

# 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(32) 6327-6472 (2025)



### Cover

See Abdelwahab Kawafi, C. Patrick Royall *et al.*, pp. 6338–6352. Image reproduced by permission of C. Patrick Royall from *Soft Matter*, 2025, 21, 6338.



### Inside cover

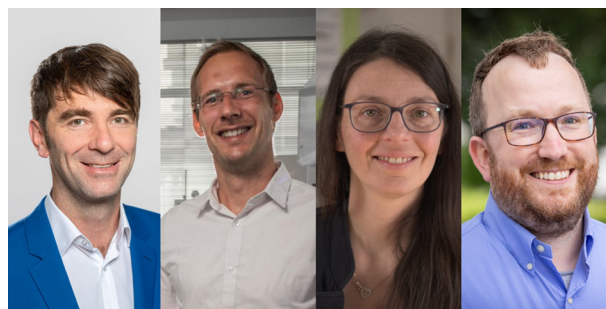
See Azam Gholami *et al.*, pp. 6353–6365. Image reproduced by permission of Azam Gholami from *Soft Matter*, 2025, 21, 6353.

## EDITORIAL

6335

### Celebrating the 60th birthday and achievements of Professor Ulli Steiner

Stefan Guldin,\* Mathias Kolle,\* Silvia Vignolini\* and Bodo D. Wilts\*

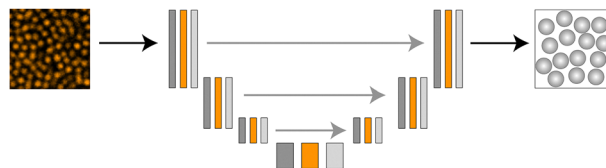


## PAPERS

6338

### Colloidoscope: detecting dense colloids in 3D with deep learning

Abdelwahab Kawafi,\* Lars Kürten, Levke Ortlieb, Yushi Yang, Abraham Mauleon Amieva, James Hallett and C. Patrick Royall\*



# 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%**

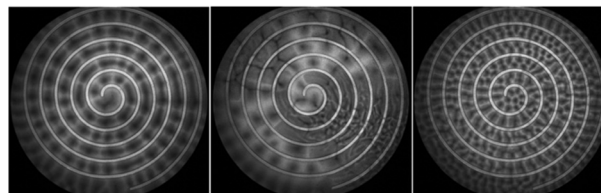


## PAPERS

6353

**Oxygen deficiency drives drastic pattern transition in algal bioconvection**

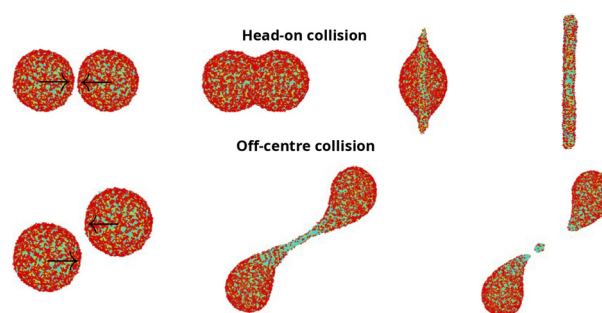
Sangram Gore, Iraj Gholami, Samar O. Ahmed, Tomiris Doskhozina, Sai V. R. Ambadipudi, Albert J. Bae and Azam Gholami\*



6366

**Collision of surfactant-laden droplets: insights from molecular dynamics simulation**

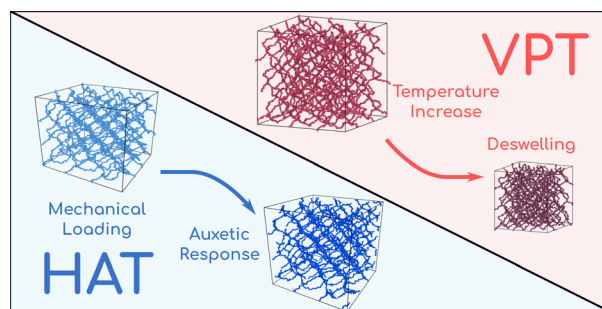
Soheil Arbabi,\* Piotr Deuar, Rachid Bennacer, Zhizhao Che and Panagiotis E. Theodorakis



6377

**Hyper-auxeticity and the volume phase transition of polymer gels**

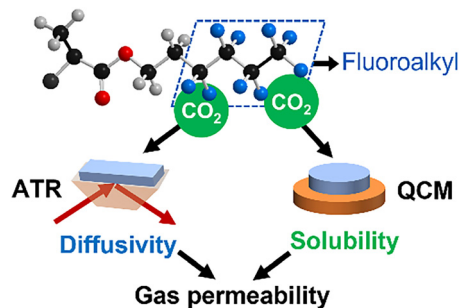
Andrea Ninarello\* and Emanuela Zaccarelli\*



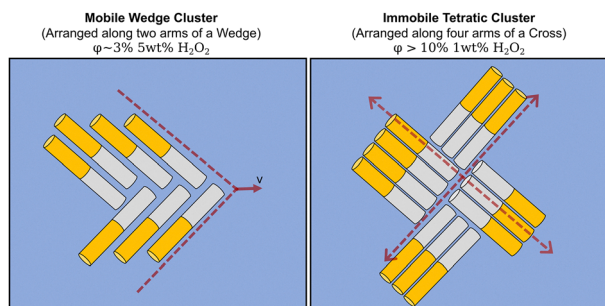
6383

**CO<sub>2</sub> transport behavior in poly(fluoroalkyl acrylate) and poly(fluoroalkyl methacrylate): a comparative study of fluoropolymer structure–property relationships**

Sinan Feng, Yucheng Zhang, Nobuyuki Ootzawa, Shinichi Murata and Atsushi Takahara\*



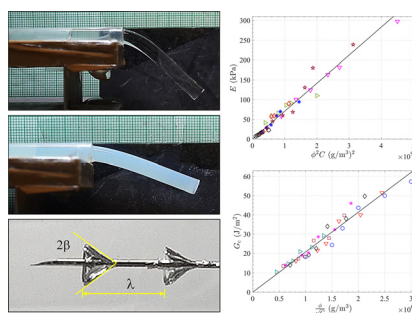
6391



### Emergent tetratic ordering in autophoretic rods mediated by torque

Donghao Cui, Mohd Yasir Khan,\* Xiaowen Chen, Zuyao Yan, Xianghong Liu and Wei Wang\*

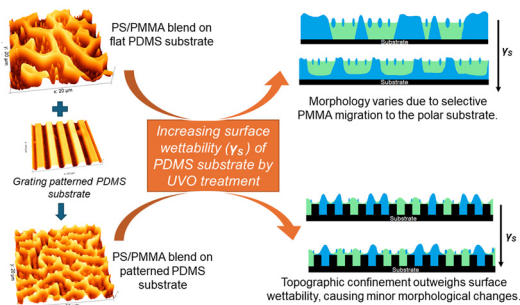
6400



### Influence of polymer network structure on the elastic and fracture properties of polyacrylamide hydrogel

Chithira Ravindran, Muthukumar M,\* M. S. Bobji and K. R. Y. Simha

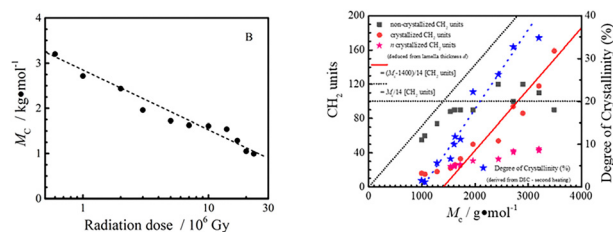
6410



### Synergistic influence of substrate wettability and topography on surface phase separation in PS/PMMA blend thin films

Pichkari Saikiran, D. Purnima, Rabibrata Mukherjee and Nandini Bhandaru\*

6422



### Crystallization and melting of polyethylene strongly cross-linked in the molten state

Jingqing Li, Weihua Wang, Yunxiang Shi, Barbara Heck, Chuanfu Luo, Jesper de Claville Christiansen, Donghong Yu,\* Günter Reiter\* and Shichun Jiang\*



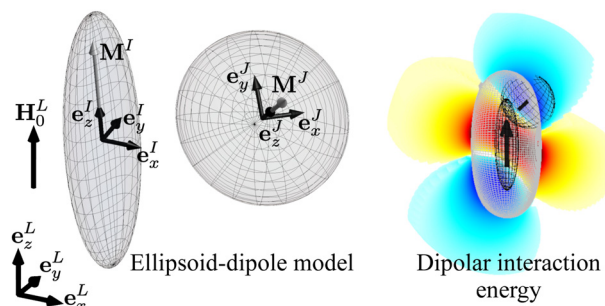


## PAPERS

6432

# The ellipsoid-dipole model. Theoretical fundamentals and applications

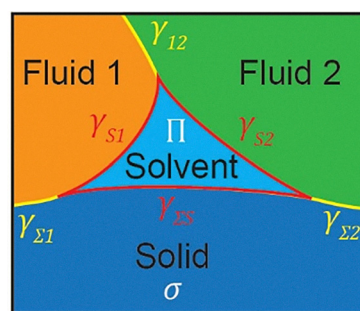
Isaac Torres-Diaz\*



6452

# Osmocapillary phase separation at contact lines

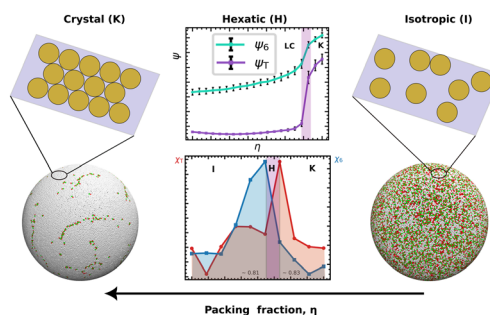
Qihan Liu\* and Luochang Wang



6458

# Melting of rods on a sphere *via* an intermediate hexatic phase

Jaydeep Mandal, Chandan Dasgupta and Prabal K. Maiti\*



## CORRECTION

6469

# Correction: Physics of polymer gels: Toyochi Tanaka and after

Mitsuhiro Shibayama



## RETRACTION

6470

**Retraction: Review on novel targeted enzyme drug delivery systems: enzymosomes**

Dinesh Kumar, Komal Sachdeva, Rajni Tanwar and Sunita Devi\*

