Shape evolution and splitting of ferrofluid droplets on a hydrophobic surface in presence of magnetic field

*Soft Matter*, 2018, Accepted Manuscript

DOI: 10.1039/C7SM02312J, Paper

Utsab Banerjee, Ashis Sen

We elucidate the phenomena of dynamic wetting, shape evolution and splitting of ferrofluid (FF) droplets on a hydrophobic surface under the influence of magnetic field. In case of a FF...

The pH-dependent elastic properties of a nanoscale DNA film and the resultant bending signals for microcantilever biosensors

*Soft Matter*, 2018, Accepted Manuscript

DOI: 10.1039/C7SM01883E, Paper

Mei-Hong Zhou, Wei-Lie Meng, Cheng-Yin Zhang, Jun-Zheng Wu, Xiao-Bin Li, Nenghui Zhang

Diverse mechanical properties of nanoscale DNA films on solid substrates have a close correlation with complex detection signals of micro-/nano-devices. This paper devotes to formulating several multiscale models to study...

Collective motion of active Brownian particles with polar alignment

*Soft Matter*, 2018, Advance Article

DOI: 10.1039/C8SM00020D, Paper

Aitor Martin-Gomez, Demian Levis, Albert Diaz-Guilera, Ignacio Pagonabarraga

The competition between self-propulsion, alignment and excluded volume gives rise to richer non-equilibrium structures than the Vicsek and the ABP models.

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Monte Carlo simulations of weak polyelectrolyte microgels: pH-dependence of conformation and ionization
**A Monte Carlo study of the pH-dependent ionization and swelling behavior of weak polyelectrolyte microgels.**

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**First-order Wedge Wetting Revisited**

We consider a fluid adsorbed in a wedge made from walls that exhibit a first-order wetting transition and revisit the argument as to why and how the pre-filling and pre-wetting...

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**Pronounced effects of the densities of threaded rings on the strain-dependent Poisson's ratio of polyrotaxane gels with movable cross-links**

The density of threaded ring molecules in polyrotaxane (PR) chains influences pronouncedly the equilibrium Poisson's ratio of PR gels where the cross-linked ring molecules are slidable along the network strands.

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Dewetting of Polymer Thin Films on Modified Curved Surfaces: Preparation of Polymer Nanoparticles with Asymmetric Shapes by Anodic Aluminum Oxide Templates

**Soft Matter**, 2018, Accepted Manuscript

**DOI**: 10.1039/C8SM00318A, Communication

Chih-Ting Liu, Chia-Chan Tsai, Chien-Wei Chu, Mu-Huan Chi, Pei-Yun Chung, Jiun-Tai Chen

We study the dewetting behaviors of poly(methyl methacrylate) (PMMA) thin films coated in the cylindrical nanopores of anodic aluminum oxide (AAO) templates by thermal annealing. Self-assembled monolayers (SAM) of n-octadecyltrichlorosilane...

Confined Co-Assembly of AB/BC Diblock Copolymer Blends under 3D Soft Confinement

**Soft Matter**, 2018, Accepted Manuscript

**DOI**: 10.1039/C8SM00486B, Paper

Nan Yan, Xuejie Liu, Yan Zhang, Nan Sun, Wei Jiang, Yutian Zhu

Compared to synthesizing new block copolymer, blending of two types of block copolymers or a block copolymer and a homopolymer is a simple yet effective approach to create new self-assembled...

Cation-induced folding of alginate-bearing bilayer gels: an unusual example of spontaneous folding along the long axis

**Soft Matter**, 2018, Advance Article

**DOI**: 10.1039/C8SM00321A, Paper

Jasmin C. Athas, Catherine P. Nguyen, Shailaa Kummar, Srinivasa R. Raghavan

A class of gels are shown to fold when Ca\(^{2+}\) is added; surprisingly, the gel sheets fold along their long side.

Bimodal probability density characterizes the elastic behavior of a semiflexible polymer in 2D under compression
We explore the elastic behavior of a wormlike chain under compression in terms of exact solutions for the associated probability densities.

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**Melatonin-Directed Micellization: A Case for Tryptophan Metabolites and their Classical Bioisosteres as Templates for the Self-Assembly of Bipyridinium-Based Supramolecular Amphiphiles in Water**

*Soft Matter*, 2018, Accepted Manuscript

DOI: 10.1039/C8SM00136G, Paper

Zhenzhen Wang, Hui Cui, Zhimin Sun, Loic M Roch, Amanda N Goldner, Hany F Nour, Andrew C.-H. Sue, Kim Baldridge, Mark Anthony Olson

The bulk solution properties of amphiphilic formulations are derivative of their self-assembly into higher ordered supramolecular assemblies known as micelles and of their ordering at the air-water interface. Exerting control...

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**Hydrogen bonding and thermoplastic elastomers - a nice couple with temperature-adjustable mechanical properties**

*Soft Matter*, 2018, Advance Article

DOI: 10.1039/C8SM00296G, Paper

Open Access
Elisabeth Wittenberg, Andreas Meyer, Steffen Eggers, Volker Abetz

Hydrogen bonded supramolecular styrene-butadiene copolymers are investigated regarding their structure-property relationships using DSC, DMA, FTIR and SAXS.

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**The dynamics of rising oil-coated bubbles: experiments and simulations**

Air bubbles rising through water are routinely used for the separation of particulates via froth flotation, a key step in many industrial processes. Oil-coated bubbles, studied for advanced separations, display rather different dynamics.

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**Prediction of striped cylindrical micelles (SCMs) formed by dodecyl-[small beta]-D-maltoside (DDM) surfactants**

Using atomistic and coarse-grained molecular dynamics simulation, formation of a striped cylindrical
micelle is reported for dodecyl-[small beta]-d-maltoside surfactants.
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**Dynamics of a network fluid within the liquid-gas coexistence region**

![Graphs showing network fluid dynamics](image)

*Soft Matter*, 2018, Advance Article
DOI: 10.1039/C7SM01996C, Paper
The relaxation of low-density networks at low temperature is super-universal within and outside the phase coexistence region.
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**Magnetophoretic induced convective capture of highly diffusive superparamagnetic nanoparticles**

![Diagram illustrating magnetic capture](image)

*Soft Matter*, 2018, Advance Article
DOI: 10.1039/C7SM02324C, Paper
M. Fratzl, S. Delshadi, T. Devillers, F. Bruckert, O. Cugat, N. M. Dempsey, G. Blaire
Micro-magnets producing magnetic field gradients as high as $10^6$ T m$^{-1}$ have been used to efficiently trap nanoparticles with a magnetic core of just 12 nm in diameter. The presented effect is based on the often-neglected particle-fluid two-way coupling leading to magnetophoretic convection.
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**Formation of complexes in aqueous solutions of amphiphilic triblock polyelectrolytes of different topologies and an oppositely charged protein**

*Aristeidis Papagiannopoulos, Maria Karayianni, Stergios Pispas, Aurel Radulescu*

Soft Matter, 2018, Advance Article
DOI: 10.1039/C8SM00208H, Paper

The complexation of lysozyme with aggregates of two triblock amphiphilic polyelectrolytes of different molecular topologies is investigated by scattering techniques.

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**Adsorption dynamics of tannin on deacetylated electrospun Konjac glucomannan fabric**

*Sato Ryosuke, Gaku Yamaguchi, Daisuke Nagai, Yasuyuki Maki, Kazuto Yoshiba, Takao Yamamoto, Benjamin Chu, Toshiaki Dobashi*

Soft Matter, 2018, Advance Article
DOI: 10.1039/C8SM00123E, Paper

We demonstrate the adsorption dynamics of Konjac glucomannan electrospun nanofabrics consisting of an initial diffusion-limited stage and a late stoichiometric relaxation stage and show how to design efficient adsorption using the crossover time.

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**A symmetrical method to obtain shear moduli from microrheology**

*Soft Matter*, 2018, Accepted Manuscript
DOI: 10.1039/C7SM02499A, Paper
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Kengo Nishi, Maria L. Kilfoil, Christoph F Schmidt, Fred MacKintosh
Passive microrheology typically deduces shear elastic loss and storage moduli from displacement time series or mean-squared displacement (MSD) of thermally fluctuating probe particles in equilibrium materials. Common data analysis methods...

Towards the colloidal Laves phase from binary hard-sphere mixtures via sedimentation

Soft Matter, 2018, Advance Article
DOI: 10.1039/C8SM00237A, Paper
Tonnishtha Dasgupta, Marjolein Dijkstra
Self-assembly route for the photonic colloidal Laves phase via templated sedimentation.
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