

Polymer Chemistry

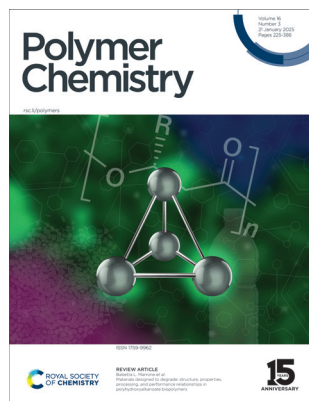
The home for the most innovative and exciting polymer chemistry, with an emphasis on polymer synthesis and applications thereof

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 16(3) 225-388 (2025)



Cover
See Babetta L. Marrone *et al.*,
pp. 235–265.

Image reproduced by
permission of Allen Hopkins,
Los Alamos National
Laboratory, from
Polym. Chem., 2025, **16**, 235.

EDITORIAL

233

Introduction to trends in thermoresponsive polymers: from chemistry to applications

Theoni K. Georgiou, Richard Hoogenboom and Akihiko Kikuchi

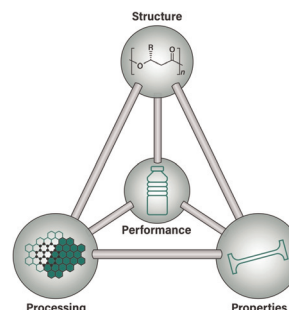


REVIEW

235

Materials designed to degrade: structure, properties, processing, and performance relationships in polyhydroxyalkanoate biopolymers

Jessica N. Lalonde, Ghanshyam Pania and Babetta L. Marrone*



ChemComm

Uncover new possibilities
with outstanding
preliminary research

Original discoveries, fuelling
every step of scientific progress

rsc.li/chemcomm

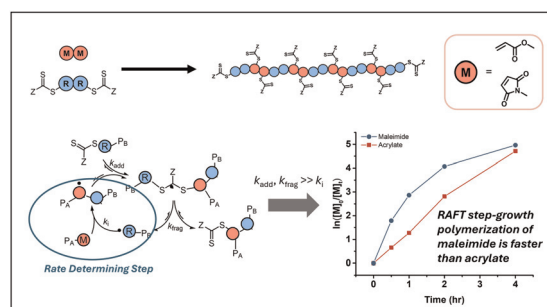
Fundamental questions
Elemental answers

COMMUNICATIONS

266

Mechanism and modelling of thermally initiated RAFT step-growth polymerization

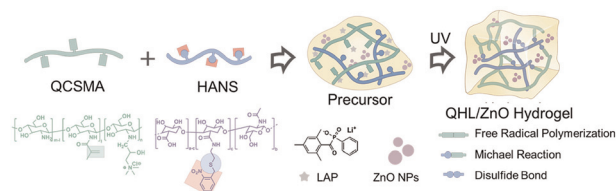
Samantha Marie Clouthier, Joji Tanaka* and Wei You*



272

A photocrosslinked hybrid hydrogel based on chitosan/hyaluronic acid/ZnO toward wound sealing

Jiale Sun, Donghao Hu, Yiling Li, Jia Wei* and Yanlei Yu*

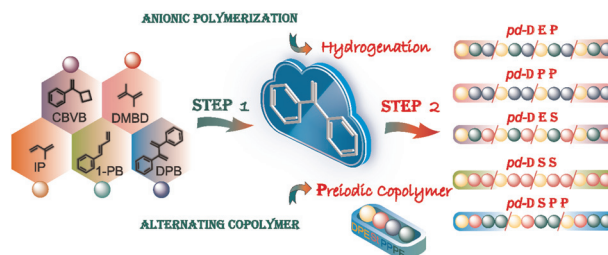


PAPERS

280

Synthesis of periodic polyolefins based on anionic alternating copolymerization

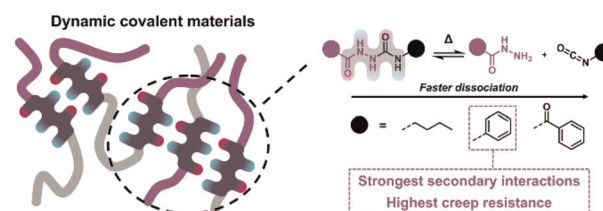
Hong Yan, Hongyuan Bai, Xuefei Wang, Haitao Leng, Siwei Chen, Li Han and Hongwei Ma*



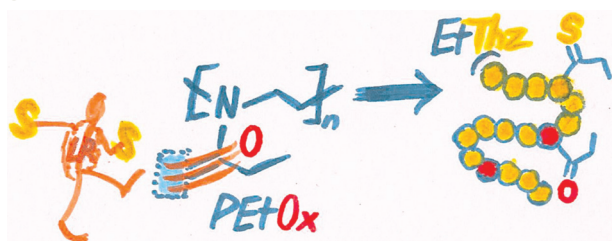
290

Structure–property relationships to direct the dynamic properties of acylsemicarbazide-based materials

Stefan J. D. Maessen, Siebe Lekanne Deprez, Pascal Vermeeren, Bart W. L. van den Bersselaar, Martin Lutz, Johan P. A. Heuts, Célia Fonseca Guerra and Anja R. A. Palmans*



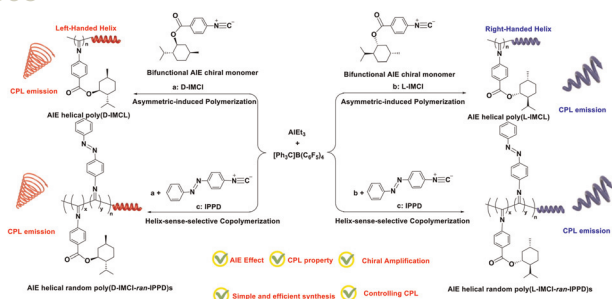
301



Towards the synthesis of polythiazolines: a post-polymerization approach

Aikaterini Mathianaki, Aysha Kinjo Demeler, Adrian Dömling, Federico Ferrari, Frieda Clara M. Scheelje, Hilke Bahmann and Guillaume Delaittre*

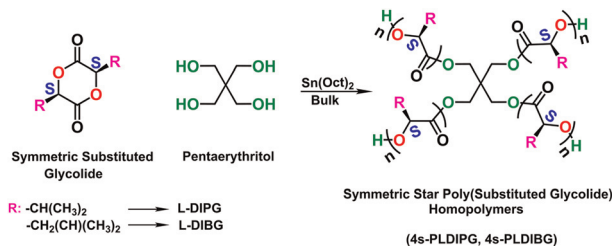
308



AlEt₃-catalyzed synthesis of circularly polarized luminescence active aggregation-induced emission helical polyisocyanides

He Li, Beiming Yu, Yufan Li, Jiaojiao Li, Jie Zheng, Junge Zhi* and Xiaofang Li*

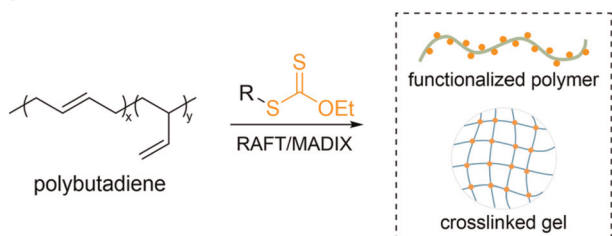
317



Symmetric star poly(substituted glycolide) homopolymers and their surface properties

Yonca Çolak, Sema Nur Belen, Duygu Çetin, Ugur Cengiz and Olcay Mert*

331



Multifunctionalization of polybutadiene by RAFT/MADIX technology

Congze He, Jin Dong, Chaoran Xu, Zhujun Huang, Samir Z. Zard and Xiangcheng Pan*

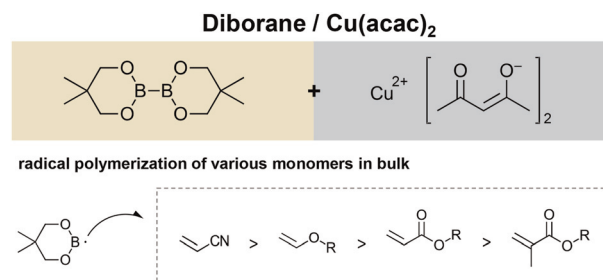


PAPERS

337

Insights into the bulk kinetics of a 2K radical polymerization system based on the copper catalyzed cleavage of diboranes and its perspectives

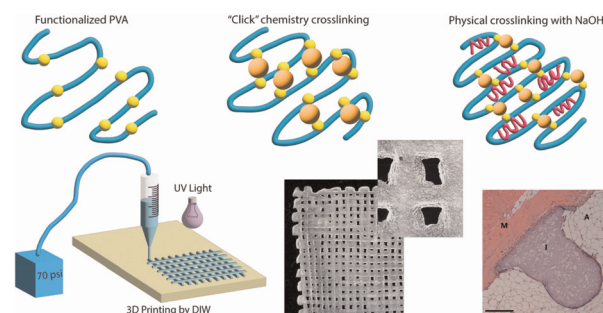
F. Pieringer, Y. Catel, R. Liska and P. Knaack*



345

3D printable biopolymers as pelvic floor scaffolds

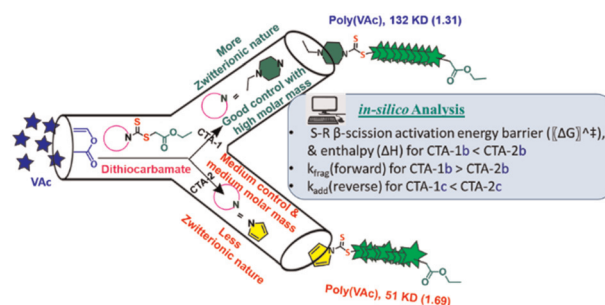
Lindsay B. Chambers, Yuxiang Zhu, Churan Yu, Natalie Crutchfield, Jixin Hou, Liang Liang, Xianqiao Wang, Yang Liu, M. Taylor Sobczak, Taylor Theobald, Xiao Sun, Carly R. Stoll, Tiffany V. Pulido, Johnny Yi, Jeffrey L. Cornella, Heather McIlwee, Hitesh Handa, Elizabeth J. Brisbois, Jessica N. Lancaster and Kenan Song*



356

Unveiling the zwitterionic nature of an ethyl piperazine-based dithiocarbamate chain transfer agent for achieving high molar mass polyvinyl acetate: experimental and computational insights

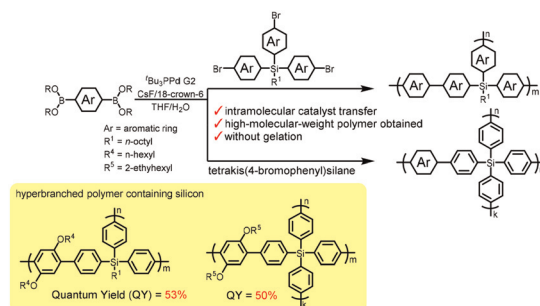
P. M. Haribabu, Prabodh Ranjan and Kari Vijayakrishna*



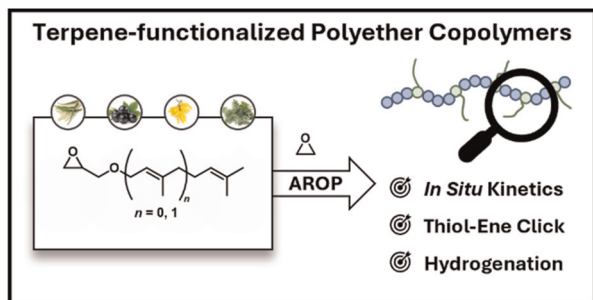
368

Gelation-free synthesis of high-molecular-weight hyperbranched aromatic polymers containing silicon by Suzuki–Miyaura polycondensation of tri- or tetra(bromoaryl)silane with arylenediboronate

Ryusuke Shimada, Masato Kubota, Yoshihiro Ohta and Tsutomu Yokozawa*



374



Glycidyl ethers from acyclic terpenes: a versatile toolbox for multifunctional poly(ethylene glycol)s with modification opportunities

Sandra Schüttner, Gregor M. Linden,
Elena C. Hoffmann, Philipp Holzmüller and Holger Frey*

CORRECTION

386

Correction: Axial-phenyl-constrained bis(imino)acenaphthene-nickel precatalysts enhance ethylene polymerization

Quanchao Wang, Qiuyue Zhang, Yizhou Wang, Song Zou, Yanping Ma, Tongling Liang and Wen-Hua Sun*

