

Soft Matter

Where physics meets chemistry meets biology for fundamental soft matter research

rsc.li/soft-matter-journal

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 1744-6848 CODEN SMOABF 21(1) 1–158 (2025)



Cover

See Neda Maghsoodi and Kaushik Bhattacharya, pp. 39–44.
Image reproduced by permission of Neda Maghsoodi from *Soft Matter*, 2025, 21, 39.
Image produced by Neda Maghsoodi.



Inside cover

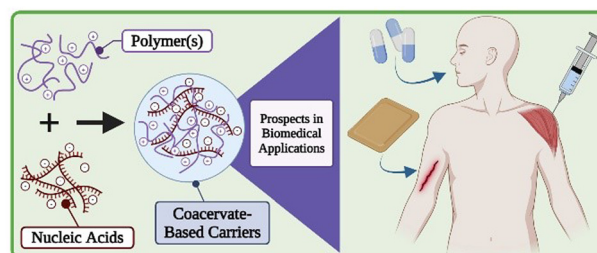
See Chantal Valeriani *et al.*, pp. 45–54.
Image reproduced by permission of Chantal Valeriani from *Soft Matter*, 2025, 21, 45.

REVIEW

8

Coacervation for biomedical applications: innovations involving nucleic acids

Kimiasadat Mirlohi and Whitney C. Blocher McTigue*

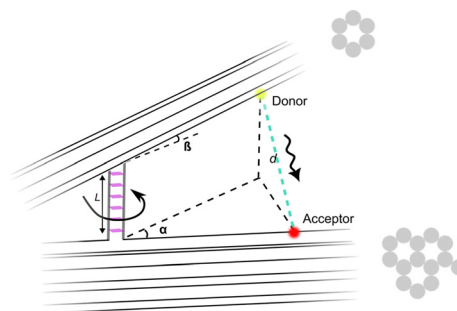


COMMUNICATIONS

27

DNA crossover flexibilities upon discrete spacers revealed by single-molecule FRET

Xueqiao Li, Libang Wang, Wenna Wu, Huajie Liu, Chunhua Xu* and Tao Zhang*



Royal Society of Chemistry approved training courses

Explore your options.
Develop your skills.
Discover learning
that suits you.

**Courses in the classroom,
the lab, or online**

Find something for every
stage of your professional
development. Search our
database by:

- subject area
- location
- event type
- skill level

Members **get at least 10% off**

Visit rsc.li/cpd-training

**SAVE
10%**

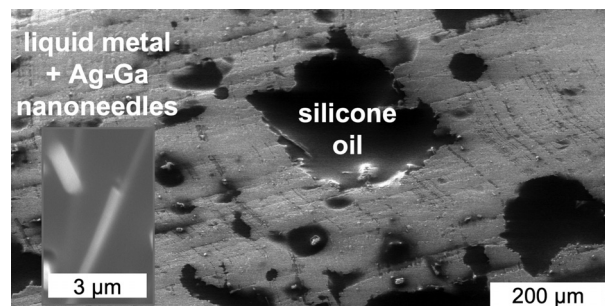


COMMUNICATIONS

33

Impact of rheology on formation of oil-in-liquid metal emulsions

Shreyas Kanetkar, Sai P. Peri, Husain Mithaiwala, Febby Krishnadi, Michael D. Dickey, Matthew D. Green, Robert Y. Wang* and Konrad Rykaczewski*

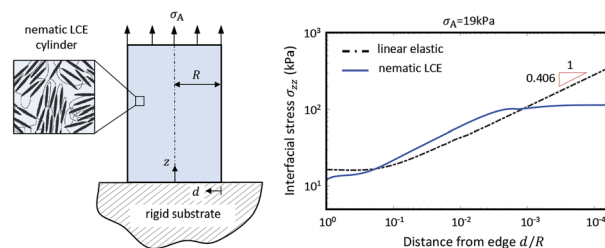


PAPERS

39

Adhesion of a nematic elastomer cylinder

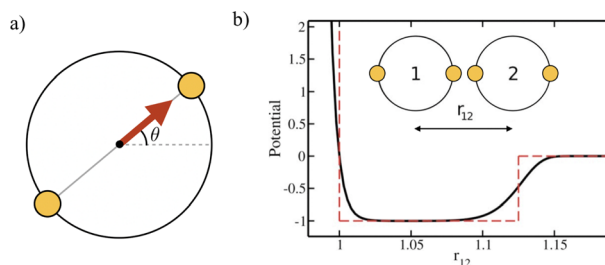
Neda Maghsoodi* and Kaushik Bhattacharya



45

Self-assembly of active bifunctional Brownian particles

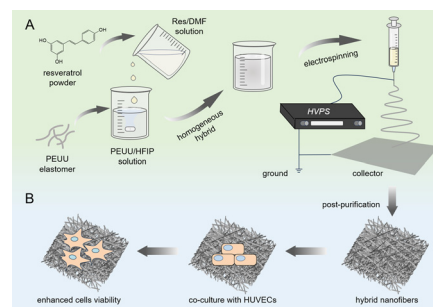
Caterina Landi, John Russo, Francesco Sciortino and Chantal Valeriani*



55

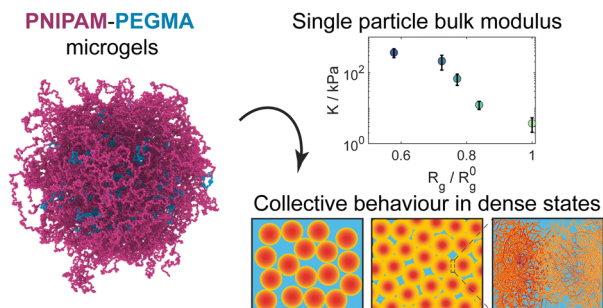
Multifunctional hybrid poly(ester-urethane)urea/resveratrol electrospun nanofibers for a potential vascularizing matrix

Chen Liang, Yanan Wang, Renliang Zhao, Juan Du, Jin Yao, Atta ur Rehman Khan, Youwei Zhu,* Huitang Xia* and Tonghe Zhu*



PAPERS

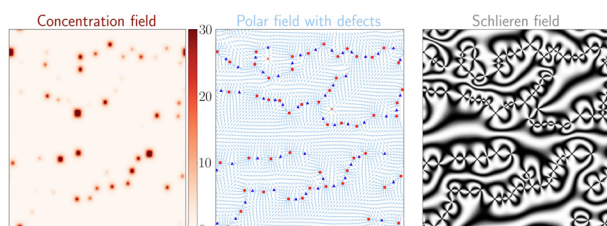
68



Crowding effects on the structure and rheology of ultrasoft PNIPAM–PEGMA copolymer microgels

Gavino Bassu, Jacopo Vialetto, José Ruiz-Franco, Andrea Scotti, Judith E. Houston, Jitendra Mata, Emanuela Zaccarelli and Marco Laurati*

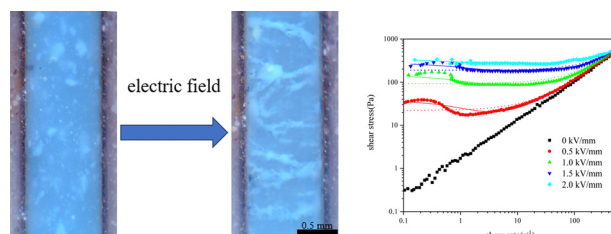
77



Coarsening dynamics of aster defects in model polar active matter

Soumyadeep Mondal,* Pankaj Popli and Sumantra Sarkar

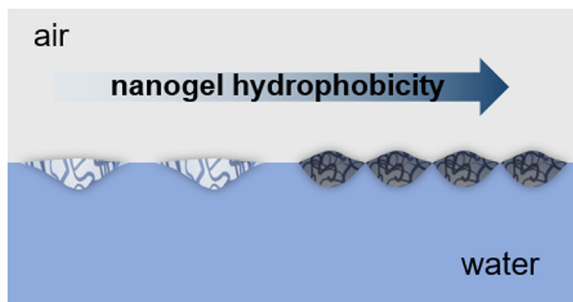
87



Preparation of layered carbon nitride/titanium-based metal skeleton materials and study on their electrorheological properties

Liangkun Chen, Xiang Ji, Haochun Yan, Liyue Wang, Yusheng Lin, Baoxiang Wang* and Chuncheng Hao*

100



Nanogels with tailored hydrophobicity and their behavior at air/water interfaces

Ruiguang Cui, Maret Ickler, Johannes Menath, Nicolas Vogel* and Daniel Klinger*

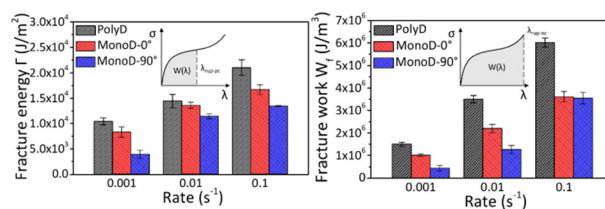


PAPERS

113

Fracture and fatigue characteristics of monodomain and polydomain liquid crystal elastomers

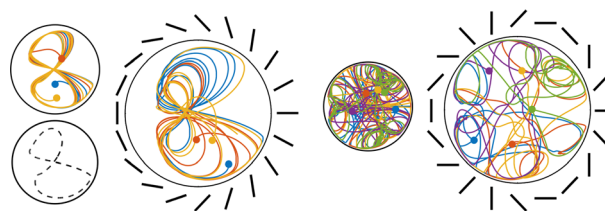
Minyu Hu, Liqian Wang, Zhuxuan Wei, Rui Xiao* and Jin Qian*



122

Analytical model for the motion and interaction of two-dimensional active nematic defects

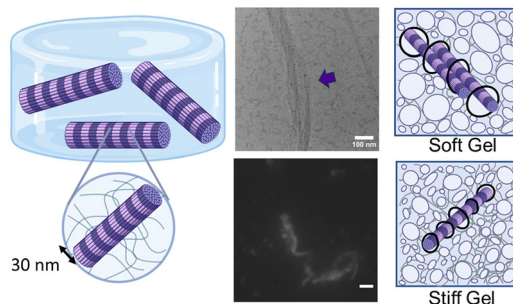
Cody D. Schimming,* C. J. O. Reichhardt and C. Reichhardt



137

Effect of polyacrylamide gel elasticity on collagen type II fibril assembly

Kathryn G. Wilcox, Stephanie Kramer, Surajit Chatterjee, Adam Linscott, Sneha Suresh, Lydia Kisley and Svetlana Morozova*



148

Online reprogramming electronic bits for N dimension fractal soft deformable structures

Fengjiao Bin, Jiaxu Meng, Wei Chen, Ruishen Lou, Xu Li, Jiangman Sun, Shikai Jing* and Dengbao Xiao*

