

# Polymer Chemistry

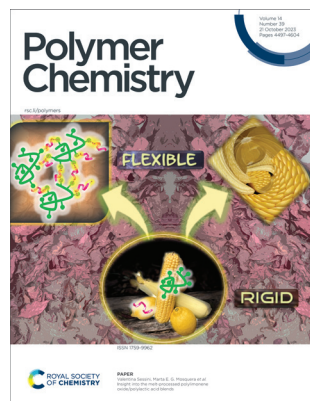
The home for the most innovative and exciting polymer chemistry, with an emphasis on polymer synthesis and applications thereof

[rsc.li/polymers](https://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(39) 4497-4604 (2023)



### Cover

See Valentina Sessini, Marta E. G. Mosquera *et al.*, pp. 4530–4537.

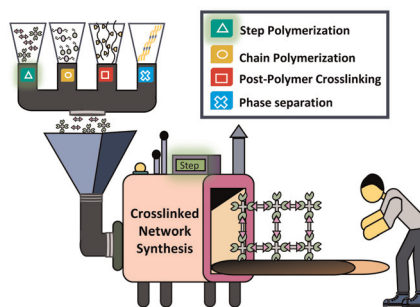
Image reproduced by permission of Marta Elena Gonzalez Mosquera from *Polym. Chem.*, 2023, **14**, 4530.

## TUTORIAL REVIEW

4503

### Educational series: turning monomers into crosslinked polymer networks

M. A. Sachini N. Weerasinghe, Obed J. Dodo, Chamoni W. H. Rajawasam, Ibrahim O. Raji, Shiwanka V. Wanasinghe, Dominik Konkolewicz\* and Nethmi De Alwis Watuthantrige\*

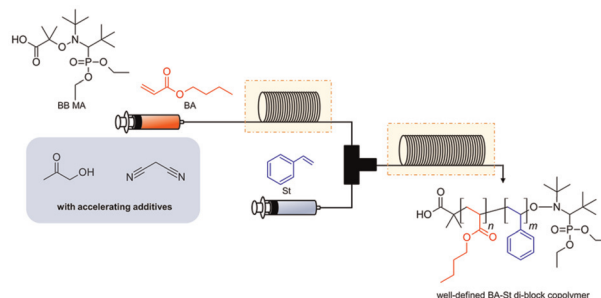


## COMMUNICATIONS

4515

### Accelerated nitroxide-mediated polymerization of styrene and butyl acrylate initiated by BlocBuilder MA using flow reactors

Ryo Takabayashi, Stephan Feser, Hiroshi Yonehara, Ilhyong Ryu and Takahide Fukuyama\*



## 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 pre-submission queries, 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 0WF.

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 0WF, 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](http://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](mailto:advertising@rsc.org)

For marketing opportunities relating to this journal, contact [marketing@rsc.org](mailto: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, Queensland 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, Qingdao 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 Ames, University of Sheffield, UK  
Remzi Becer, University of Warwick, UK  
Matthew Becker, Duke University, USA  
Erik Berda, University of New Hampshire, USA  
Kerstin Blank, Max Planck Institute of Colloids and Interfaces, Germany  
Eva Blasco, Heidelberg University, Germany  
James Blinco, Queensland University of Technology, Australia  
Chris Bowman, University of Colorado, USA  
Cyrille Boyer, University of New South Wales, Australia  
Neil Cameron, Monash University, Australia  
Luis Campos, Columbia University, USA  
Changle Chen, University of Science and Technology of China, China  
Mao Chen, Fudan University, China  
Xuesi Chen, Chinese Academy of Sciences, China  
Yoshiki Chujo, Kyoto University, Japan  
Franck D'Agosto, CPE Lyon, France  
Priyadarsi De, Indian Institute of Science Education and Research Kolkata, India  
Guillaume Delaitre, University of Wuppertal, Germany  
Dagmar D'hooge, University of Ghent, Belgium  
Elizabeth Elacqua, Pennsylvania State University, USA  
Brett P Fors, Cornell University, USA  
Theoni Georgiou, Imperial College London, UK  
Didier Gigmes, Aix-Marseille Université, CNRS, France  
Atsushi Goto, Nanyang Technological University, Singapore  
Sophie Guillaume, Institut des Sciences Chimiques de Rennes, France  
Dave Haddleton, University of Warwick, UK  
Nikos Hadjichristidis, King Abdullah University of Science and Technology, Saudi Arabia

Yanchun Han, Chinese Academy of Sciences, China  
Eva Marie Harth, University of Houston, USA  
Simon Harrison, CNRS - University of Toulouse, France  
Laura Hartmann, Heinrich Heine University Düsseldorf, Germany  
Fiona Hatton, Loughborough University, UK  
Andrew B. Holmes, University of Melbourne, Australia  
Richard Hoogenboom, University of Ghent, Belgium  
Steve Howdle, University of Nottingham, UK  
Feihe Huang, Zhejiang University, China  
Toyoyi Kakuchi, Changchun University of Science and Technology, China  
Julia Kalow, Northwestern University, USA  
Masami Kamigaito, Nagoya University, Japan  
Justin Kennemur, Florida State University, USA  
Christopher Kloxin, University of Delaware, USA  
Jacques Lalevé, Institut de Science des Matériaux de Mulhouse, France  
Sébastien Lecommandoux, ENSCPB, University of Bordeaux, France  
Rachel Letteri, University of Virginia, USA  
Guey-Sheng Liou, National Taiwan University, Taiwan  
Guoliang Liu, Virginia Tech, USA  
Shiyong Liu, University of Science & Technology, China  
Timothy Long, Arizona State University, USA  
Ian Manners, University of Victoria, Canada  
John Matson, Virginia Tech, USA  
Markus Muellner, University of Sydney, Australia  
Ravin Narain, University of Alberta, Canada  
Julien Nicolas, University Paris-Sud, France

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  
Elen 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  
Maria 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

## 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](http://rsc.li/polymers). 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 quality and impact.

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

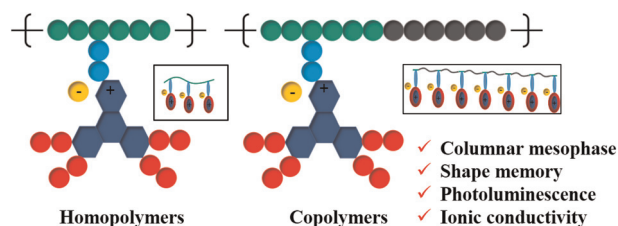


## COMMUNICATIONS

4521

### Fast thermally-responsive azatriphenylene ionic discotic liquid crystalline polymers with shape-memory properties

Xiao-Ping Xiong, Qian Yang, Ruo-Jun Wang, Ling-Yi Zeng, Wen-Hao Yu,\* Hong-Mei Chen, Hai-Liang Ni, Chun Feng, Ke-Qing Zhao and Ping Hu\*

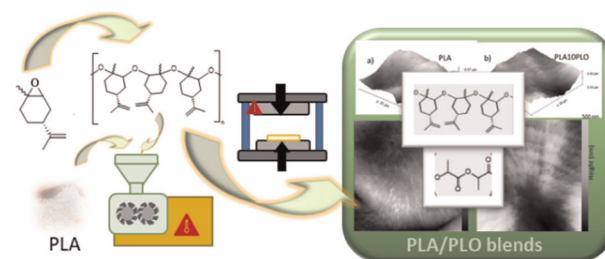


## PAPERS

4530

### Insight into the melt-processed polylimonene oxide/poly(lactic acid) blends

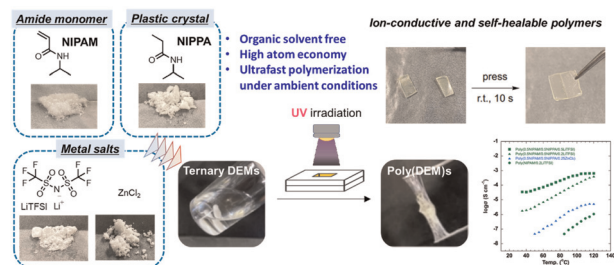
Miguel Palenzuela, Juan F. Vega, Virginia Souza-Egipsy, Javier Ramos, Christian Rentero, Valentina Sessini\* and Marta E. G. Mosquera\*



4538

### Green production of ion-conductive and self-healable polymers by photoinduced radical polymerization of ternary deep eutectic monomers

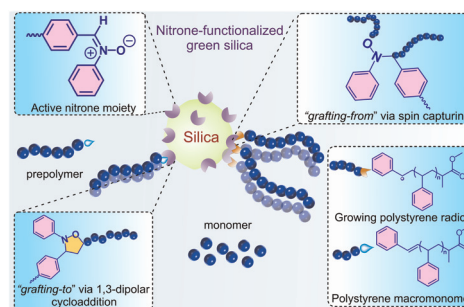
Yuta Tanaka, Reina Shinohe, Shingo Yuki, Takuto Ohashi and Hideharu Mori\*



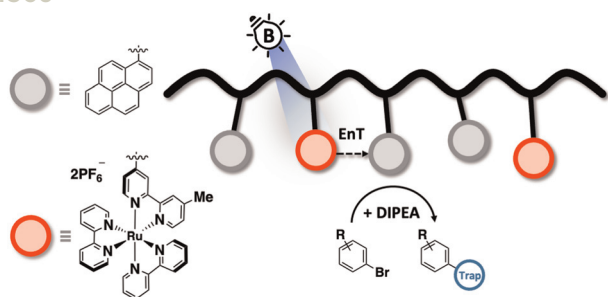
4547

### Polymer grafting on nitrene functionalized green silica via "grafting from" and "grafting to" approaches through enhanced spin capturing polymerization and a 1,3-dipolar cycloaddition reaction

Lukkumanul Hakkim N. and Leena Nebhani\*



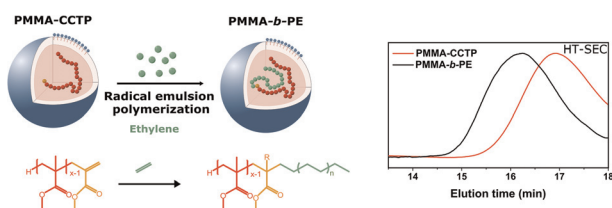
4560



### Synthesis and characterization of a ruthenium-containing copolymer for use as a photoredox catalyst

Steven Huss, Andrew R. Walsh, Anna Griggs, Diego Alejandro Rodriguez-Acevedo, Daniela M. Arias-Rotondo and Elizabeth Elacqua\*

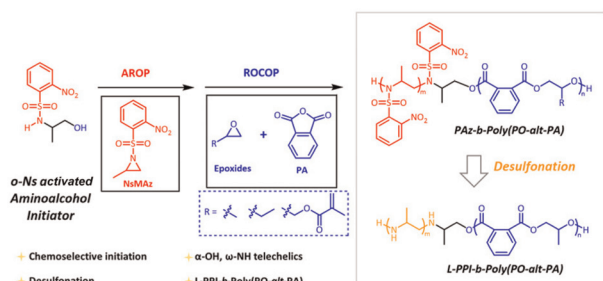
4569



### Synthesis of poly(methyl methacrylate)-*b*-polyethylene (PMMA-*b*-PE) block copolymers via conventional emulsion polymerization

L. Sinniger, O. Boyron, P. Y. Dugas, G. Patias, D. Lester, D. M. Haddleton, V. Monteil, M. Lansalot\* and F. D'Agosto\*

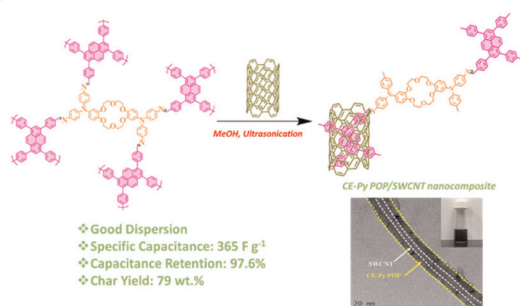
4580



### Telechelic block copolymer L-PPI-*b*-poly(epoxide-*alt*-PA) obtained via desulfonation of poly(*o*-nitrophenylsulfonyl-activated aziridines)

Zhuangzhuang Liang, Feng Ren, Chenyang Hu, Zan Gao, Xuan Pang\* and Xuesi Chen\*

4589



### Dispersion of ultrastable crown-ether-functionalized triphenylamine and pyrene-linked porous organic conjugated polymers with single-walled carbon nanotubes as high-performance electrodes for supercapacitors

Mohamed Gamal Mohamed,\* Wan-Chun Chang, Swetha V. Chaganti, Santosh U. Sharma, Jyh-Tsung Lee and Shiao-Wei Kuo\*

