

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(41) 4473-4608 (2025)



Cover

See Takehiro Kawauchi *et al.*, pp. 4529–4536.

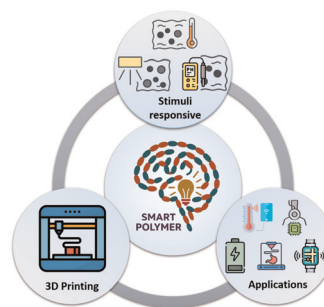
Image reproduced by permission of Takehiro Kawauchi from *Polym. Chem.*, 2025, **16**, 4529.

REVIEW

4479

Smart polymers for 3D printing applications: current status and future outlook

Nishikanta Singh, Priyank Sinha, Durgesh Kumar Sinha and Sanjib Banerjee*

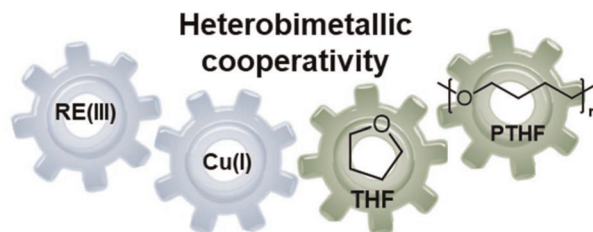


COMMUNICATION

4524

Rare earth–transition metal cooperativity in the ring-opening polymerisation of tetrahydrofuran

Rwitabrita Panda, Fabian Rang, Franziska Flecken, Patrick Weis, Sven Schneider, Patrick Théato and Schirin Hanf*



RSC Applied Interfaces

GOLD
OPEN
ACCESS

Interfacial and surface research
with an applied focus

Interdisciplinary and open access

rsc.li/RSCApplInter

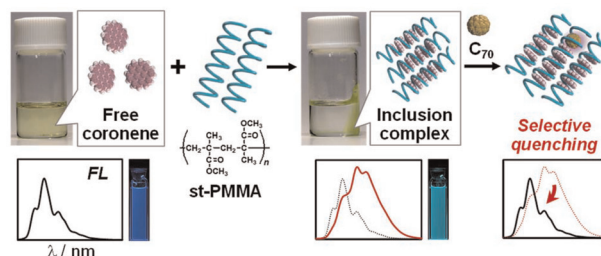
Fundamental questions
Elemental answers

PAPERS

4529

Modulating the luminescence properties of coronene molecules *via* inclusion complex formation with helical syndiotactic poly(methyl methacrylate)

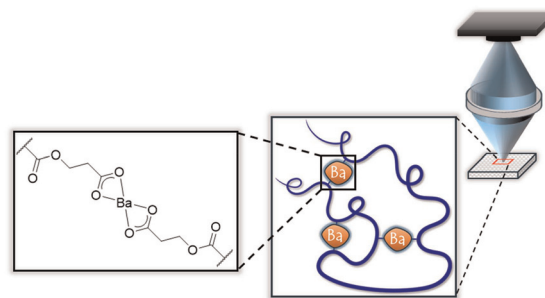
Kosei Nakata, Ryunosuke Yamamoto, Ituki Tousya, Asumi Koizumi, Takuto Adachi, Takeshi Maeda and Takehiro Kawauchi*



4537

Control over Ba(II)-mediated single-chain polymer nanoparticle compaction by dynamic metal complexation

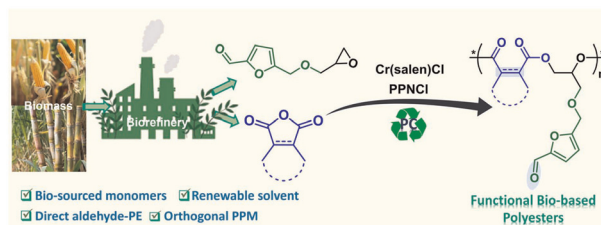
Sebastian Gillhuber, Jochen A. Kammerer, Ada Quinn, Joshua O. Holloway, Kai Mundsinger, Evelina Liarou, Dmitri Golberg, Hendrik Frisch, Megan L. O'Mara,* Christopher Barner-Kowollik* and Peter W. Roesky*



4548

Renewable hydroxymethylfurfural epoxide and cyclic anhydride copolymerization: a green route to functional biobased polyesters

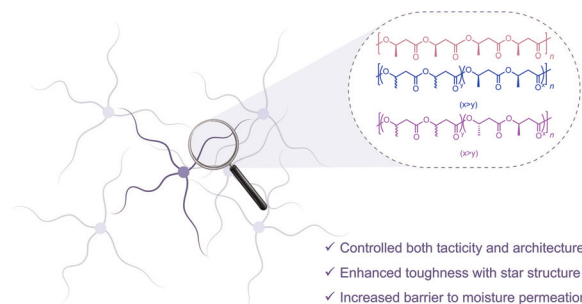
Mani Sengoden, Vanaparathi Satheesh, Sriparna Sarkar and Donald J. Darensbourg*



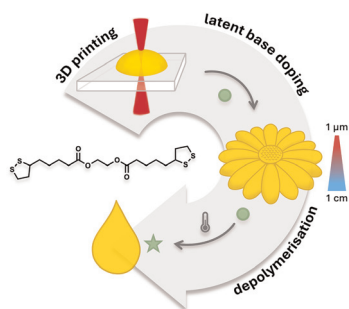
4557

Synergistic engineering of poly(3-hydroxybutyrate) architecture and stereomicrostructure achieves enhanced material properties

Maëlle T. Gace, Ethan C. Quinn, Fateme Shariatikia, Jorge L. Olmedo-Martínez, Shu Xu, Alejandro J. Müller* and Eugene Y.-X. Chen*



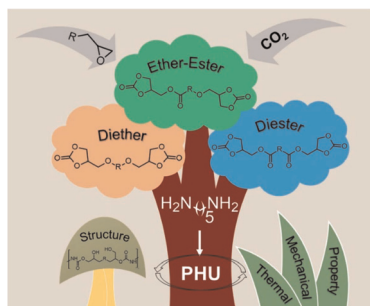
4571



High resolution light-based 3D printing of a bio-sourced monomer with tuneable depolymerisation

Pia S. Klee, Samantha O. Catt, Lea Sielaff and Eva Blasco*

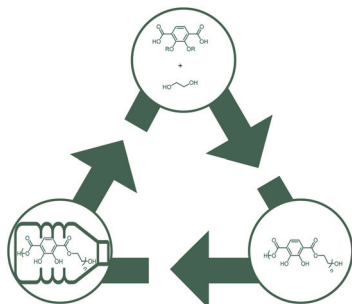
4580



Structure–property relationships in bio-based polyhydroxyurethanes

Pooja A. Yadav, John Hadynski, Nicholas Stucchi, Matthew Yakaboski, Austin Keenan, Philip T. Pienkos and Devon A. Shipp*

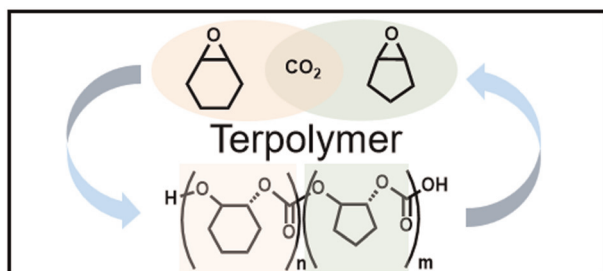
4590



Designing catechol-poly(ethylene terephthalate) as a depolymerizable adhesive for PET packaging

Tan H. B. Nguyen, Corey T. Chiu, William Renter, Ferley Orozco, Paul F. Egan and Samantha L. Kristufek*

4599



Synthesis and degradation of terpolymers of cyclohexene oxide, cyclopentene oxide, and carbon dioxide using organoboron catalysts

Qinwen Wang, Tianhao Wu, Bo Li* and Guang-Peng Wu*

