

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.

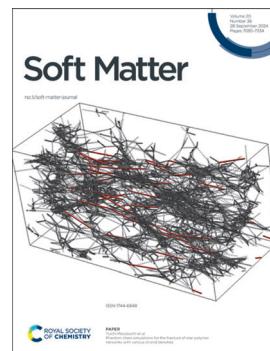
IN THIS ISSUE

ISSN 1744-6848 CODEN SMOABF 20(36) 7085–7334 (2024)



Cover

See Ryan Poling-Skutvik et al., pp. 7094–7102.
Image reproduced by permission of Ryan Poling-Skutvik and Katharine Walker from *Soft Matter*, 2024, 20, 7094.



Inside cover

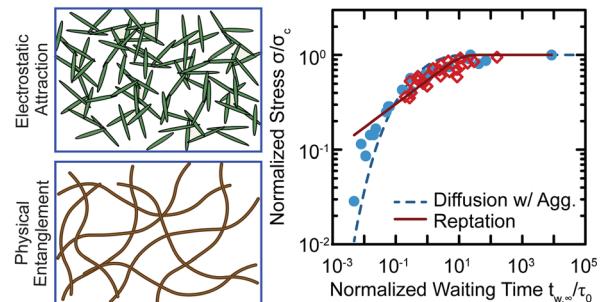
See Yuichi Masubuchi et al., pp. 7103–7110.
Image reproduced by permission of Yuichi Masubuchi from *Soft Matter*, 2024, 20, 7103.

PAPERS

7094

Elucidating the role of physicochemical interactions on gel rheology

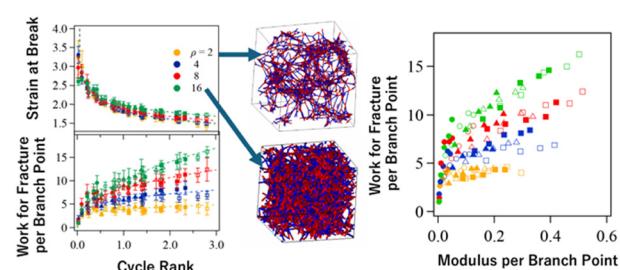
Elnaz Nikoumanesh, Charles Joseph M. Jouaneh and Ryan Poling-Skutvik*



7103

Phantom chain simulations for the fracture of star polymer networks with various strand densities

Yuichi Masubuchi,* Takato Ishida, Yusuke Koide and Takashi Uneyama



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

**SAVE
10%**



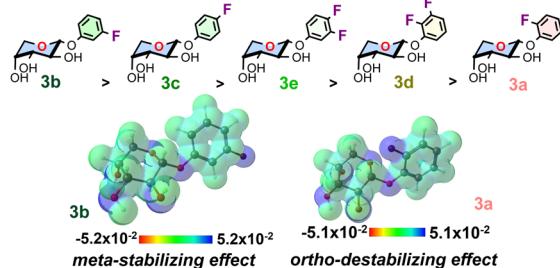
PAPERS

7111

Understanding the gelation properties of the fluorophenyl glycosides of arabinoside gelators: experimental and theoretical studies

Sachchida N. Pandey, Navendu P. Pathak, Arunava Sengupta* and Somnath Yadav*

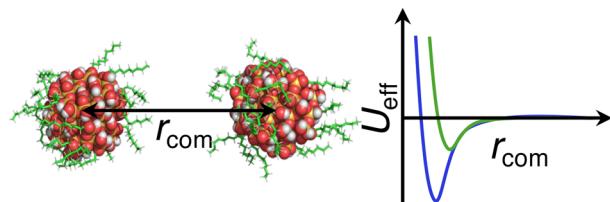
Supramolecular Gelation Pattern in fluorinated Derivative



7122

Computational investigation of the effects of polymer grafting on the effective interaction between silica nanoparticles in water

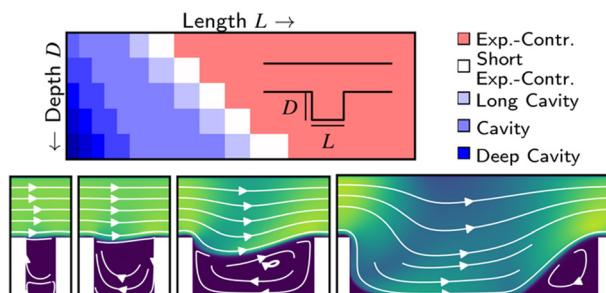
Yuvraj Singh, Chandan K. Choudhury, Rikhia Ghosh and Rakesh S. Singh*



7133

Flow of wormlike micellar solutions over concavities

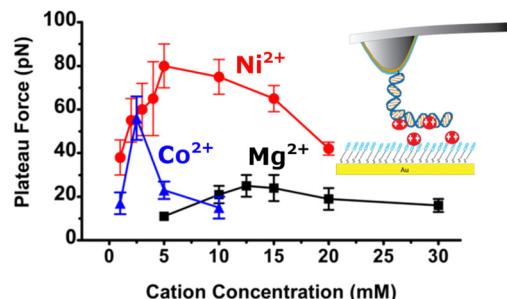
Fabian Hillebrand,* Stylianos Varchanis, Cameron C. Hopkins, Simon J. Haward and Amy Q. Shen



7147

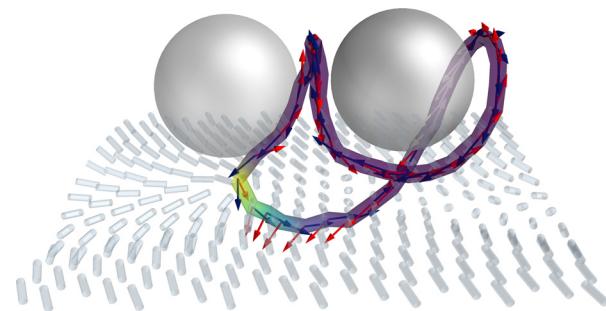
Quantitative measurement of cation-mediated adhesion of DNA to anionic surfaces

Xian Hao, Qufei Gu, Christine Isborn, Jesus Rodriguez Vasquez, Makenzie Provorse Long* and Tao Ye*



PAPERS

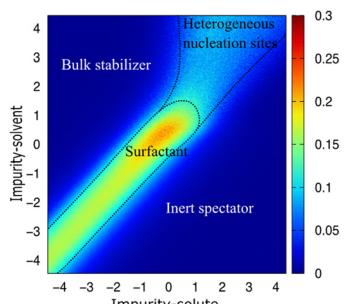
7157



Entangled nematic disclinations using multi-particle collision dynamics

Louise C. Head,* Yair A. G. Fosado, Davide Marenduzzo and Tyler N. Shendruk*

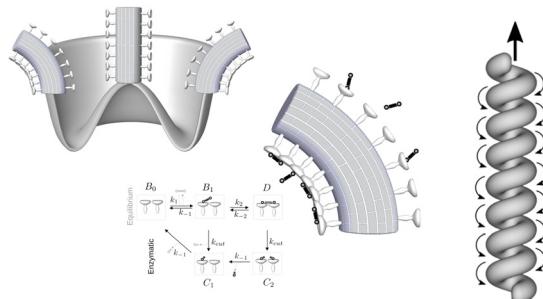
7174



Mapping the influence of impurity interaction energy on nucleation in a lattice-gas model of solute precipitation

Dipanjan Mandal* and David Quigley

7185

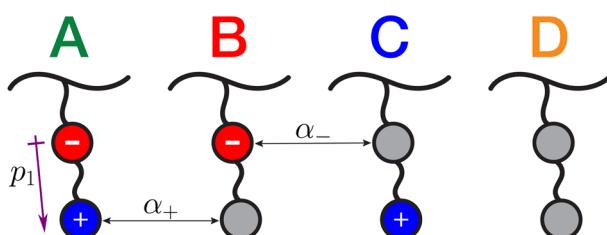


Reshaping and enzymatic activity may allow viruses to move through the mucus

Falko Ziebert, Kenan G. Dokonon and Igor M. Kulić

7199

Four zwitterionic states



Theory and quantitative assessment of pH-responsive polyzwitterion–polyelectrolyte complexation

Samuel C. Hoover, Khatcher O. Margossian and Murugappan Muthukumar*

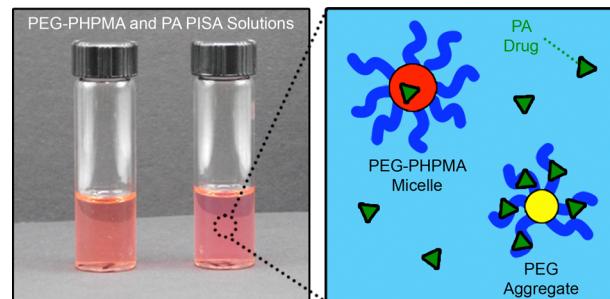


PAPERS

7214

Impact of a poly(ethylene glycol) corona block on drug encapsulation during polymerization induced self-assembly

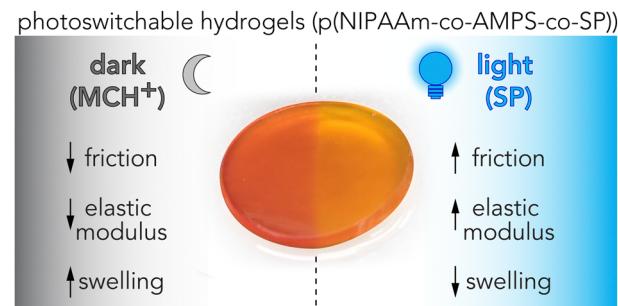
Guanrui Li, Cassie Duclos and Ralm G. Ricarte*



7227

Photoresponsive hydrogel friction

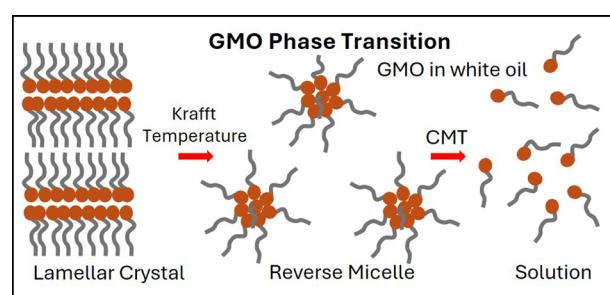
Allison L. Chau, Kseniia M. Karnaukh, Ian Maskiewicz, Javier Read de Alaniz* and Angela A. Pitenis*



7237

Impact of water and oleic acid on glycerol monooleate phase transition and bi-continuous structure formation in white oil

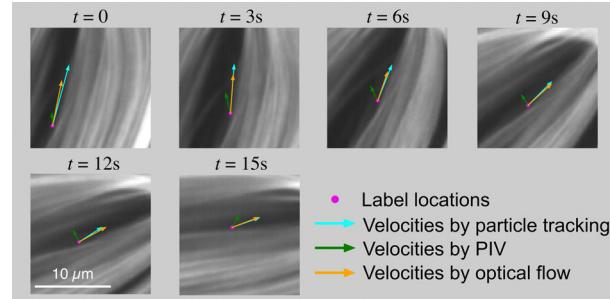
Ngoc A. Nguyen, Deborah Y. Liu and Daniel V. Krogstad*



7246

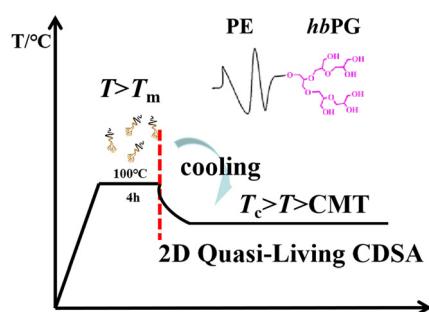
Deep-learning optical flow for measuring velocity fields from experimental data

Phu N. Tran, Sattvic Ray, Linnea Lemma, Yunrui Li, Reef Sweeney, Aparna Baskaran, Zvonimir Dogic, Pengyu Hong* and Michael F. Hagan*



PAPERS

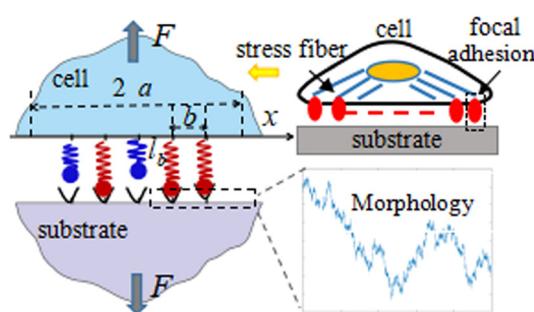
7258



Two-dimensional (2D) quasi-living crystallization-driven self-assembly of polyethylene-*b*-hyperbranched polyglycidol diblock copolymers in solution

Xiaowen Si, Chenxi Jiang, Yu Hu and Jingshan Mu*
Open Access Article. Published on 18 September 2024. Downloaded on 1/20/2026 5:08:01 PM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

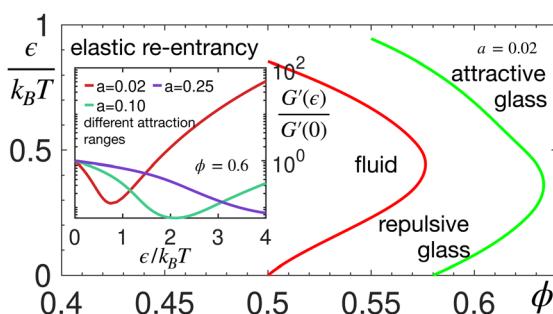
7270



A viscoelastic-stochastic model of cell adhesion considering matrix morphology and medium viscoelasticity

Shuying Li, Chuanzhen Huang,* Hanlian Liu,* Xu Han, Zhichao Wang, Zhuang Chen, Jun Huang and Zhen Wang

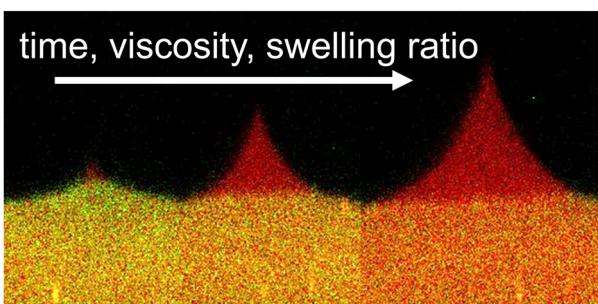
7284



Microscopic theory of the elastic shear modulus and length-scale-dependent dynamic re-entrancy phenomena in very dense sticky particle fluids

Anoop Mutneja and Kenneth S. Schweizer*

7300



Phase separation dynamics in wetting ridges of polymer surfaces swollen with oils of different viscosities

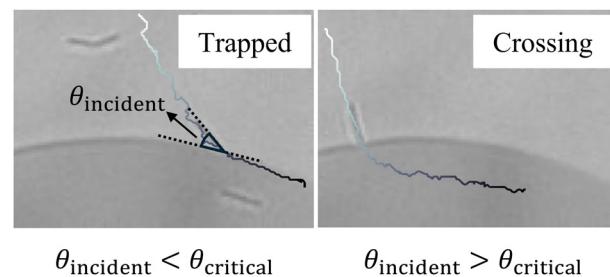
Zhuoyun Cai, Rodrique G. M. Badr, Lukas Hauer, Krishnaroop Chaudhuri, Artem Skabeev, Friederike Schmid* and Jonathan T. Pham*

PAPERS

7313

Motile bacteria crossing liquid–liquid interfaces of an aqueous isotropic–nematic coexistence phase

Jiyong Cheon, Joowang Son, Sungbin Lim, Yundon Jeong, Jung-Hoon Park, Robert J. Mitchell, Jaeup U. Kim and Joonwoo Jeong*



7321

Phospholipase-catalyzed degradation drives domain morphology and rheology transitions in model lung surfactant monolayers

Julia M. Fisher* and Todd M. Squires

