Soft Matter

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Inside cover
See K. W. Stöckelhuber *et al.*, pp. 3701–3709. Image reproduced by permission of K. W. Stöckelhuber from *Soft Matter*, 2017, **13**, 3701.

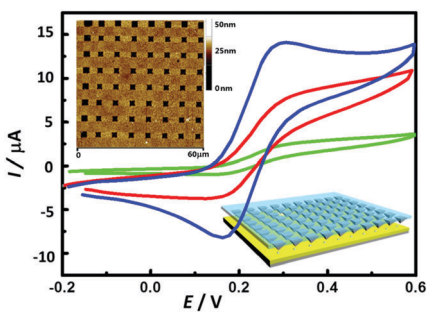
COMMUNICATION

3685

Size-tunable, highly sensitive microelectrode arrays enabled by polymer pen lithography

Xinlei Ma, Fengwang Li, Zhuang Xie, Mianqi Xue, Zijian Zheng* and Xueji Zhang*

By combining polymer pen lithography with *in situ* polymerization, we report a bottom-up approach for fabricating microelectrode arrays with well-controlled dimensions.



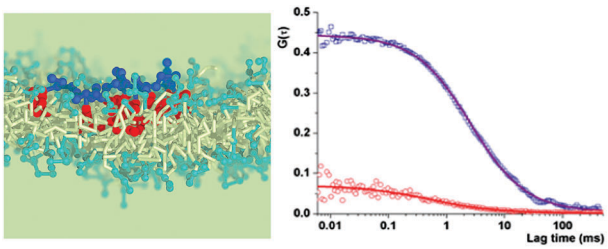
PAPERS

3690

Dynamic studies of the interaction of a pH responsive, amphiphilic polymer with a DOPC lipid membrane

Sivaramakrishnan Ramadurai, Marco Werner, Nigel K. H. Slater, Aaron Martin, Vladimir A. Baulin* and Tia E. Keyes*

Experimental studies and coarse grained simulations demonstrate an amphiphilic polymer when penetrating deeper into the membrane due to increasing hydrophobicity can suppress permeability.



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Soft Matter

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Additional details are available from the Editorial Office or **http://www.rsc.org/authors**

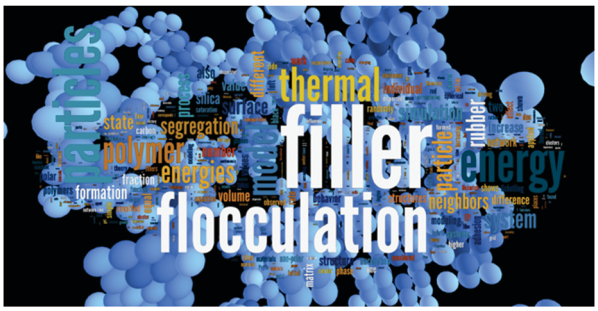
PAPERS

3701

Filler flocculation in polymers – a simplified model derived from thermodynamics and game theory

K. W. Stöckelhuber,* S. Wießner, A. Das and G. Heinrich

A novel simple model for filler flocculation in polymers, inspired from Schelling's segregation model from game theory and social sciences.

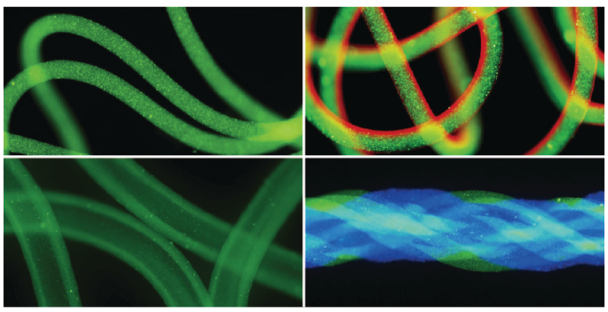


3710

Stimuli-responsive hydrogel microfibers with controlled anisotropic shrinkage and cross-sectional geometries

Shunsuke Nakajima, Ryuji Kawano and Hiroaki Onoe*

Stimuli-responsive microfibers are fabricated by extruding mixed solutions of pNIPAM-AAc and sodium alginate using a microfluidic spinning system.

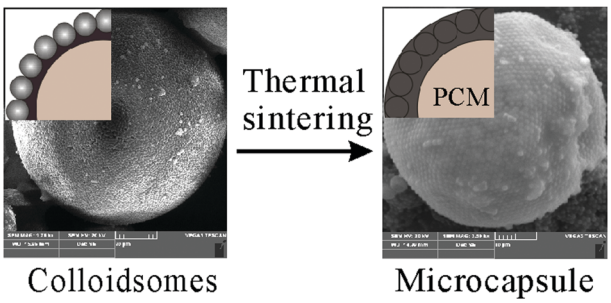


3720

Microencapsulation through thermally sintering Pickering emulsion-based colloidosomes

Dezhong Yin,* Licong Bai, Yu Jia, Jinjie Liu and Qiuyu Zhang*

Colloidosomes with a polymeric layer and armored microspheres were thermally sintered into microcapsules with an integral shell and excellent durability as a phase change material composite.

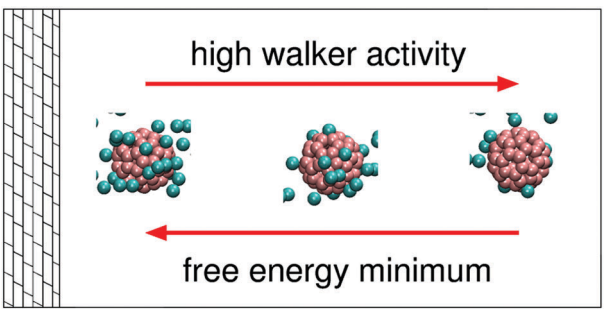


3726

Directional transport of colloids inside a bath of self-propelling walkers

Holger Merlitz,* Chenxu Wu and Jens-Uwe Sommer

At low activity, self-propelling walkers adsorb onto (passive) colloids, which are driven to the wall (left).



PAPERS

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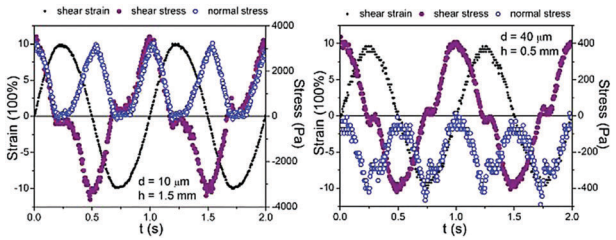
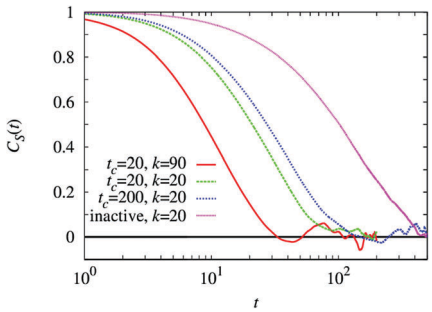


Normal stresses in shear thickening granular suspensions

Zhongcheng Pan,* Henri de Cagny, Mehdi Habibi and Daniel Bonn

A transition from a positive to a negative normal stress is observed upon varying particle diameters and gap sizes.

3741

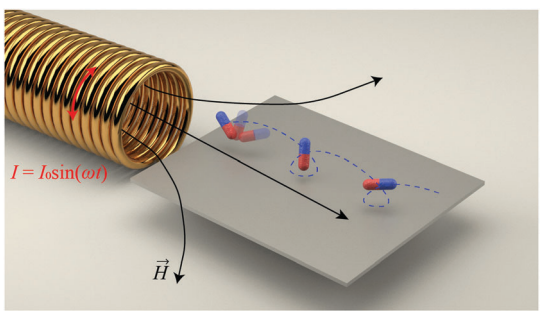


Diffusion in systems crowded by active force-dipole molecules

Matthew Dennison,* Raymond Kapral and Holger Stark

Using computer simulations, we show that the diffusion coefficients of passive tracer particles in systems containing active dumbbell particles that undergo conformational changes are larger than the corresponding values when the dumbbells are inactive.

3750

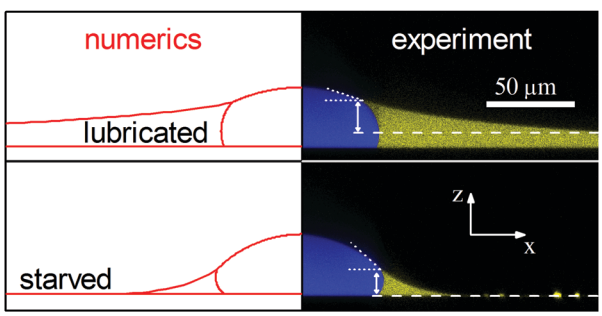


Manipulation of magnetic nanorod clusters in liquid by non-uniform alternating magnetic fields

Weijie Huang, Fengchang Yang, Lu Zhu, Rui Qiao* and Yiping Zhao*

Non-uniform alternating magnetic field can induce a translational motion of an anisotropic magnetic particle or cluster near a surface. Such a simple particle manipulation method has a great potential in applications such as cell biology and microfluidics.

3760



Shape of a sessile drop on a flat surface covered with a liquid film

Martin Tress, Stefan Karpitschka, Periklis Papadopoulos, Jacco H. Snoeijer, Doris Vollmer and Hans-Jürgen Butt*

The shape of a sessile drop on a flat surface covered with a liquid film is studied by means of laser scanning confocal microscopy, numerical solution of generalized Laplace equations as well as analytical approximations.

PAPERS

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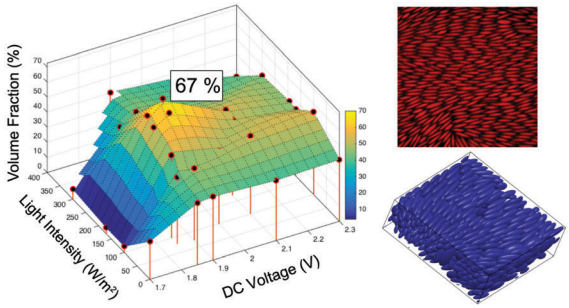
High-density equilibrium phases of colloidal ellipsoids by application of optically enhanced, direct current electric fields

Mahesh Ganesan and Michael J. Solomon*

Highly dense equilibrium assemblies of colloidal ellipsoids having three-dimensional order and packing fraction upto 67%.

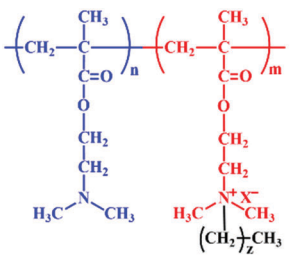


3777

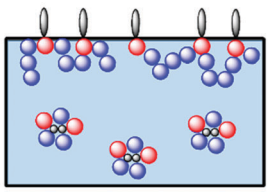
A facile route towards PDMAEMA homopolymer amphiphiles

Theodore Manouras,* Eleftherios Koufakis, Spiros H. Anastasiadis and Maria Vamvakaki*

Quaternization of a PDMAEMA homopolymer, using long alkyl chain halides, allows tuning of the LCST and surface activity of the polymer and leads to extremely effective polymeric surfactants in a broad temperature range.



Chemical structure of the quaternized copolymers



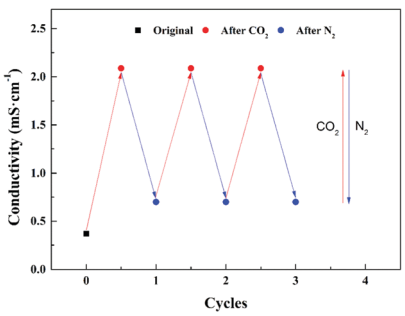
Self-assembly in solution and at the water-air interphase

3783

CO_2-Switchable microemulsion based on a pseudogemini surfactant

Dongfang Liu, Yuxin Suo, Jiang Tan and Hongsheng Lu*

At present, more and more researchers around the world are paying attention to stimuli-responsive surfactants.

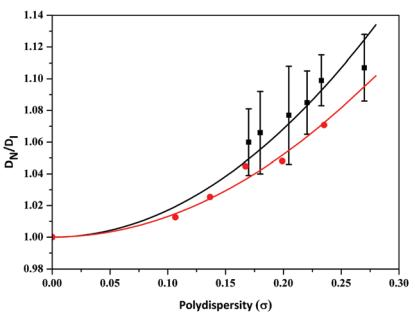


3789

Polydispersity reduction of colloidal plates *via* size fractionation of the isotropic–nematic phase transition

Fang Chen, Mingfeng Chen, Ya-Wen Chang, Pengcheng Lin, Ying Chen and Zhengdong Cheng*

We experimentally confirmed a quadratic scaling relationship between size segregation D_N/D_I and platelet size polydispersity in the I–N transition as predicted by computer simulations.



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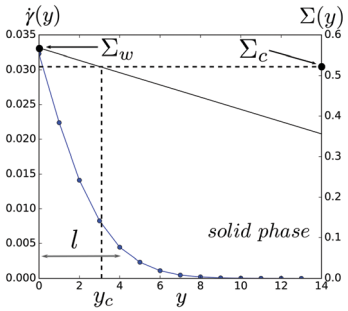
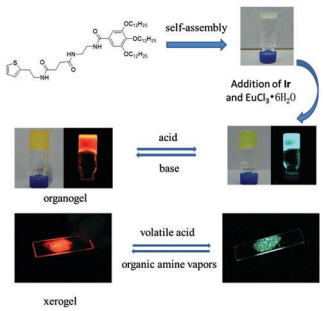


Scaling description of non-local rheology

Thomas Gueudré, Jie Lin, Alberto Rosso and Matthieu Wyart

The plastic flow of amorphous materials displays non-local effects, characterized by a cooperativity length scale ξ.

3802

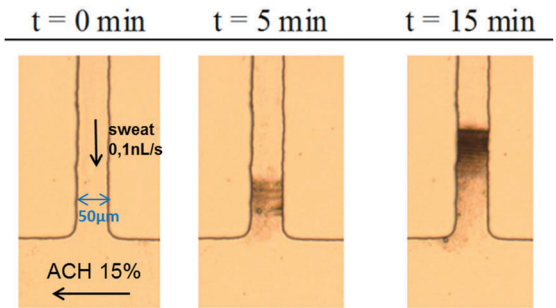


A dual response organogel system based on an iridium complex and a Eu(III) hybrid for volatile acid and organic amine vapors

Xinhua Cao,* Na Zhao, Guodong Zou, Aiping Gao, Qianqian Ding, Guanjie Zeng and Yongquan Wu*

A thiophene-based hybrid organogel system consisting of complex iridium (**Ir**) and $EuCl_3 \cdot 6H_2O$ can response to volatile acids and organic amine vapors.

3812

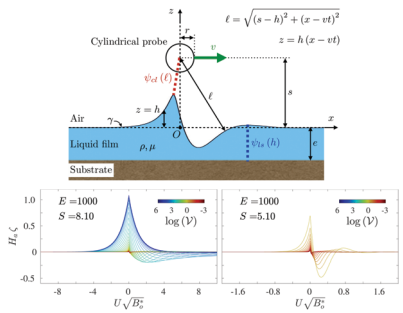


The mechanism of eccrine sweat pore plugging by aluminium salts using microfluidics combined with small angle X-ray scattering

Alice Bretagne, Franck Cotot, Mireille Arnaud-Roux, Michael Sztucki, Bernard Cabane* and Jean-Baptiste Galey*

Sweat pore plugging by aluminium chlorohydrate is studied using microfluidics to address the question of diffusion and reactivity of active species.

3822



van der Waals interaction between a moving nano-cylinder and a liquid thin film

René Ledesma-Alonso,* Elie Raphaël, Thomas Salez, Philippe Tordjeman and Dominique Legendre

The interaction between a cylindrical nano-probe translating at constant speed and a thin liquid film is modelled. The parametric analysis unveils a dynamic threshold separation distance, below which the jump-to-contact instability occurs. The wake, left behind by the nano-probe, is observed and studied.