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 Heshmatzade 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 Aloke 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

3184

Channel instability in binary mixtures with differential diffusivity

Michael T. Ramirez.* Marciel C. Gomes. José S. Andrade Jr and André A. Moreira



PAPERS

3190

The pendant drop experiment for aggregates of cohesive granular particles

Yasaman 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





Emulsification

3207

Microneedle arrays coated with Middle East respiratory syndrome coronavirus DNA vaccine via electrospray deposition

Sarah 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



3228



3240



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

M. V. R. Sudheer, Sarath Chandra Varma, Aloke Kumar and Udita U. Ghosh*

Viscotaxis of beating flagella

Shubham Anand, Jens Elgeti* and Gerhard Gompper*

Tuneable microfibrillar collagen structures within dense chitosan hydrogels

Enguerran Devernois, Christophe Hélary, Jérôme 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*







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. Martirossyan, 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

Bhavesh 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*

