

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(17) 3139–3400 (2025)



Cover

See Yasaman Heshmatzadeh *et al.*, pp. 3190–3196. Image reproduced by permission of Yasaman Heshmatzadeh and Kari Dalnoki-Veress from *Soft Matter*, 2025, 21, 3190.



Inside cover

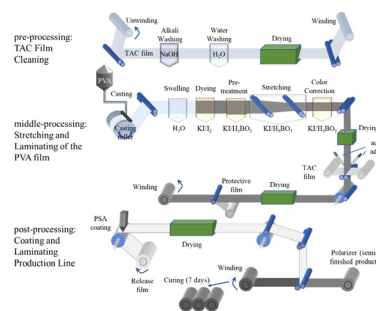
See Sarah Schyck, Laura Rossi *et al.*, pp. 3197–3206. Image reproduced by permission of Laura Rossi and Sarah Schyck from *Soft Matter*, 2025, 21, 3197.

REVIEW

3148

Polyvinyl alcohol-based polarizers for new displays: molecules, processing and properties

Yao Li, Jiayu Xie, Hong Cheng, Xiaoying Wei, Jie Chen, Liangpeng You and Wei Chen*

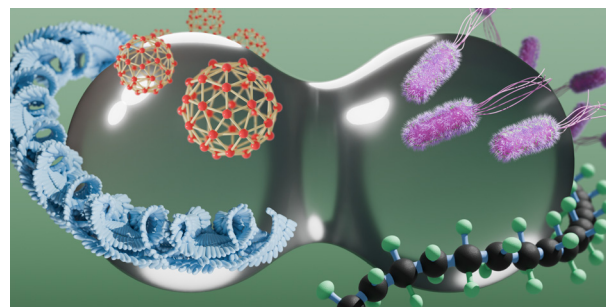


PERSPECTIVE

3168

The yoga of droplets: coalescence in complex fluids

Navin Kumar Chandra and Alope Kumar*



Advance your career in science

with professional recognition that showcases
your **experience, expertise and dedication**

Stand out from the crowd

Prove your commitment
to attaining excellence in
your field

Gain the recognition you deserve

Achieve a professional
qualification that inspires
confidence and trust

Unlock your career potential

Apply for our professional
registers (RSci, RSciTech)
or chartered status
(CChem, CSci, CEnv)

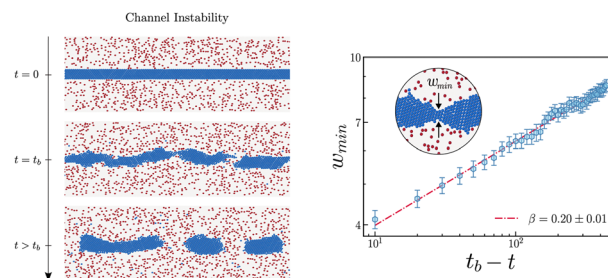
Apply now

rsc.li/professional-development



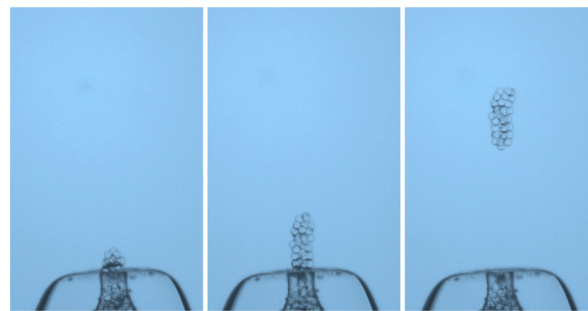
COMMUNICATION

3184

Channel instability in binary mixtures with differential diffusivityMichael T. Ramirez,* Marciel C. Gomes,
José S. Andrade Jr and André A. Moreira

PAPERS

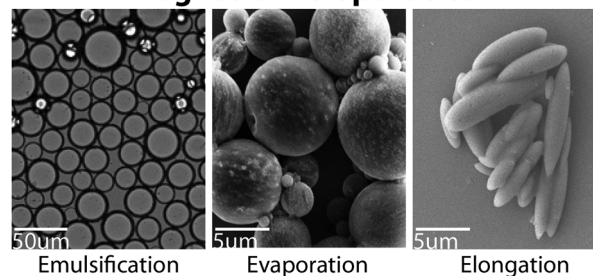
3190

The pendant drop experiment for aggregates of cohesive granular particlesYasaman Heshmatzadeh, Jean-Christophe Ono-dit-Biot
and Kari Dalnoki-Veress*

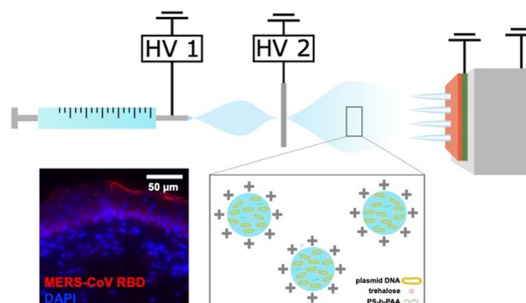
3197

Reshapable magnetic particles for morphology-controlled soft systems

Sarah Schyck,* Nitin Rajendra Madam and Laura Rossi*

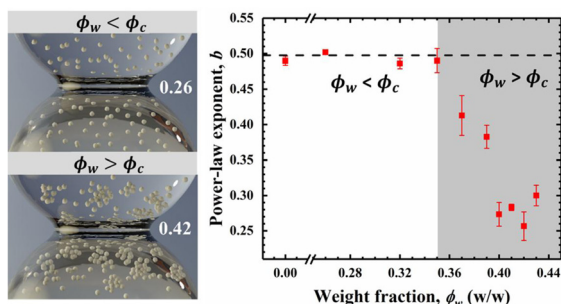
Magnetic Microparticles

3207

Microneedle arrays coated with Middle East respiratory syndrome coronavirus DNA vaccine via electrospray depositionSarah H. Park, Isha R. Shah, Nandita C. Jhumur,
Yaxin Mo, Shalaka Tendolkar, Emran O. Lallow,
Jerry W. Shan, Jeffrey D. Zahn, Joel N. Maslow,
Assimina A. Pelegri, Hao Lin, David I. Shreiber and
Jonathan P. Singer*

PAPERS

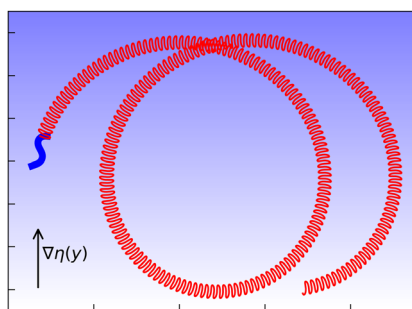
3215



Sub-Newtonian coalescence dynamics in shear-thickening non-Brownian colloidal droplets

M. V. R. Sudheer, Sarath Chandra Varma, Alope Kumar and Udit U. Ghosh*

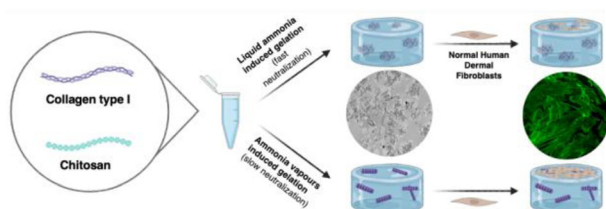
3228



Viscotaxis of beating flagella

Shubham Anand, Jens Elgeti* and Gerhard Gompper*

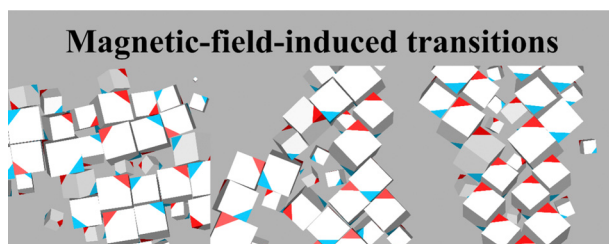
3240



Tuneable microfibrillar collagen structures within dense chitosan hydrogels

Enguerran Devernois, Christophe H  lary, J  r  me Charliac, Gervaise Mosser and Thibaud Coradin*

3254



Magnetic field-induced transitions and phase diagram of aggregate structures in a suspension of polydisperse cubic haematite particles

Kazuya Okada* and Akira Satoh

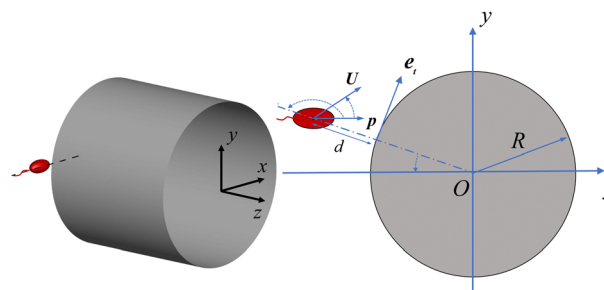


PAPERS

3267

Dynamics of a spheroidal squirmer interacting with a cylindrical obstacle

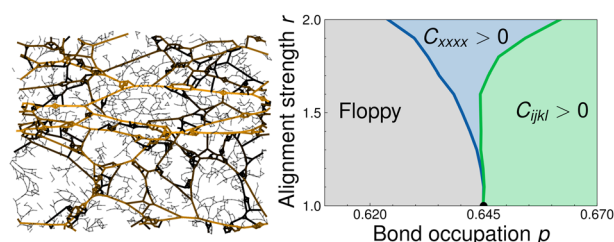
Yan Xia, Zhaosheng Yu, Jianzhong Lin, Zhaowu Lin* and Xiao Hu



3278

Rigidity transitions in anisotropic networks: a crossover scaling analysis

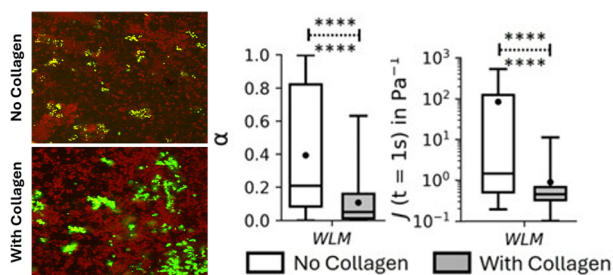
William Y. Wang,* Stephen J. Thornton, Bulbul Chakraborty, Anna R. Barth, Navneet Singh, Japheth Omonira, Jonathan A. Michel, Moumita Das, James P. Sethna and Itai Cohen



3290

Mechanical properties of *Staphylococcus aureus* and *Pseudomonas aeruginosa* dual-species biofilms grown in chronic wound-based models

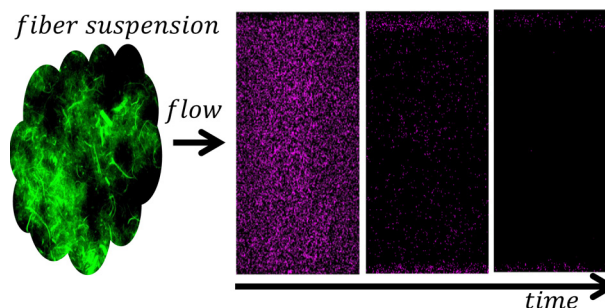
Bikash Bhattarai and Gordon F. Christopher*



3304

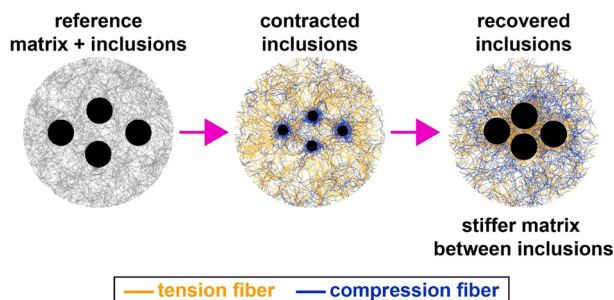
Microfiber suspensions for the removal of adhered colloids from surfaces, microdevices, and cavities

Marcel M. Louis, Samantha A. McBride, Janine K. Nunes, Antonio Perazzo, Christopher A. Kuchar, Mohamed E. Labib and Howard A. Stone*



PAPERS

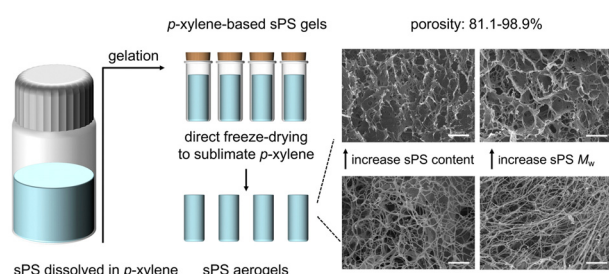
3314



Stiffening of a fibrous matrix after recovery of contracted inclusions

Mainak Sarkar,* Mohammad Tanver Hossain, Randy H. Ewoldt, Christina Laukaitis and Amy Wagoner Johnson

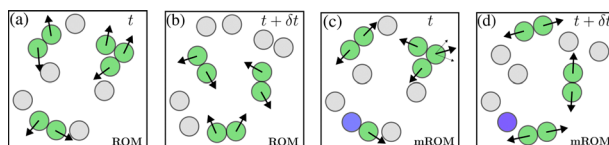
3331



A facile method to fabricate syndiotactic polystyrene aerogels by freeze-drying

Tongtong Zhang, Shuo Wang, Hongyu Liu, Xiaolong Yang and Fangming Zhu*

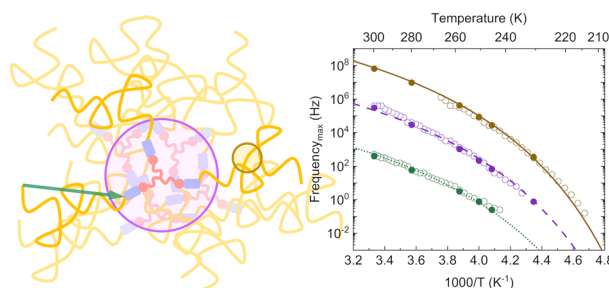
3340



Absorbing-state transitions in particulate systems under spatially varying driving

Bhanu Prasad Bhowmik* and Christopher Ness

3347



Chain dynamics in polyisoprene stars with arms linked by dynamic covalent bonds to the central core

Beatriz Robles-Hernández,* Nikolaos Patelis, Arantxa Arbe, Konstantinos Ntetsikas, Saibal Bhaumik, Nikos Hadjichristidis,* Ángel Alegría and Juan Colmenero

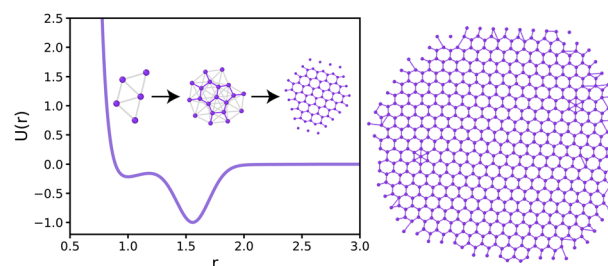


PAPERS

3361

The emergence of bulk structure in clusters via isotropic multi-well pair potentials

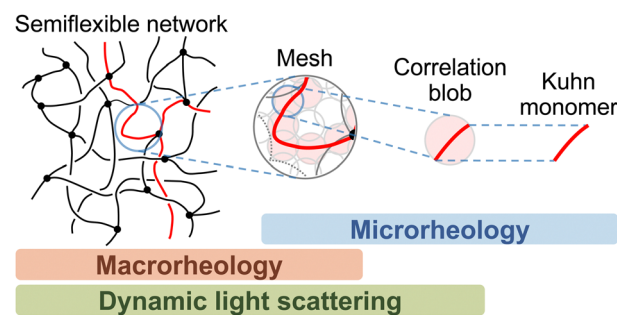
Jennifer E. Doyle, Maya M. Martirosyan, Julia Dshemuchadse* and Erin G. Teich*



3373

Characterizing semiflexible network structure of wormlike micelles by dynamic techniques

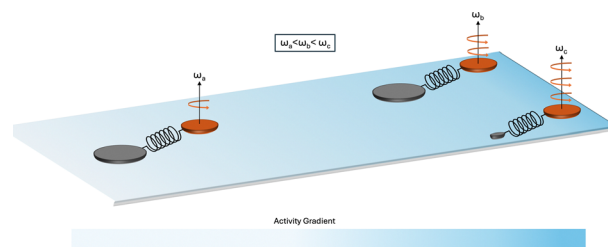
Hiroki Degaki, Tsuyoshi Koga and Tetsuharu Narita*



3384

Active transport of cargo-carrying and interconnected chiral particles

Bhavesch Valecha, Hossein Vahid, Pietro Luigi Muzzeddu, Jens-Uwe Sommer and Abhinav Sharma*



3393

A cofactor mediated supramolecular oligo-adenine triplex for reprogrammable macroscopic hydrogel assembly

Alycia Zi Ting Lim, Michael Shao Min Ho, Yujie Ke, Wei Wei Loh, Zhaogang Dong, Fuke Wang, Jason Y. C. Lim, Xin Ting Zheng, Le Yang and Yuwei Hu*

