Polymer Chemistry

The home for the most innovative and exciting polymer chemistry, with an emphasis on polymer synthesis and applications thereof

rsc.li/polymers

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

IN THIS ISSUE

ISSN 1759-9962 CODEN PCOHC2 14(18) 2137-2258 (2023)



Cover See Nasim Amiralian *et al.*, pp. 2164–2173.



Image reproduced by permission of Lauren Geurds and Nasim Amiralian from *Polym. Chem.*, 2023, **14**, 2164.

OBITUARY

PAPER Nation Amin Alteration of

2144

In memoriam Yusuf Yagci (17 March 1952–30 January 2023)

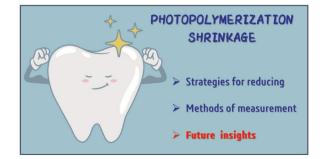


REVIEW

2145

Photopolymerization shrinkage: strategies for reduction, measurement methods and future insights

Monika Topa-Skwarczyńska* and Joanna Ortyl*



Editorial Staff

Executive Editor Maria Southall

Deputy Editor

Laura Ghandhi

Editorial Production Manager Cara Sutton

Assistant Editors

Sean Browner, Molly Colgate, Paul Scott, Alison Winder

Editorial Assistant Basita Javeed

Publishing Assistant Allison Holloway

Publisher

Sam Keltie

For queries about submitted papers, please contact Cara Sutton, Editorial Production Manager in the first instance. E-mail: polymers@rsc.org

For pre-submission queries please contact Maria Southall. Executive Editor. E-mail: polymers-rsc@rsc.org

Polymer Chemistry (electronic: ISSN 1759-9962) is published 48 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 OWF.

All orders, with cheques made payable to the Royal Society of Chemistry, should be sent to the Royal Society of Chemistry Order Department, Royal Society of Chemistry,

Thomas Graham House, Science Park, Milton Road, Cambridge CB4 OWF, UK

Tel +44 (0)1223 432398; E-mail: orders@rsc.org

2023 Annual (electronic) subscription price: £2935: \$5014. Customers in Canada will be subject to a surcharge to cover GST. Customers in the EU subscribing to the electronic version only will be charged VAT.

If you take an institutional subscription to any Royal Society of Chemistry journal you are entitled to free, site-wide web access to that journal. You can arrange access via Internet Protocol (IP) address at www.rsc.org/ip

Customers should make payments by cheque in sterling payable on a UK clearing bank or in US dollars payable on a US clearing bank.

Whilst this material has been produced with all due care, the Royal Society of Chemistry cannot be held responsible or liable for its accuracy and completeness, nor for any consequences arising from any errors or the use of the information contained in this publication. The publication of advertisements does not constitute any endorsement by the Royal Society of Chemistry or Authors of any products advertised. The views and opinions advanced by contributors do not necessarily reflect those of the Royal Society of Chemistry which shall not be liable for any resulting loss or damage arising as a result of reliance upon this material. The Royal Society of Chemistry is a charity, registered in England and Wales, Number 207890, and a company incorporated in England by Royal Charter (Registered No. RC000524), registered office Burlington House, Piccadilly, London W1J 0BA, UK, Telephone: +44 (0) 207 4378 6556.

Advertisement sales

Tel +44 (0) 1223 432246: Fax +44 (0) 1223 426017: E-mail: advertising@rsc.org

For marketing opportunities relating to this journal. contact marketing@rsc.org

Polymer Chemistry

rsc.li/polymers

The home for the most innovative and exciting polymer chemistry, with an emphasis on polymer synthesis and applications thereof.

Editorial Board

Editor-in-Chief Christopher Barner-Kowollik. Oueensland University of Technology, Australia Associate Editors Athina Anastasaki, ETH Zurich, Switzerland Filip Du Prez, Ghent University, Belgium Holger Frey, Johannes Gutenberg University Mainz, Germany

Rongrong Hu, South China University of Technology, China Jeremiah A Johnson, Massachusetts Institute of Technology, USA Tanja Junkers, Monash University, Australia Dominik Konkolewicz Miami University USA Zhibo Li, Oingdao University of Science and

Technology, China Zi-Chen Li, Peking University, China Emily Pentzer, Texas A&M University, USA Sébastien Perrier, University of Warwick, UK

Advisory Board

Steven Armes, University of Sheffield, UK Yanchun Han, Chinese Academy of Sciences, Remzi Becer, University of Warwick, UK China Matthew Becker, Duke University, USA Eva Marie Harth, University of Houston, USA Erik Berda, University of New Hampshire, USA Simon Harrisson, CNRS - University of Toulouse, Kerstin Blank, Max Planck Institute of Colloids and France Laura Hartmann, Heinrich Heine University Interfaces, Germany Eva Blasco, Heidelberg University, Germany Düsseldorf, Germany James Blinco, Queensland University of Fiona Hatton, Loughborough University, UK Andrew B. Holmes, University of Melbourne, Technology, Australia Chris Bowman, University of Colorado, USA Australia Cyrille Boyer, University of New South Wales, Richard Hoogenboom, University of Ghent, Australia Belgium Steve Howdle, University of Nottingham, UK Neil Cameron, Monash University, Australia Feihe Huang, Zheijiang University, China Toyoji Kakuchi, Changchun University of Science Luis Campos, Columbia University, USA Changle Chen, University of Science and Technology of China, China and Technology, China Mao Chen, Fudan University, China Julia Kalow, Northwestern University, USA Xuesi Chen, Chinese Academy of Sciences, China Masami Kamigaito, Nagoya University, Japan Yoshiki Chujo, Kyoto University, Japan Justin Kennemur, Florida State University, USA Franck D'Agosto, CPE Lyon, France Christopher Kloxin, University of Delware, USA Priyadarsi De, Indian Institute of Science Education Jacques Lalevée, Institut de Science des Matériaux and Research Kolkata, India de Mulhouse, France Katharina Landfester, Max Planck Institute for Guillaume Delaittre, University of Wuppertal. Polymer Research, Germany Germany Dagmar D'hooge, University of Ghent, Belgium Muriel Lansalot, Université Lyon, France Elizabeth Elacqua, Pennsylvania State University, Sébastien Lecommandoux, ENSCPB, University of USA Bordeaux, France Brett P Fors, Cornell University, USA Rachel Letteri, University of Virginia, USA Theoni Georgiou, Imperial College London, UK Guey-Sheng Liou, National Taiwan University, Didier Gigmes, Aix-Marseille Université, CNRS, Taiwan Guoliang Liu, Virginia Tech, USA France Shiyong Liu, University of Science & Technology,

Atsushi Goto, Nanyang Technological University, Singapore

Sophie Guillaume, Institut des Sciences Chimiques Timothy Long, Arizona State University, USA de Rennes, France

Dave Haddleton, University of Warwick, UK

Nikos Hadjichristidis, King Abdullah University of Science and Technology, Saudi Arabia

Information for Authors

Full details on how to submit material for publication in Polymer Chemistry are given in the Instructions for Authors (available from http://www.rsc.org/ authors). Submissions should be made via the journal's homepage: rsc.li/ polymers Submissions: The journal welcomes submissions of manuscripts for publication as Full Papers, Communications, Perspectives and Reviews. Full Papers and Communications should describe original work of high guality and impact.

China

Ian Manners, University of Victoria, Canada

Ravin Narain, University of Alberta, Canada

Julien Nicolas, University Paris-Sud, France

Markus Muellner, University of Sydney, Australia

John Matson, Virginia Tech, USA

Colour figures are reproduced free of charge. Additional details are available from the Editorial Office or http://www.rsc.org/authors

Authors may reproduce/republish portions of their published contribution without seeking permission from the Royal Society of Chemistry, provided that any such republication is accompanied by an acknowledgement in the form: (Original Citation)-Reproduced by permission of the Royal Society of Chemistry

This journal is © The Royal Society of Chemistry 2023. Apart from fair dealing for the purposes of research or private study for non-commercial purposes, or criticism or review, as permitted under the Copyright, Designs and Patents Act 1988 and the Copyright and Related Rights Regulation 2003, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the Publishers or in the case of reprographic reproduction in accordance with the terms of licences issued by the Copyright Licensing Agency in the UK. US copyright law is applicable to users in the USA. Registered charity number: 207890

Kyoko Nozaki, University of Tokyo, Japan Rachel O'Reilly, University of Warwick, UK Makoto Ouchi, Kyoto University, Japan Derek Patton, University of Southern Mississippi, USA Theresa Reineke, University of Minnesota, USA Megan Robertson, University of Houston, USA Amitav Sanyal, Bogazici University, Turkey Felix Schacher, Friedrich-Schiller-University Jena, Germany Helmut Schlaad, University of Potsdam, Germany Ellen Sletten, University of California, Los Angeles, USA Martina Stenzel, University of New South Wales, Australia Molly Stevens, Imperial College London, UK Natalie Stingelin, Georgia Institute of Technology, USA Ben Zhong Tang, HKUST, Hong Kong, China Lei Tao, Tsinghua University, China Patrick Theato, KIT, Germany Maria Vamvakaki, FORTH-IESL, Greece Jan van Hest, Eindhoven University of Technology The Netherlands Kelly Velonia, University of Crete, Greece María J. Vicent, CIPF, Spain Brigitte Voit, Leibniz Institute of Polymer Design, Germany Marcus Weck, NYU, USA Charlotte Williams, University of Oxford, UK Frederik Wurm, Max-Planck-Institut für Polymerforschung, Germany Yusuf Yagci, Istanbul Technical University, Turkey Naoko Yoshie, University of Tokyo, Japan Wei You, University of North Carolina at Chapel Hill. USA Xi Zhang, Tsinghua University, China

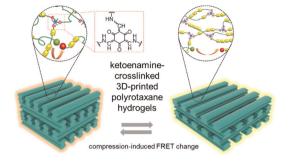


COMMUNICATION

2159

3D-printed ketoenamine crosslinked polyrotaxane hydrogels and their mechanochromic responsiveness

Dan Zheng, Miao Tang and Chenfeng Ke*

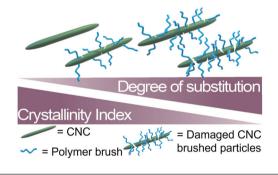


PAPERS

2164

Alteration of the cellulose nanocrystal surface chemistry for guided formation of polymer brushes

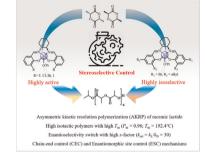
Lauren Geurds, Katarzyna Kępa, Jan Lauko, Alan E. Rowan and Nasim Amiralian*



2174

Exploring ligand substituent effects on stereoselective polymerization of racemic lactide using aluminium salen-type complexes

Zengping Peng, Hassan Ahmed, Guangqiang Xu,* Xuanhua Guo, Rulin Yang, Hongguang Sun* and Qinggang Wang*

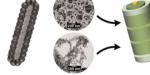


2181

Polymer brush-grafted cellulose nanocrystals for the synthesis of porous carbon-coated titania nanocomposites

Yen Theng Cheng, Qingbo Xia, Hongwei Liu, Marcello B. Solomon, Chris D. Ling and Markus Müllner*





CNC-based Polymer Bottlebrush Template

Mesoporous Anatase TiO₂/Carbon Nanotubes

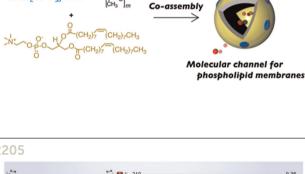
PAPERS

2198



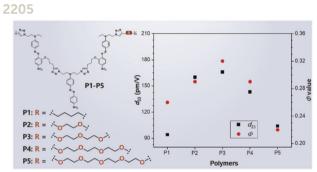
Diversity-oriented synthesis of chemically recyclable poly(sulfonamide ester)s through organocatalytic aziridine-based multicomponent polymerization

Songjie Fan, Peng Zhu, Jingtong Ye, Huishan Huang, Zhen Zhang* and Jinxiang Dong*



Bilayer-domain formation of thermoresponsive amphiphilic block copolymers in hybrid liposomes for synthetic molecular channels

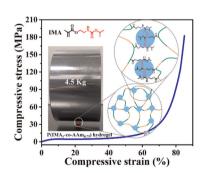
Naoki Ozawa, Shunji Kosaka, Shota Fujii and Tomoki Nishimura*



Promotion of the second-order nonlinear optical effect by introducing ether linkage into polymer main chains

Kai Wang, Xiaocong Deng, Qianqian Li* and Zhen Li*

2212



Ultra-stiff and tough hydrogels based on small but strong hydrophobic associations *via* a low-reactive hydrophilic monomer

Lei Yang, Shuo Li, Zijian Zhao, Jie Wang, Hongying Lv* and Xiaoniu Yang*

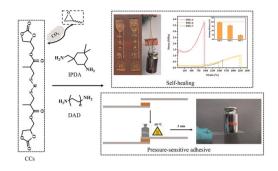
PLGA-PEG-PLGA

PAPERS

2220

Customized thermoplastic polyhydroxyurethanes synthesized from ene-containing cyclic carbonates, dithiols and diamines: design, mechanical properties and applications in adhesives

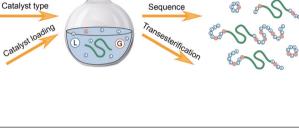
Weikun Xu, Yutong Ding, Shibin You, Cheng Chao, Bozhen Wu* and Feng Chen*



2229

Influence of polymerisation conditions on the kinetics of poly(lactic-co-glycolic acid)-bpoly(ethylene glycol)-b-poly(lactic-co-glycolic acid) triblock synthesis and the occurrence of transesterification side reactions

Jie Yan, Paula Facal Marina and Anton Blencowe*



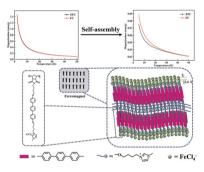
Sequence

Temperature

2238

Self-assembly induced ferromagnetic interaction in magnetic polymers with terphenyl linkers

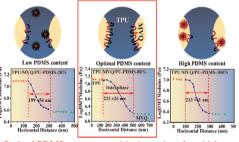
Shengqi Ji, Xiaoyan Yuan, Qianjin Guo and Lixia Ren*



2246

Preparation and compatibility mechanism study of the polyurethane-polysiloxane copolymer with tunable polysiloxane content for TPU/MVQ blends with comfortable texture

Gege Lv, Jing Hu, Xinyue Hao, Nanying Ning, Bing Yu* and Ming Tian*



Optimal PDMS content - Maximum interface thickness