

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 20(35) 6859–7084 (2024)



Cover

See Thibaut Divoux *et al.*, pp. 6868–6888. Image reproduced by permission of Thibaut Divoux from *Soft Matter*, 2024, 20, 6868. Image by Tanya Grypachevskaya.



Inside cover

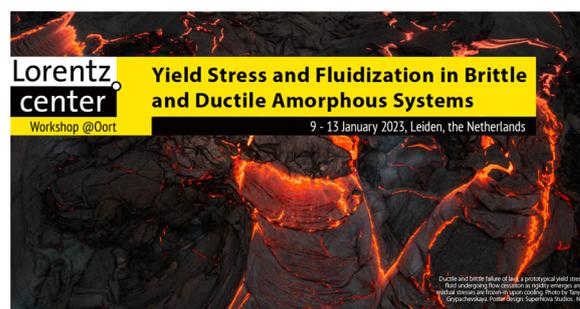
See Simon Čopar and Žiga Kos, pp. 6894–6906. Image reproduced by permission of Simon Čopar and Žiga Kos from *Soft Matter*, 2024, 20, 6894.

PERSPECTIVE

6868

Ductile-to-brittle transition and yielding in soft amorphous materials: perspectives and open questions

Thibaut Divoux,* Elisabeth Agoritsas, Stefano Aime, Catherine Barentin, Jean-Louis Barrat, Roberto Benzi, Ludovic Berthier, Dapeng Bi, Giulio Biroli, Daniel Bonn, Philippe Bourrianne, Mehdi Bouzid, Emanuela Del Gado, H el ene Delano e-Ayari, Kasra Farain, Suzanne Fielding, Matthias Fuchs, Jasper van der Gucht, Silke Henkes, Maziyar Jalaal, Yogesh M. Joshi, Ana el Lema tre, Robert L. Leheny, S ebastien Manneville, Kirsten Martens, Wilson C. K. Poon, Marko Popovi c, Itamar Procaccia, Laurence Ramos, James A. Richards, Simon Rogers, Saverio Rossi, Mauro Sbragaglia, Gilles Tarjus, Federico Toschi, V eronique Trappe, Jan Vermant, Matthieu Wyart, Francesco Zamponi and Davoud Zare

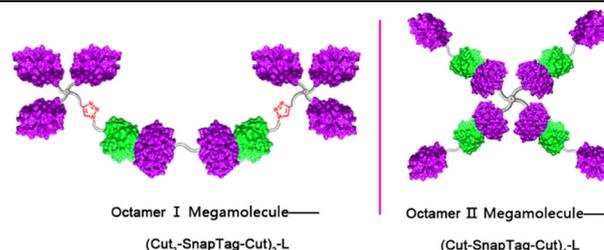


COMMUNICATION

6889

Construction of homologous branched oligomer megamolecules based on linker-directed protein assembly

Yue Chen, Honghong Feng, Long Chen, Wenbin Zhou and Shengwang Zhou*



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



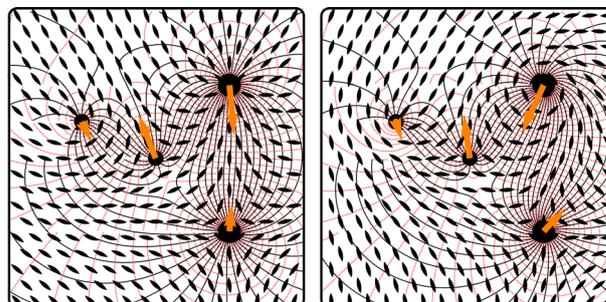
**SAVE
10%**



6894

Many-defect solutions in planar nematics: interactions, spiral textures and boundary conditions

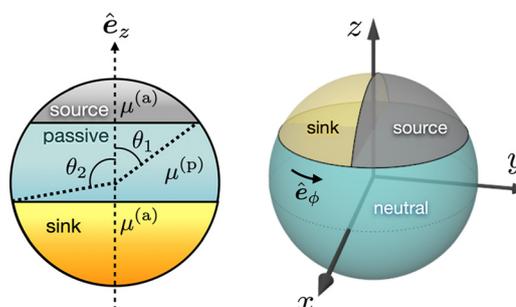
Simon Čopar* and Žiga Kos*



6907

Phoresis kernel theory for passive and active spheres with nonuniform phoretic mobility

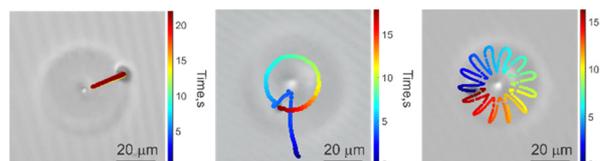
Amir Nourhani



6920

Light-controllable liquid crystal platform for microparticle oscillations and transport

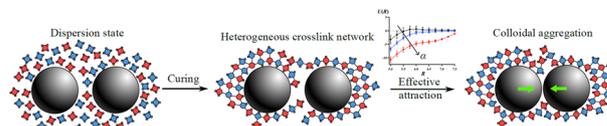
Sergey Shvetsov,* Tetiana Orlova, Aleksandr Hayrapetyan, Alexey Vasil'ev and Mushegh Rafayelyan



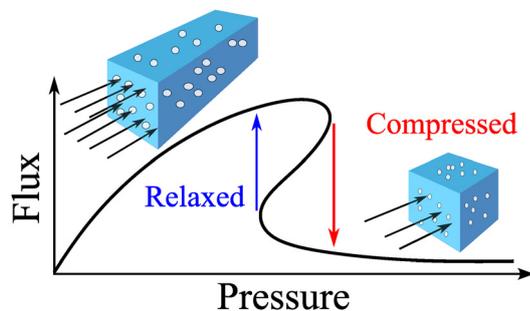
6929

Emergence of long-range attractive interactions between colloidal particles during curing of dispersion media

Yujiro Furuta and Rei Kurita*



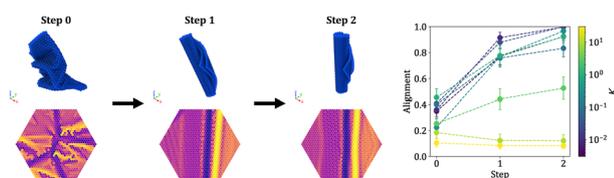
6940



Hysteresis in flow-induced compression of a poroelastic hydrogel

Zelai Xu, Pengtao Yue and James J. Feng*

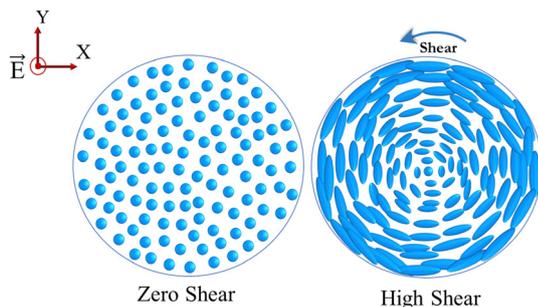
6952



Shear annealing of a self-interacting sheet

William T. Funkenbusch, Kevin S. Silmore and Patrick S. Doyle*

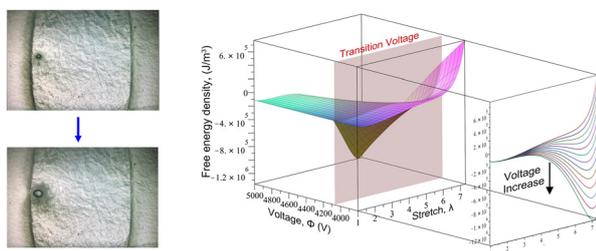
6965



Effect of rotational shear on the dielectric dispersion of a nematic liquid crystal above the Fredericksz threshold field

K. Anaswara Das, M. Praveen Kumar, Simon Čopar and Surajit Dhara*

6971



Electromechanical phase transition

Microscopic *in situ* observation of electromechanical instability in a dielectric elastomer actuator utilizing transparent carbon nanotube electrodes

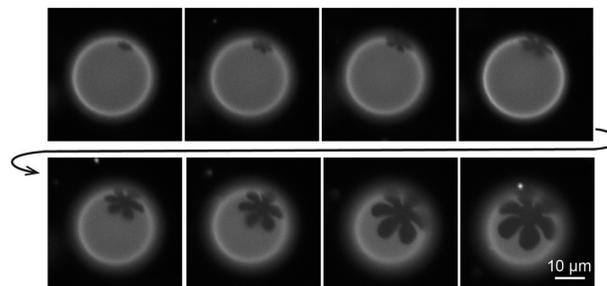
Zhen-Qiang Song,* Li-Min Wang, Yongri Liang, Xiao-Dong Wang and Shijie Zhu*



6984

Thermal preconditioning of membrane stress to control the shapes of ultrathin crystals

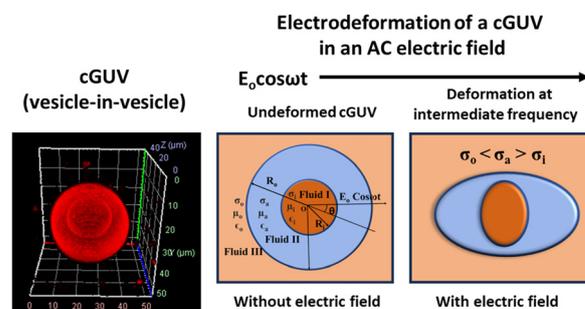
Hao Wan, Geunwoong Jeon, Gregory M. Grason and Maria M. Santore*



6995

Compound giant unilamellar vesicles as a bio-mimetic model for electrohydrodynamics of a nucleate cell

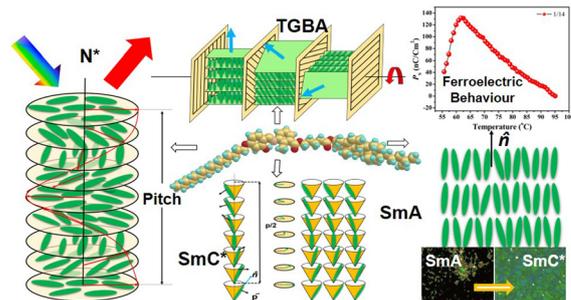
Rupesh Kumar, Rajarshi Chakrabarti and Rochish M. Thaokar*



7012

Observation of ferroelectric behaviour in non-symmetrical cholesterol-based bent-shaped dimers

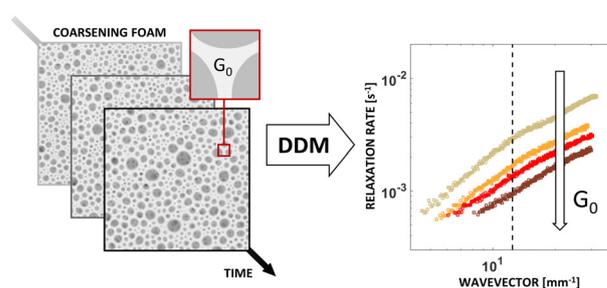
Vidhika Punjani, Golam Mohiuddin, Susanta Chakraborty, Priyanta Barman, Anshika Baghla, Madhu Babu Kanakala, Malay Kumar Das, Channabasaveshwar Yelamagad and Santanu Kumar Pal*



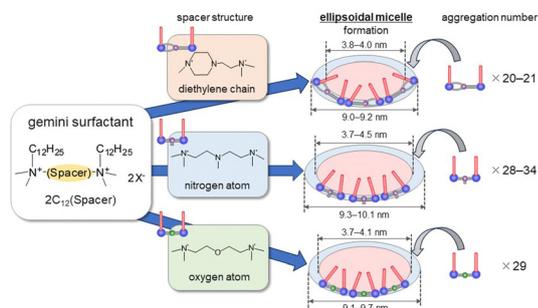
7021

Anomalous relaxation of coarsening foams with viscoelastic continuous phases

Chiara Guidolin,* Emmanuelle Rio, Roberto Cerbino, Anniina Salonen and Fabio Giavazzi*



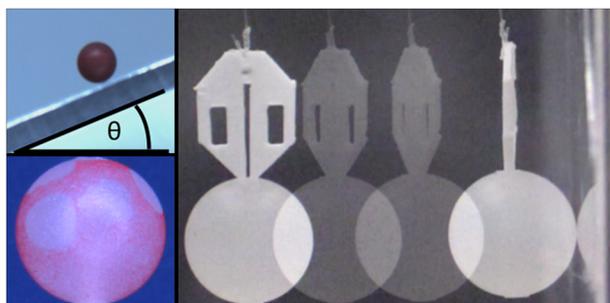
7030



Ellipsoidal micelle formation of quaternary ammonium salt-based gemini surfactants: structural analysis through small-angle X-ray scattering

Tsukasa Morita, Shiho Yada and Tomokazu Yoshimura*

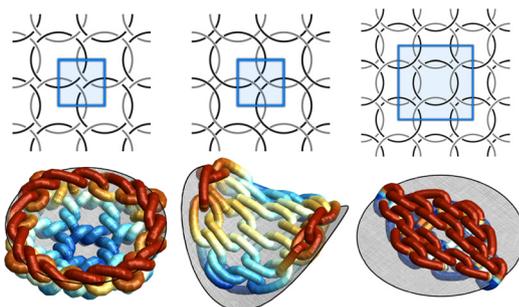
7038



Torque about electrostatically charged spheres makes them more attractive

Michael R. Swift and Mike I. Smith*

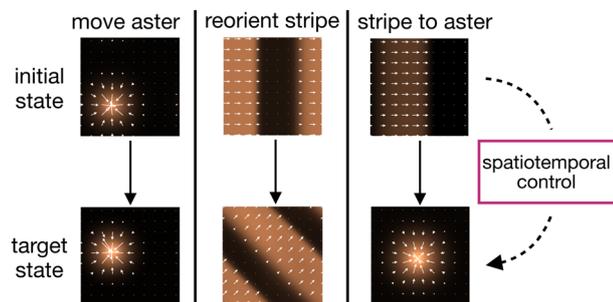
7044



Chirality effects in molecular chainmail

Alexander R. Klotz,* Caleb J. Anderson and Michael S. Dimitriyev

7059



Spatiotemporal control of structure and dynamics in a polar active fluid

Saptorshi Ghosh, Chaitanya Joshi, Aparna Baskaran* and Michael F. Hagan*



7072

Multi-functional imidazolium dendrimers based on thiacalix[4]arenes: self-assembly, catalysis and DNA binding

Elza D. Sultanova,* Angelina A. Fedoseeva, Aigul M. Fatykhova, Diana A. Mironova, Sufia A. Ziganshina, Marat A. Ziganshin, Vladimir G. Evtugyn, Vladimir A. Burilov, Svetlana E. Solovieva and Igor S. Antipin

