

# 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(14) 2561–2750 (2025)



### Cover

See Rodrigo C. V. Coelho et al., pp. 2569–2577.  
Image reproduced by permission of Tomás Alvim from *Soft Matter*, 2025, 21, 2569.



### Inside cover

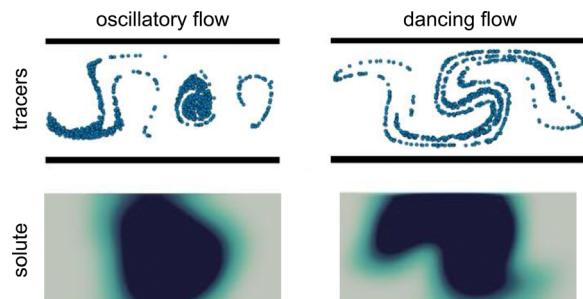
See Alberto Vailati et al., pp. 2578–2585.  
Image reproduced by permission of Alberto Vailati from *Soft Matter*, 2025, 21, 2578.

## PAPERS

2569

### Solute dispersion in pre-turbulent confined active nematics

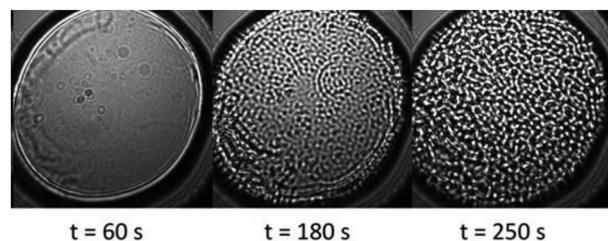
Tomás Alvim, Margarida M. Telo da Gama and Rodrigo C. V. Coelho\*



2578

### Taming the diffusiophoretic convective instability in colloidal suspensions

Stefano Castellini, Carmine Anzivino, Carlo Marietti, Marina Carpineti, Alessio Zaccone and Alberto Vailati\*





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

SAVE  
10%

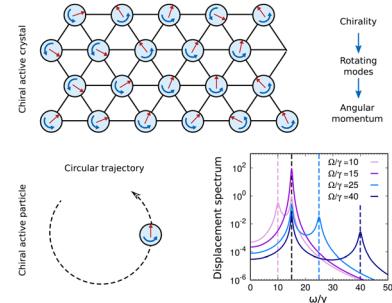


## PAPERS

2586

**Spontaneous generation of angular momentum in chiral active crystals**

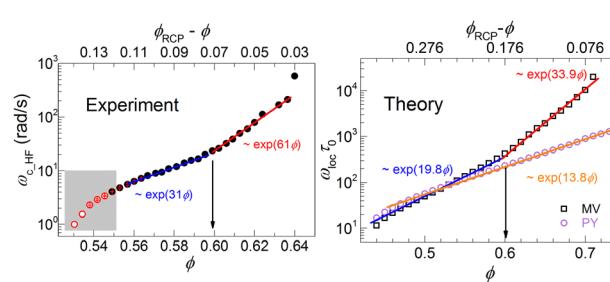
Umberto Marini Bettolo Marconi and Lorenzo Caprini\*



2607

**Probing cage dynamics in concentrated hard-sphere suspensions and glasses with high frequency rheometry**

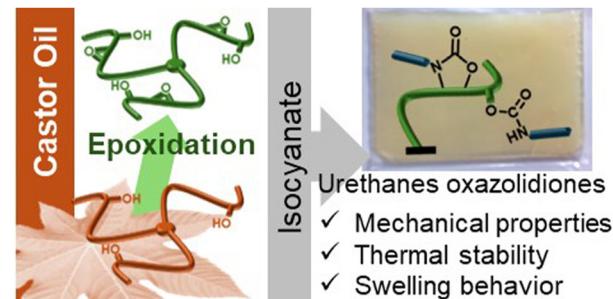
Thanasis Athanasiou, Baicheng Mei,\* Kenneth S. Schweizer\* and George Petekidis\*



2623

**Development of biobased poly(urethanes-co-oxazolidones) organogels**

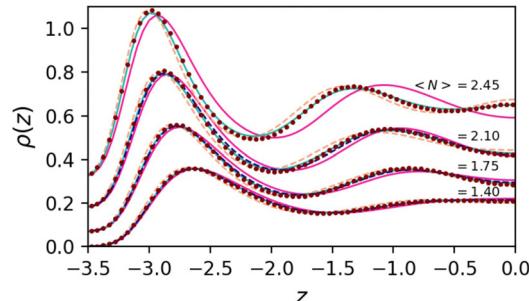
Salvatore Impemba, Damiano Bandelli, Rosangela Mastrangelo, Giovanna Poggi, David Chelazzi\* and Piero Baglioni\*



2633

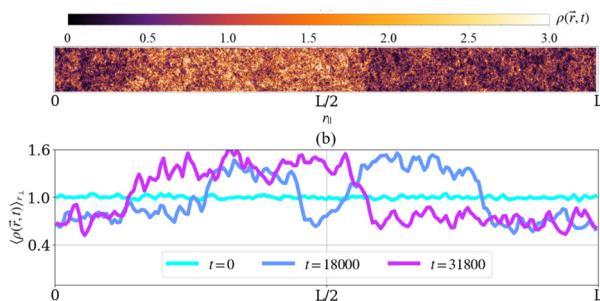
**Combining integral equation closures with force density functional theory for the study of inhomogeneous fluids**

S. M. Tschopp, H. Vahid, A. Sharma and J. M. Brader

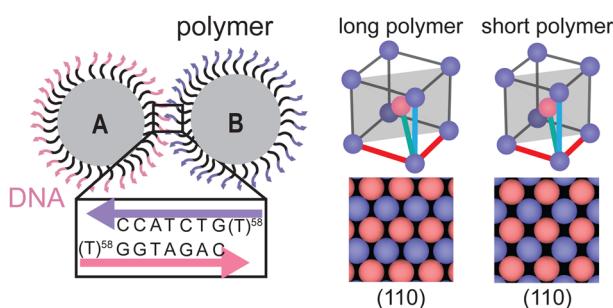


## PAPERS

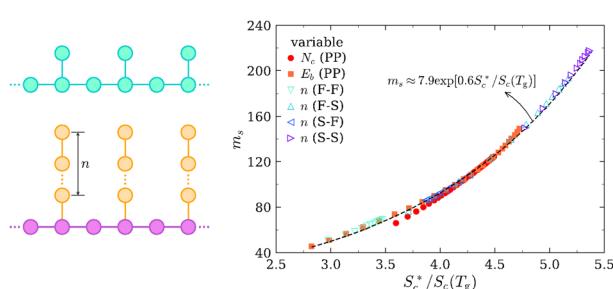
2646



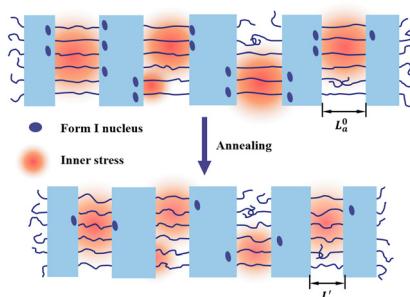
2654



2664



2686



## Banded phases in topological flocks

Charles R. Packard and Daniel M. Sussman\*

## The underappreciated role of nonspecific interactions in the crystallization of DNA-coated colloids

Hunter Seyforth, Sambarta Chatterjee, Thomas E. Videbæk, Manodeep Mondal, William M. Jacobs\* and W. Benjamin Rogers\*

## Generalized entropy theory investigation of the relatively high segmental fragility of many glass-forming polymers

Xiaolei Xu, Jack F. Douglas\* and Wen-Sheng Xu\*

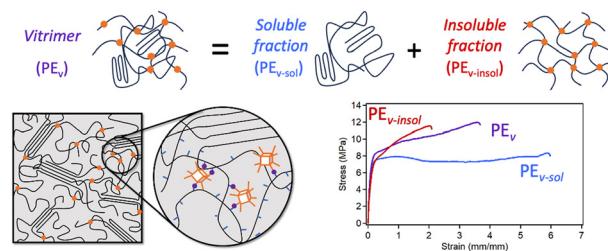


## PAPERS

2694

## Composition–structure–property relationships of polyethylene vitrimers crosslinked by 8-arm polyhedral oligomeric silsesquioxane

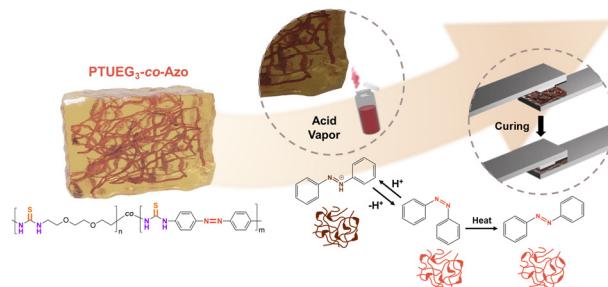
Mikaela Sadri, Andrew Barbour, Travis L. Thornell, J. Kent Newman and Zhe Qiang\*



2704

## Synergistic effects of azobenzene and thiourea backbones in multiresponsive copolymers for sensing and adhesive technologies

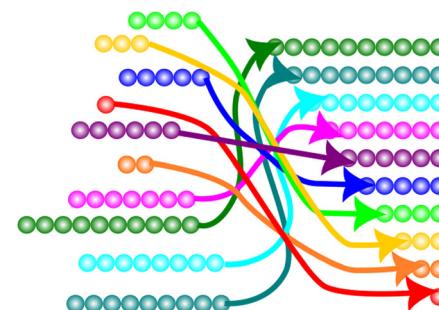
Tse-Yu Lo, Mei-Li Li, Chia-Wei Chang, Tsung-Hung Tsai, Heng-Hsuan Su, Chun-Chi Chang, Yen-Shen Hsu, Huan-Wei Lin and Jiun-Tai Chen\*



2716

## Topological sorting of magnetic colloidal bipeds

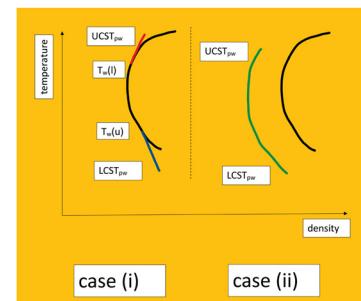
Aneena Rinu Perayil, Piotr Kuświk, Maciej Urbaniak, Feliks Stobiecki, Sapida Akhundzada, Arno Ehresmann, Daniel de las Heras and Thomas M. Fischer\*



2723

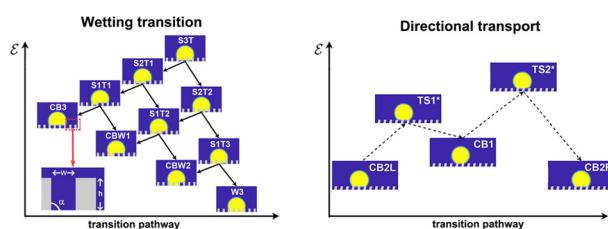
## On the existence of prewetting in supracritical fluid mixtures

Jan Forsman\* and Clifford E. Woodward



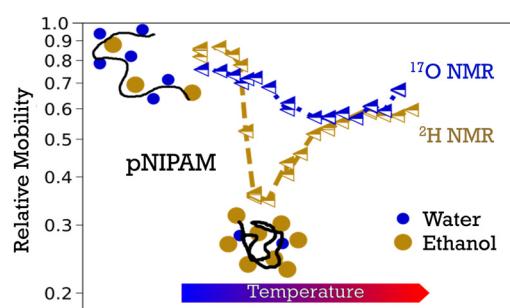
## PAPERS

2729

**Solution landscape of droplets on rough surfaces: wetting transition and directional transport**

Yuze Zhang, Xuelong Gu, Yushun Wang, Xianmin Xu\* and Lei Zhang\*

2738

 **$^2\text{H}$  and  $^{17}\text{O}$  NMR studies of solvent dynamics related to the cononsolvency of poly(*N*-isopropyl acrylamide) in ethanol–water mixtures**

Christoph Säckel, Regine von Klitzing and Michael Vogel\*

