

# Soft Matter

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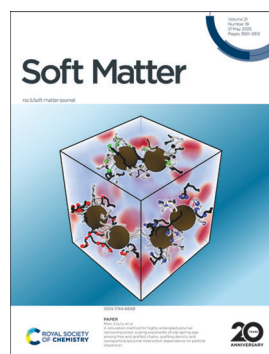
## IN THIS ISSUE

ISSN 1744-6848 CODEN SMOABF 21(19) 3661-3912 (2025)



### Cover

See Kripa K. Varanasi *et al.*, pp. 3688–3699. Image reproduced by permission of Varanasi Research Group @ MIT from *Soft Matter*, 2025, 21, 3688.



### Inside cover

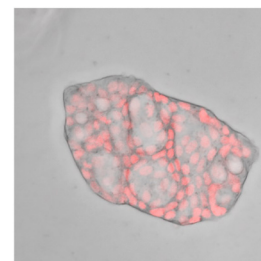
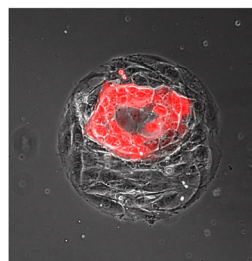
See Marc Couty *et al.*, pp. 3700–3719. Image reproduced by permission of Semen Vasin - Marc Couty MFP MICHELIN from *Soft Matter*, 2025, 21, 3700.

## REVIEW

3670

### Interface morphodynamics in living tissues

Cheng-Lin Lv and Bo Li\*



Tissue interfaces in the life process

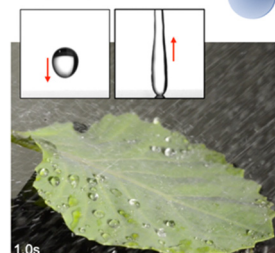
## PAPERS

3688

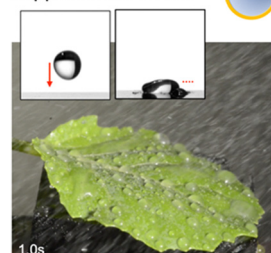
### Enhancing spray retention using cloaked droplets to reduce pesticide pollution

Vishnu Jayaprakash, Simon Rufer, Sreedath Panat and Kripa K. Varanasi\*

Water droplets bounce on hydrophobic surface



Ultra-thin oil cloak suppresses rebound



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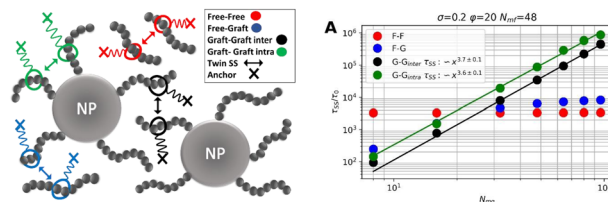
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3700

### A simulation method for highly entangled polymer nanocomposites: scaling exponents of slip-spring age among free and grafted chains, grafting density and nanoparticle/polymer interaction dependence on particle dispersion

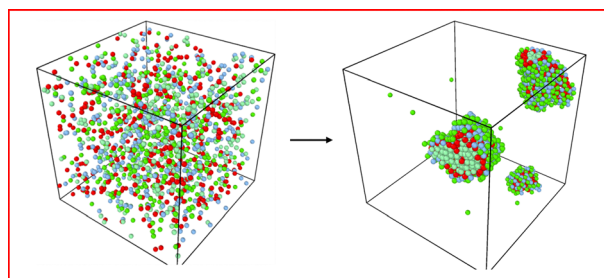
Semen Vasin, Gaetan Maurel, Taiji Mikami, Corentin Hermange, Iurii Chubak, Robert J. Tannenbaum, Sarah C. Seeger, Catherine Gauthier and Marc Couty\*



3720

### Multilayered ordered arrays self-assembled from a mixed population of nanoparticles

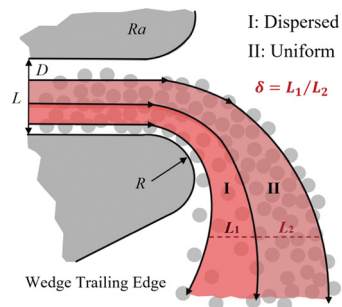
Camila Faccini de Lima, Nathasha D. Hewagama, Masaki Uchida, Trevor Douglas\* and Vikram Jadhao\*



3741

### Granular flow–solid wall interaction: investigation of the teapot effect

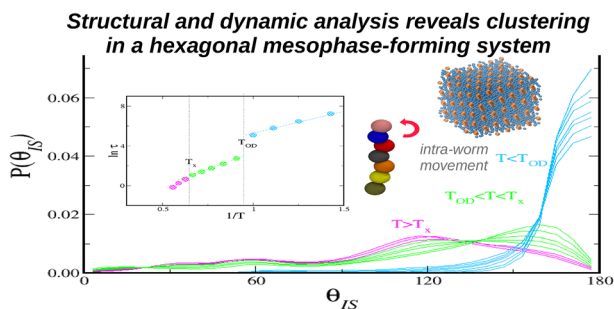
Yishan Hong, Hongyi Zou, Lijun Yang, Yitan Li\* and Ruo-Yu Dong\*



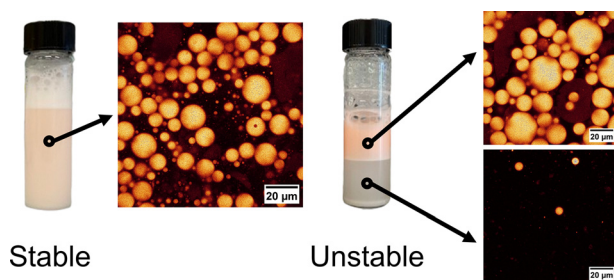
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### Temperature-driven self-assembly in a hexagonal mesophase-forming model: a dynamic and structural study

María Victoria Uranga Wassermann, Ezequiel Rodolfo Soulé and Cristian Balbuena\*



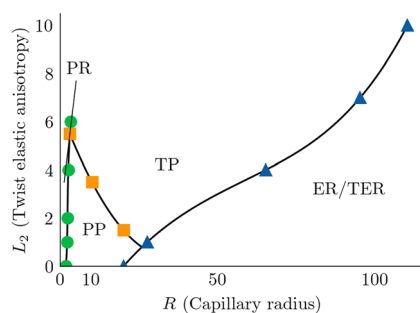
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### What makes oil-in-water emulsions with pea protein stable? The role of excess protein in network formation and yield stress development

Eleonora Olsmats,\* Adrian R. Rennie and Daniel Bonn

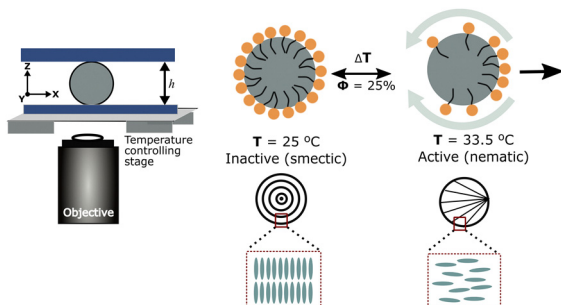
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### Chiral ground states in a nematic liquid crystal confined to a cylinder with homeotropic anchoring

Lucas Myers\* and Jorge Viñals

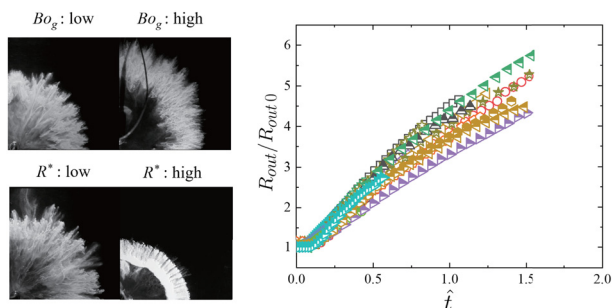
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### Temperature switchable self-propulsion activity of liquid crystalline microdroplets

Manoj Kumar,\* Siddharth Sane, Aniruddh Murali and Shashi Thutupalli

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### Shock-induced dispersion patterns of powder with diverse physical properties

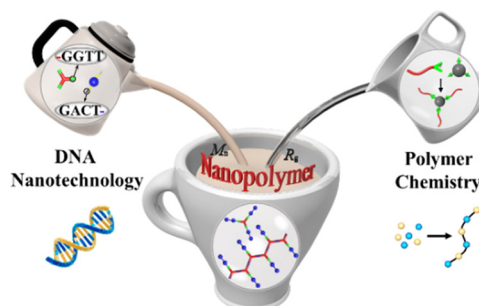
Jaehun Yoo, Ji Hoon Kim and Daegyoun Kim\*



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### Convergence of DNA nanotechnology and polymer chemistry to 'synthesize' nanopolymers with branching architectures: a computational perspective

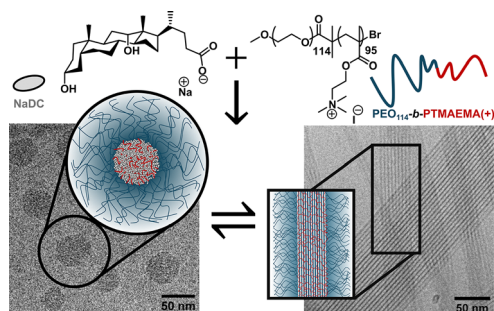
Tianyun Cai, Qianlin Cai, Jiaping Lin and Liangshun Zhang\*



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### Structural interplay in block copolymer-bile salt complexes: from globules to ribbons

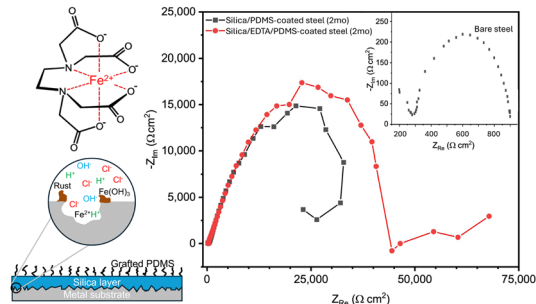
Suelen Gauna Trindade, Guanqun Du, Luciano Galantini, Lennart Piculell, Watson Loh\* and Karin Schillén\*



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### Corrosion-resistant omniphobic coating for low-carbon steel substrates using silica layers enhanced with ethylenediamine tetraacetic acid

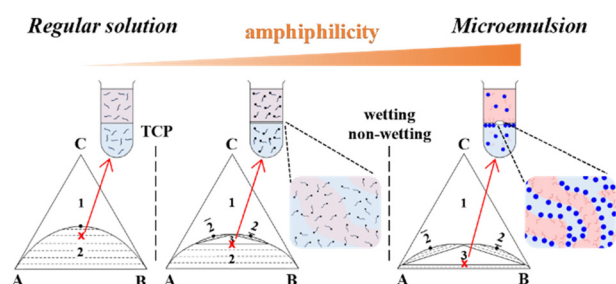
Parnian Mirabi, Fariba Vaez Ghasemi, Masoud Zakeri, Ibrahim Ogunsanya and Kevin Golovin\*



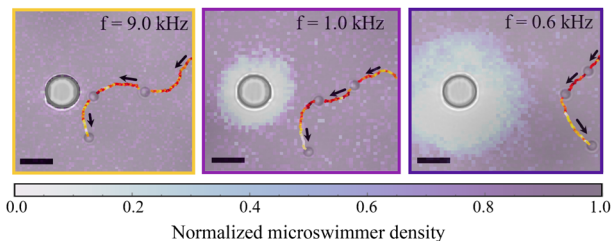
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### From regular solutions to microemulsions

Shih-Yu Tseng, Reinhard Strey, Ulf Olsson\* and Thomas Sottmann\*



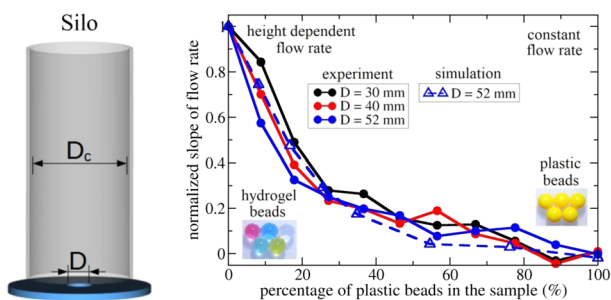
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### Gating and tunable confinement of active colloids within patterned environments

Carolina van Baalen, Stefania Ketzetzi, Anushka Tintor, Israel Gabay and Lucio Isa\*

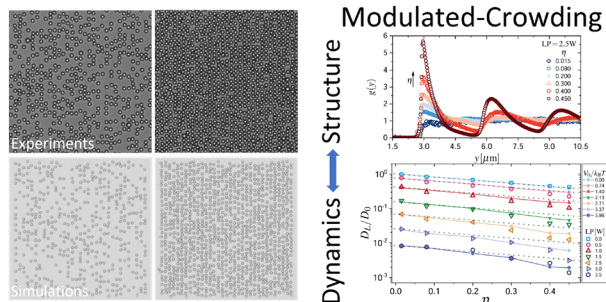
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### Granular flow of 3D mixtures of soft and hard spheres

Bo Fan, Tivadar Pongó, Joshua A. Dijksman, Jasper van der Gucht and Tamás Börzsönyi\*

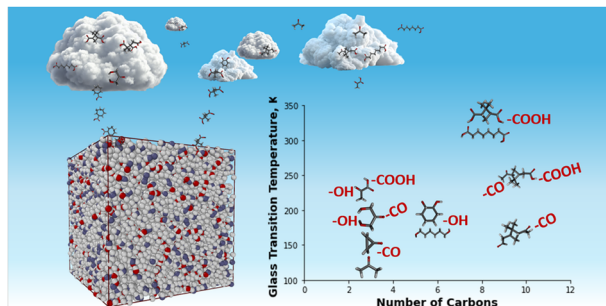
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### Colloidal transport in periodic potentials: the role of modulated-crowding

Ramón Castañeda-Priego, Erick Sarmiento-Gómez, Yasamin Mohebi Satsari, Stefan U. Egelhaaf and Manuel A. Escobedo-Sánchez\*

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### Predicting and parameterizing the glass transition temperature of atmospheric organic aerosol components via molecular dynamics simulations

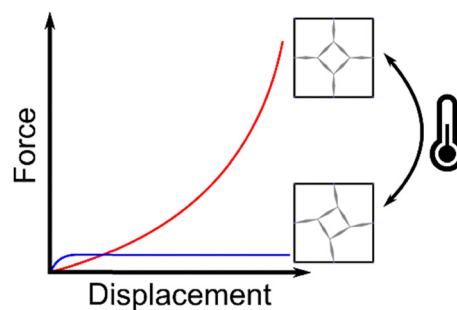
Panagiota Siachouli, Vlas G. Mavrantzas\* and Spyros N. Pandis\*



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### Tuning stiffness of mechanical metamaterial unit cells *via* transitions to second-order rigid and pre-stressed states

Joseph C. Roback, Arya Nagrath, Sameera Kristipati, Christian D. Santangelo\* and Ryan C. Hayward\*



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### Bubbling and mixing of vibrated and non-vibrated gas-fluidized active granular matter

Oscar J. Punch,\* Michael W. Jordan, Angelina S. Moncrieffe, Qiang Guo and Christopher M. Boyce\*

