**Nano-confinement of block copolymers in high accuracy topographical guiding patterns: Modelling the emergence of defectivity due to incommensurability**

*Soft Matter*, 2018, Accepted Manuscript

**DOI:** 10.1039/C8SM01045E, Paper

Steven Gottlieb, Dimitrios Kazazis, Iacopo Mochi, Laura Evangelio, Marta Fernandez-Regulez, Yasin Ekinci, Francesc Perez-Murano

Extreme ultraviolet interference lithography (EUV-IL) is used to manufacture topographical guiding patterns to direct the self-assembly of block copolymers. High-accuracy silicon oxide-like patterns with trenches ranging from 68 nm to...

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**Multiple particle tracking microrheology measured using bi-disperse probe diameters**

*Soft Matter*, 2018, Advance Article

**DOI:** 10.1039/C8SM01098F, Paper

Matthew D. Wehrman, Seth Lindberg, Kelly M. Schultz

Multiple particle tracking microrheology using probe particles with different diameters to simultaneous characterize material properties at multiple length scales.

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**Different bending models predict different dynamics of sedimenting elastic trumbbells**

*Soft Matter*, 2018, Advance Article

**DOI:** 10.1039/C8SM00604K, Paper

Marek Bukowicki, Maria L. Ekiel-Jezewska

For elastic filaments made of beads different bending potentials $U_b$ may result in significantly different bending forces.

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**Influence of surfactants of different nature and chain length on the morphology, thermal stability and sheet resistance of graphene**

*Soft Matter*, 2018, Advance Article

**DOI:** 10.1039/C8SM01017J, Paper

Ana M. Diez-Pascual, Cristina Valles, Rocío Mateos, Soledad Vera-Lopez, Ian A. Kinloch, María Paz San Andrés

The morphology, microstructure, thermal stability and electrical resistivity of graphene dispersions in different surfactants (anionic, cationic and non-ionic) are examined.

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Thermomechanical properties of monodomain nematic main-chain liquid crystal elastomers

*Soft Matter,* 2018, Advance Article
DOI: 10.1039/C8SM01178H, Paper
Daniel R. Merkel, Nicholas A. Traugutt, Rayshan Visvanathan, Christopher M. Yakacki, Carl P. Frick
Actuation temperature was controlled without influencing total actuation performance in liquid crystal elastomers fabricated by a two-stage reaction scheme.
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Phase transitions in polymorphic materials probed by space-resolved diffusing wave spectroscopy

*Soft Matter,* 2018, Accepted Manuscript
DOI: 10.1039/C8SM00911B, Paper
Med Yassine Nagazi, Philippe Dieudonne-George, Giovanni Brambilla, Gerard Meunier, Luca Cipelletti
We use space-resolved dynamic light scattering in the highly multiple scattering regime (Photon Correlation Imaging Diffusing Wave Spectroscopy, PCI-DWS) to investigate temperature-induced phase transitions in polymorphic materials. We study paraffin...
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Automated crystal characterization with a fast Neighborhood Graph Analysis method

*Soft Matter,* 2018, Accepted Manuscript
DOI: 10.1039/C8SM00960K, Paper
Wesley F Reinhart, Athanasios Panagiotopoulos
We present a significantly improved, very fast implementation of the Neighborhood Graph Analysis technique for template-free characterization of crystal structures [W.F. Reinhart et al., Soft Matter, 2017, 13, 4733]. By...
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Correction: Predicting oligomer/polymer compatibility and the impact on nanoscale segregation in thin films

*Soft Matter,* 2018, Advance Article
DOI: 10.1039/C8SM90116C, Correction

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Elise F. D. Sabattie, Jos Tasche, Mark R. Wilson, Maximilian W. A. Skoda, Arwel Hughes, Torsten Lindner, Richard L. Thompson
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Characterisation of protein aggregation with the Smoluchowski coagulation approach for use in biopharmaceuticals
Mitja Zidar, Drago Kuzman, Miha Ravnik
Aggregation mechanisms from nano-scale to visible particles are shown, as relevant for long-term storage of biopharmaceuticals.
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A rigorous macroscopic continuity constraint with chain ends and hairpins as sources is devised and corroborated by simulations.
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Drying mediated orientation and assembly structure of amphiphilic Janus particles

*Soft Matter*, 2018, Advance Article
DOI: 10.1039/C8SM01147H, Communication
Kyle Miller, Ayuna Tsyrenova, Stephen M. Anthony, Shiyi Qin, Xin Yong, Shan Jiang
Amphiphilic Janus particles dried on a hydrophilic substrate, forming a coating of fractal clusters with the hydrophobic side facing air.
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Hydrogen-bonding-directed helical nanofibers in a polythiophene-based all-conjugated diblock copolymer

*Soft Matter*, 2018, Advance Article
DOI: 10.1039/C8SM01130C, Paper
Huina Cui, Xiaosong Chen, Yue Wang, Dacheng Wei, Feng Qiu, Juan Peng
Helical nanofibers with a large aspect ratio were crafted from an achiral all-conjugated diblock copolymer, P3HT-b-P3HHT, in an aged pyridine solution. Such helical nanofibers exhibit superior mechanical properties and charge transport properties.
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Impact of "half-crown/two carbonyl"-Ca2+ metal ion interactions of a low molecular weight gelator (LMWG) on its fiber to nanosphere morphology transformation with a gel-to-sol phase transition

*Soft Matter*, 2018, Advance Article
DOI: 10.1039/C8SM01071D, Paper
Arunava Maity, Ananta Dey, Mrinal Kanti Si, Bishwajit Ganguly, Amitava Das
We report here a smart functional low molecular weight gelator (LMWG) L, containing an unusual metal ion coordination site, *i.e.* "half-crown/two carbonyl".
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The contact mechanics challenge: tribology meets soft matter

*Soft Matter*, 2018, Advance Article
DOI: 10.1039/C8SM00823J, Perspective
Robert W. Style, Brandon A. Krick, Katharine E. Jensen, W. Gregory Sawyer
In the fall of 2015, Martin Muser suggested a Contact Mechanics Challenge for the Tribology community.
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We review the results of the Contact Mechanics Challenge, and discuss how it highlights exciting opportunities for the Soft Matter community in Tribology, Surface Science, and Contact Mechanics. To cite this article before page numbers are assigned, use the DOI form of citation above.
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Adhesion and friction between glass and rubber in the dry state and in water: role of contact hydrophobicity

*Soft Matter*, 2018, 14, 5428–5441
DOI: 10.1039/C8SM00847G, Paper
S. Kawasaki, T. Tada, B. N. J. Persson
We study the contact mechanics between 3 different tire tread compounds and a smooth glass surface in water.
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Carbon quantum dot-based fluorescent vesicles and chiral hydrogels with biosurfactant and biocompatible small molecule

*Soft Matter*, 2018, Advance Article
DOI: 10.1039/C8SM01155A, Paper
Xiaofeng Sun, Guihua Li, Yanji Yin, Yiqiang Zhang, Hongguang Li
We have shown that CQDs can be good building blocks for the facile construction of fluorescent vesicles and chiral hydrogels. The hydrogel-coated silica gel plates possess good semiquantitative analytical capability for the detection of Cu$^{2+}$ in aqueous solutions.
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Granular chain escape from a pore in a wall in the presence of particles on one side: a comparison to polymer translocation

*Soft Matter*, 2018, 14, 5420–5427
DOI: 10.1039/C8SM00790J, Paper
Fereshteh Samadi Taheri, Hossein Fazli, Masao Doi, Mehdi Habibi
Macro-scale experiment and nano-scale simulation of a chain/polymer show the same escape behavior through the pore in the wall in the presence of particles.
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Self-assembly and soluble aggregate behavior of computationally designed coiled-coil peptide bundles
Soft Matter, 2018, 14, 5488-5496
DOI: 10.1039/C8SM00435H, Paper
Michael J. Haider, Huixi Violet Zhang, Nairiti Sinha, Jeffrey A. Fagan, Kristi L. Kiick, Jeffery G. Saven, Darrin J. Pochan
SANS was used to model the shape, size, and interactions of soluble, coiled-coil, peptide bundles.
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