Open Access Article. Published on 05 March 2025. Downloaded on 1/27/2026 9:07:54 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

Soft Matter

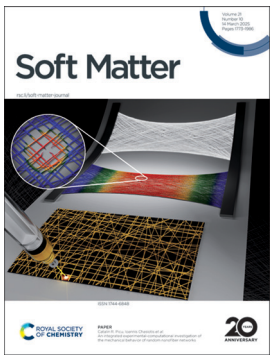
Where physics meets chemistry meets biology for fundamental soft matter research

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(10) 1773–1986 (2025)



Cover
See Catalin R. Picu, Ioannis Chasiotis *et al.*, pp. 1841–1848. Image reproduced by permission of Ioannis Chasiotis *et al.* from *Soft Matter*, 2025, **21**, 1841.

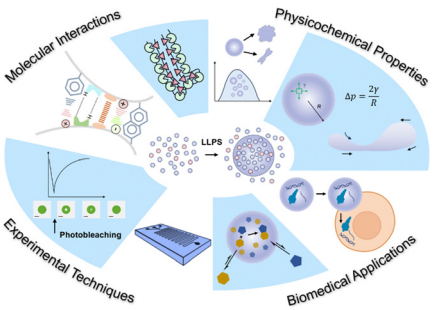
Inside cover
See Mohamed Laradji *et al.*, pp. 1849–1859. Image reproduced by permission of Mohamed Laradji from *Soft Matter*, 2025, **21**, 1849.

REVIEWS

1781

Peptide-mediated liquid–liquid phase separation and biomolecular condensates

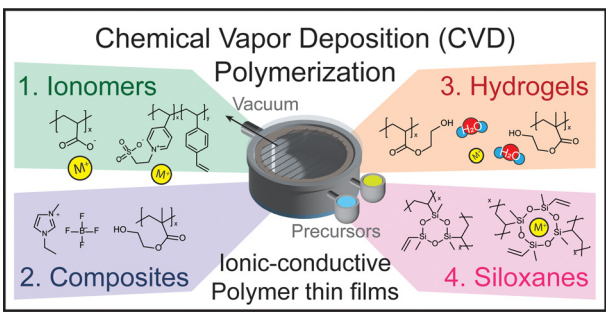
Guangle Li, Chengqian Yuan* and Xuehai Yan*



1813

Ion-conducting polymer thin films *via* chemical vapor deposition polymerization

Kwang-Won Park, Christina H Yu, Shuaicheng Fu and Rong Yang*



ROYAL SOCIETY OF CHEMISTRY

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%

Registered charity number: 207890

Open Access Article. Published on 05 March 2025. Downloaded on 1/27/2026 9:07:54 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

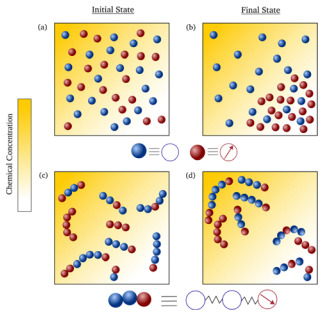
Open Access Article. Published on 05 March 2025. Downloaded on 1/27/2026 9:07:54 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

COMMUNICATION

1835

Transport of partially active polymers in chemical gradients

Shashank Ravichandir, Bhavesh Valecha, Pietro Luigi Muzzeddu, Jens-Uwe Sommer* and Abhinav Sharma*

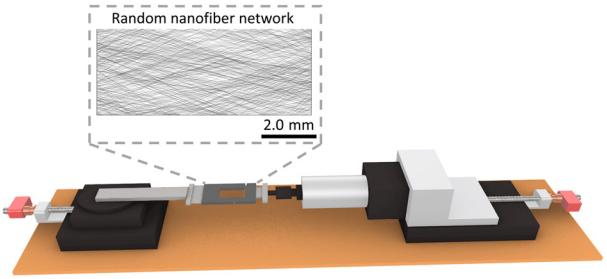


PAPERS

1841

An integrated experimental-computational investigation of the mechanical behavior of random nanofiber networks

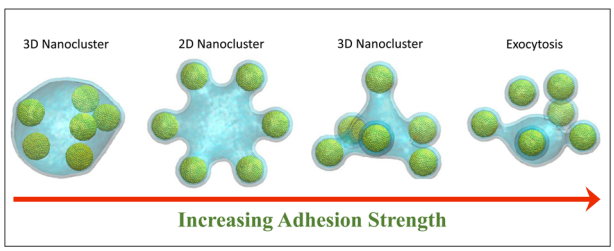
HyeongJu Lee, Mithun K. Dey, Kathiresan Karunakaran, Catalin R. Picu* and Ioannis Chasiotis*



1849

Nanostar self-assemblies of spherical nanoparticles inside lipid vesicles

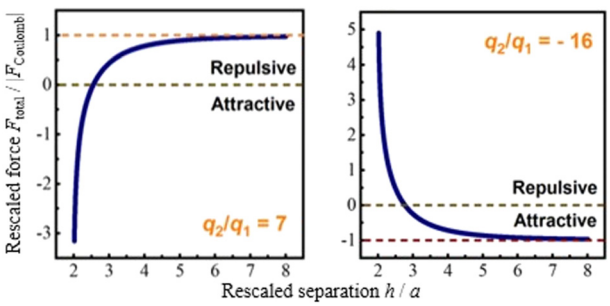
Yu Zhu, Abash Sharma, Eric J. Spangler and Mohamed Laradji*



1860

Mechanisms of electrostatic interactions between two charged dielectric spheres inside a polarizable medium: an effective-dipole analysis

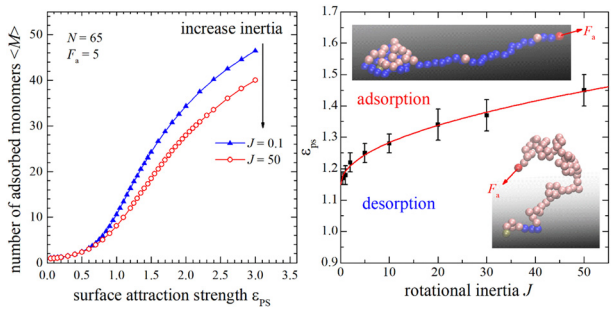
Yanyu Duan, Zecheng Gan* and Ho-Kei Chan*



Open Access Article. Published on 05 March 2025. Downloaded on 1/27/2026 9:07:54 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

PAPERS

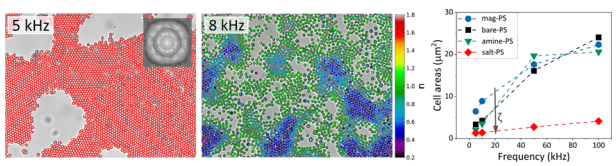
1873



Knotting and adsorption of end-grafted active polymers

Yi-Fan Shen and Meng-Bo Luo*

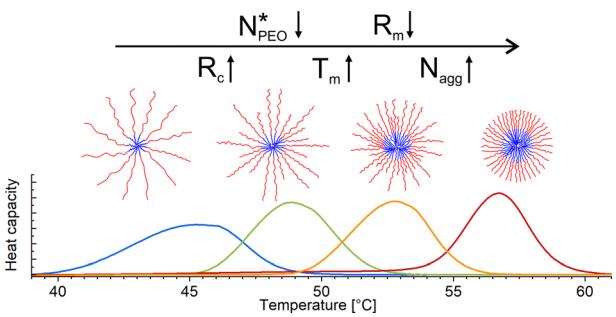
1884



Structure, dynamics and phase transitions in electric field assembled colloidal crystals and glasses

Indira Barros, Sayanth Ramachandran and Indrani Chakraborty*

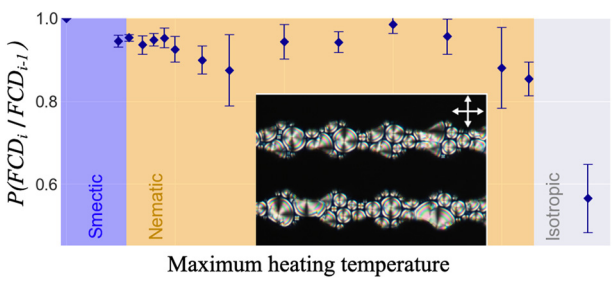
1895



Modulating melting points in micellar cores: influence of the corona chain length on the core confinement in binary mixed block copolymer micelles

Szymon Mikołaj Szostak, Nico König, Lutz Willner and Reidar Lund*

1907



Quantifying memory: detection of focal conic domain rearrangement across a phase transition

Sean Hare, Alexander de la Vega and Francesca Serra*

This journal is © The Royal Society of Chemistry 2025

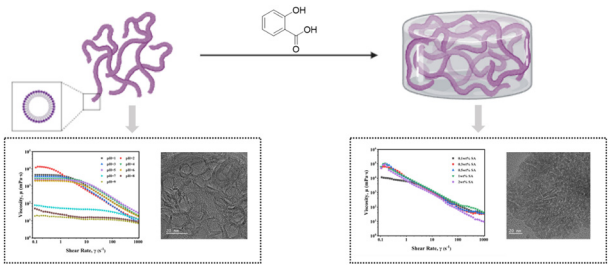
Open Access Article. Published on 05 March 2025. Downloaded on 1/27/2026 9:07:54 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

PAPERS

1915

Salicylic acid induces the formation of supramolecular antimicrobial hydrogels from worm-like micelles

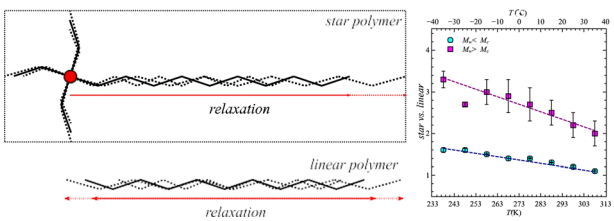
Dongfang Liu,* Liqin Huang, Yu Jing, Tingmei Huang, Di Zhang, Dong Jiang, Yaxin Zhao and Yuanyuan Zhang*



1925

Polymer dynamics at low molecular weight of poly(butylene oxide) star polymers

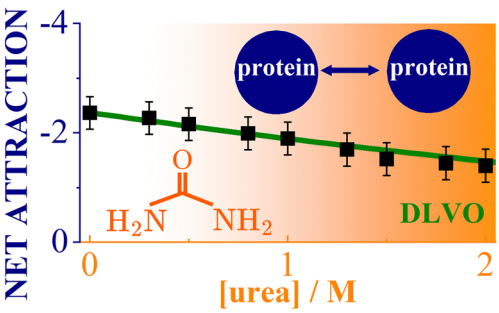
Karin J. Bichler,* Bruno Jakobi and Gerald J. Schneider*



1937

Urea and salt induced modulation of protein interactions: implications for crystallization and liquid–liquid phase separation

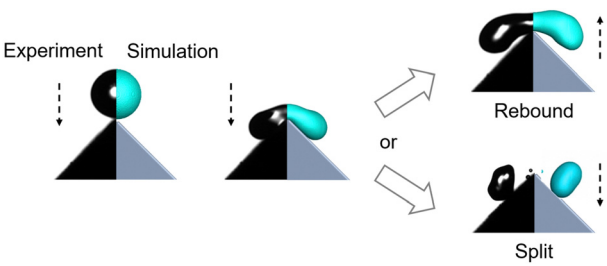
M. Madani, T. Hamacher and F. Platten*



1949

Drop splitting on hydrophobic wedge-shaped tips after central impact: effect of sharpness and wetting properties

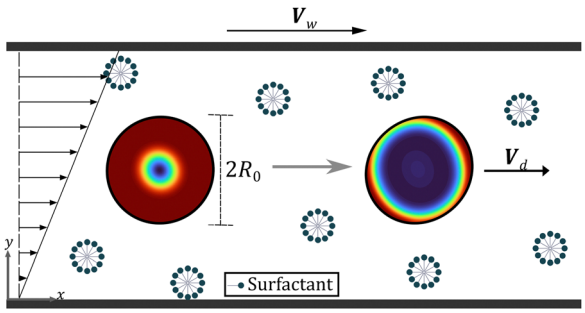
Xiaoteng Zhou, Diego Diaz, Zhongyuan Ni, Sajjad Shumaly, Jie Liu, Michael Kappl* and Hans-Jürgen Butt*



Open Access Article. Published on 05 March 2025. Downloaded on 1/27/2026 9:07:54 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

PAPERS

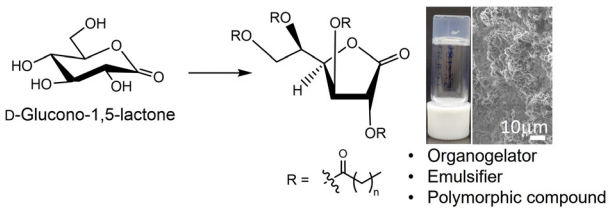
1957



Shear-induced dynamics of an active Belousov–Zhabotinsky droplet

Shreyas A. Shenoy, KVS Chaithanya and Pratyush Dayal*

1970



Synthesis of D-glucono-1,4-lactones modified with linear saturated fatty acids as novel low molecular-weight organogelators and evaluation of their physical properties

Shiro Komba

CORRECTION

1984

Correction: Engineering poly(dehydroalanine)-based gels *via* droplet-based microfluidics: from bulk to microspheres

Hannah F. Mathews, Tolga Çeper, Tobias Speen, Céline Bastard, Selin Bulut, Maria I. Pieper, Felix H. Schacher, Laura De Laporte and Andrij Pich*

This journal is © The Royal Society of Chemistry 2025