To access all conferences, please click [here](#)



[Manage your journal subscriptions](#) | [Unsubscribe](#)

MDPI

Postfach, CH-4020 Basel, Switzerland

Office: St. Alban-Anlage 66, CH-4052 Basel, Switzerland

Tel. +41 61 683 77 34

Fax +41 61 302 89 18

[www.mdpi.com](http://www.mdpi.com)



[LinkedIn](#)

[Twitter](#)

[Facebook](#)