

# Soft Matter

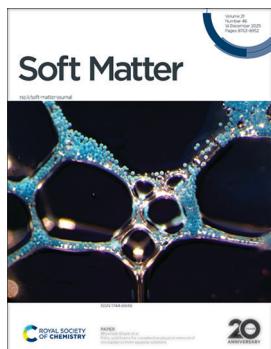
Where physics meets chemistry meets biology for fundamental soft matter research

[rsc.li/soft-matter-journal](https://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(46) 8763–8952 (2025)



### Cover

See Bhuvnesh Bharti *et al.*, pp. 8771–8780.  
Image reproduced by permission of Bhuvnesh Bharti from *Soft Matter*, 2025, 21, 8771.



### Inside cover

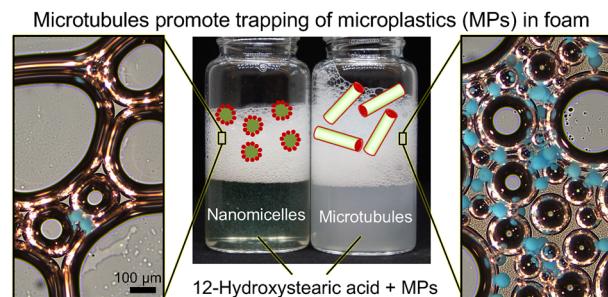
See Marco Polin, Chantal Valeriani *et al.*, pp. 8781–8792.  
Image reproduced by permission of Chantal Valeriani from *Soft Matter*, 2025, 21, 8781.

## PAPERS

8771

### Fatty acid foams for nonselective physical removal of microplastics from aqueous solutions

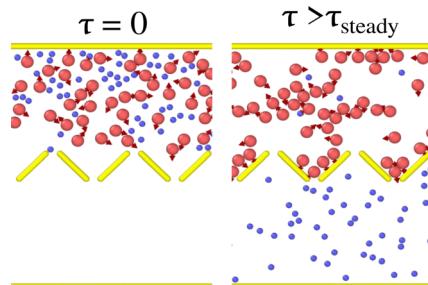
Kennedy A. Guillot, Philip J. Brahana, Joseph C. Romanos, Gernot Rother, Michael G. Benton and Bhuvnesh Bharti\*



8781

### Sorting of binary active–passive mixtures in designed microchannels

Horacio Serna, C. Miguel Barriuso G., Ignacio Pagonabarraga, Marco Polin\* and Chantal Valeriani\*



# 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](https://rsc.li/cpd-training)

**SAVE  
10%**

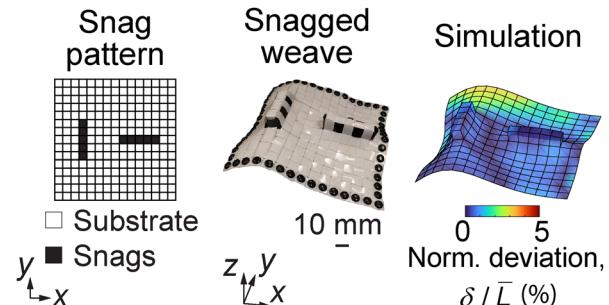


## PAPERS

8793

**Engineering snags for spatial curvature in weaves: fabrication, mechanics, and inverse design**

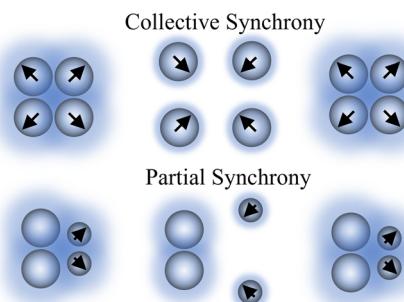
Guowei Wayne Tu and Evgueni T. Filipov\*



8803

**Synchronization modes of chitosan surfers with various sizes**

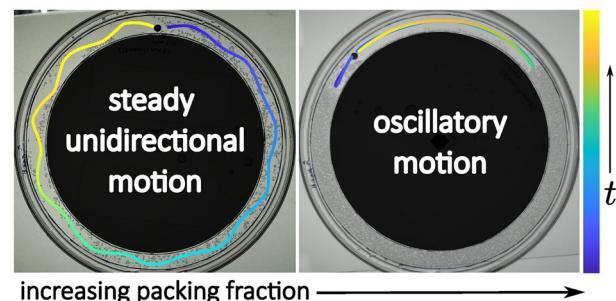
Bálint Gárdi, Pawan Kumar, Dezső Horváth and Ágota Tóth\*



8811

**A Marangoni swimmer pushing a particle raft under 1D confinement**

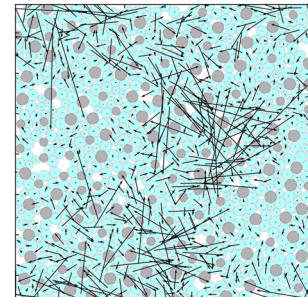
Abhradeep Maitra,\* Anupam Pandey, Sébastien Michelin and Sunghwan Jung\*



8824

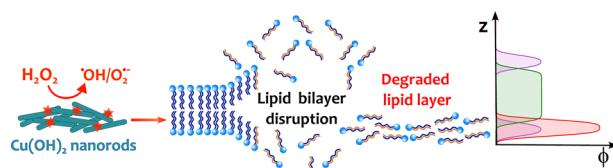
**Particle pinning as a method to manipulate marginal stability**

Kumpei Shiraishi and Yusuke Hara



## PAPERS

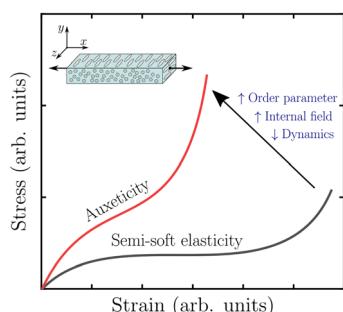
8835



**Oxidative destabilization of model *E. coli* membrane by  $\text{Cu}(\text{OH})_2$  nanoparticles: a neutron reflectometry study**

Samantha Micciulla,\* Hayden Robertson, Nicoló Paracini and Gwenaël Corbel\*

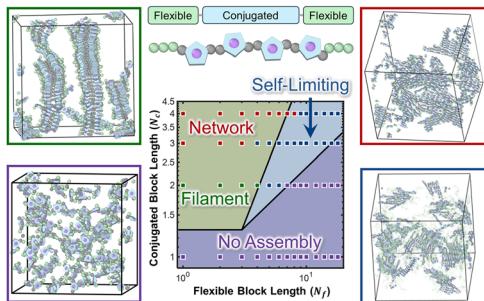
8849



**Resolving the mechanical response of liquid crystal elastomers – semi-soft elastic or auxetic**

Thomas Raistrick,\* Matthew Reynolds, Emily J. Cooper, Jordan Hobbs, Victor Reshetnyak and Helen F. Gleeson

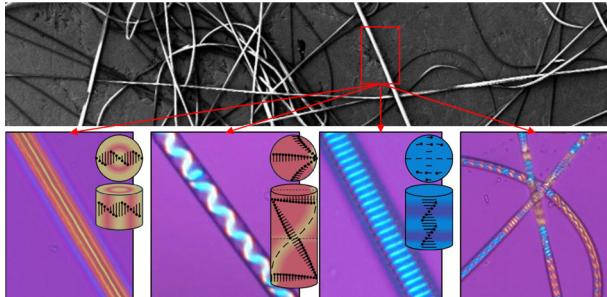
8867



**Entropically controlled assemblies of conjugated amphiphiles**

Xiangyu Zhang and Thi Vo\*

8879



**Metastable structures in electrospun microfibers with a long-pitch chiral nematic liquid crystal core**

Matthew D. Thum, Daniel C. Ratchford, Jeffrey G. Lundin and Jakub Kotacz\*

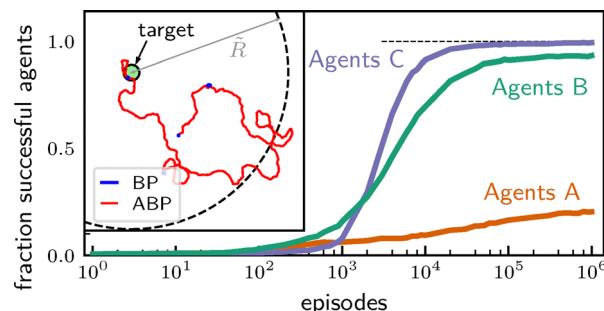


## PAPERS

8886

## Run-and-tumble particles learning chemotaxis

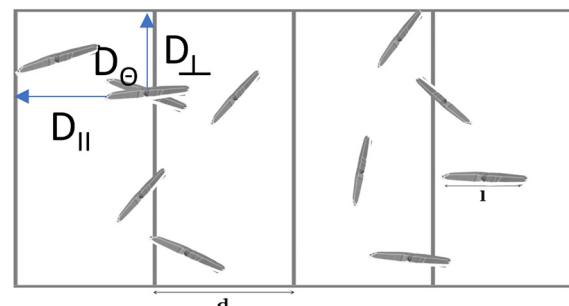
Nicholas Tovazzi, Gorka Muñoz-Gil and Michele Caraglio\*



8897

## Buffon's Brownian needles: harnessing thermal motion for stochastic sampling

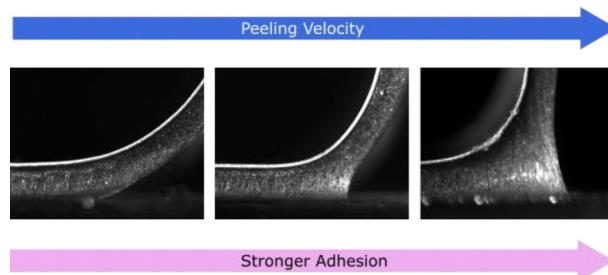
Charlie Maslen, Luke Nicholson and Juliane Simmchen\*



8904

## The origin of high adherence in PSA foam tapes

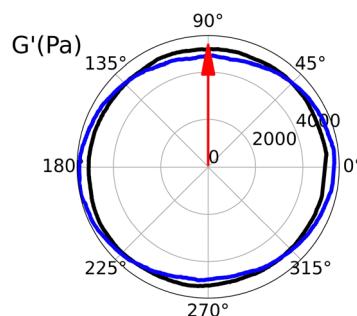
Antoine Fleury, Bruno Bresson, Chung Yuen Hui, Eric Desnoux, Costantino Creton, Etienne Barthel and Matteo Ciccotti\*



8919

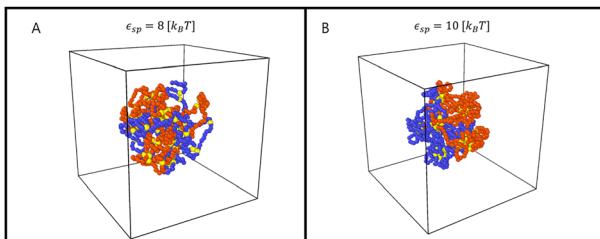
## Shear-induced mechanical anisotropy in concentrated emulsions: a pump probe mechanical spectroscopy study

Nicolas Beyer, Lorry Engel and Pascal Hébraud\*



## PAPERS

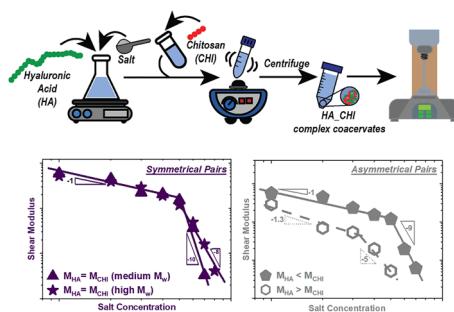
8926



## Effects of cross-linking on spatial organization and dynamics of confined associating polymers

Arie Pyasik,\* Yuval Garini\* and Yitzhak Rabin\*

8935



## Assessing the dynamics of symmetric and asymmetric hyaluronic acid–chitosan complex coacervates

Roshan Akdar Mohamed Yunus, Roos Poelman, Abinaya Arunachalam, Marleen Kamperman and Daniele Parisi\*

