

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 19(26) 4811-5030 (2023)



Cover

See Yair Augusto Gutiérrez Fosado, pp. 4820–4828. Image reproduced by permission of Yair Augusto Gutiérrez Fosado from *Soft Matter*, 2023, 19, 4820.



Inside cover

See Maria L. Ekiel-Jezewska *et al.*, pp. 4829–4846. Image reproduced by permission of H. J. Shashank, Y. Melikhov and M. L. Ekiel-Jezewska from *Soft Matter*, 2023, 19, 4829.

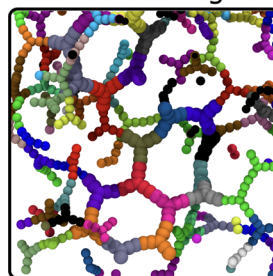
PAPERS

4820

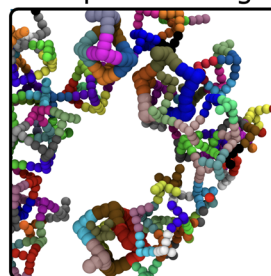
Nanostars planarity modulates the rheology of DNA hydrogels

Yair Augusto Gutiérrez Fosado

Planar design



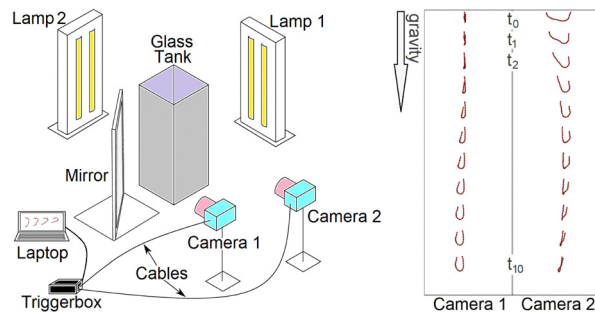
Non-planar design



4829

Dynamics of ball chains and highly elastic fibres settling under gravity in a viscous fluid

H. J. Shashank, Yevgen Melikhov and Maria L. Ekiel-Jezewska*



Editorial Staff

Executive Editor

Maria Southall

Deputy Editor

Laura Ghandhi

Editorial Production Manager

Emily Skinner

Assistant Editors

Sean Browner, Molly Colgate, Paul Scott, Alison Winder

Editorial Assistant

Basita Javeed

Publishing Assistant

Allison Holloway

Publisher

Sam Keltie

For queries about submitted papers, please contact Emily Skinner Editorial Production Manager in the first instance. E-mail: softmatter@rsc.org

For pre-submission queries please contact Maria Southall, Executive Editor. E-mail: softmatter-rsc@rsc.org

Soft Matter (electronic: ISSN 1744-6848)

is published 48 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF.

All orders, with cheques made payable to the Royal Society of Chemistry, should be sent to the Royal Society of Chemistry Order Department, Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, CB4 0WF, UK

Tel +44 (0)1223 432398; E-mail: orders@rsc.org

2023 Annual (electronic) subscription price: £1641; \$2891.

Customers in Canada will be subject to a surcharge to cover GST. Customers in the EU subscribing to the electronic version only will be charged VAT.

If you take an institutional subscription to any Royal Society of Chemistry journal you are entitled to free, site-wide web access to that journal. You can arrange access via Internet Protocol (IP) address at www.rsc.org/ip

Customers should make payments by cheque in sterling payable on a UK clearing bank or in US dollars payable on a US clearing bank.

Whilst this material has been produced with all due care, the Royal Society of Chemistry cannot be held responsible or liable for its accuracy and completeness, nor for any consequences arising from any errors or the use of the information contained in this publication. The publication of advertisements does not constitute any endorsement by the Royal Society of Chemistry or Authors of any products advertised. The views and opinions advanced by contributors do not necessarily reflect those of the Royal Society of Chemistry which shall not be liable for any resulting loss or damage arising as a result of reliance upon this material. The Royal Society of Chemistry is a charity, registered in England and Wales, Number 207890, and a company incorporated in England by Royal Charter (Registered No. RC000524), registered office: Burlington House, Piccadilly, London W1J 0BA, UK, Telephone: +44 (0) 207 4378 6556.

Advertisement sales:

Tel +44 (0) 1223 432246; Fax +44 (0) 1223 426017;

E-mail: advertising@rsc.org

For marketing opportunities relating to this journal, contact marketing@rsc.org

Soft Matter

rsc.li/soft-matter-journal

An interdisciplinary journal focusing on innovative soft matter topics through original research and reviews.

Editorial Board

Editor-in-Chief

Alfred Crosby, University of Massachusetts Amherst, USA

Associate Editors

Roberto Cerbino, University of Vienna, Austria
Ewa Górecka, Warsaw University, Poland

Sanat Kumar, Columbia University, USA

Guruswamy Kumaraswamy, Indian Institute of Technology Bombay, India

Zhihong Nie, Fudan University, China

Amy Shen, Okinawa Institute of Science and Technology, Japan

Lixin Wu, Jilin University, China

Emanuela Zaccarelli, Sapienza University of Rome, Italy

Xuehua Zhang, University of Alberta, Canada

Editorial Board members

Lorna Dougan, University of Leeds, UK

Advisory Board

Dave Adams, University of Glasgow, UK

Shaun Ahn, Dow, USA

Tommy Angelini, University of Florida, USA

Markus Antonietti, Max Planck Institute of Colloids and Interfaces, Germany

Omar Azzaroni, UNLP, Argentina

Piero Baglioni, University of Florence, Italy

Anna Balazs, University of Pittsburgh, USA

Arindam Banerjee, Indian Association for the Cultivation of Science, India

Madivala Basavaraj, Indian Institute of Technology Madras, India

Patricia Bassereau, Physico Chimie Curie Lab, France

Jasna Bruijic, New York University, USA

Jacinta Conrad, University of Houston, USA

Vincent Craig, Australian National University, Australia

Emanuela Del Gado, Georgetown University, USA

Jan Dhont, Forschungszentrum Jülich, Germany

Carmen Domene, University of Bath, UK

Zahra Fakhraei, University of Pennsylvania, USA

Glenn Fredrickson, University of California at Santa Barbara, USA

Valeria Garbin, TU Delft, The Netherlands

Jian Ping Gong, Hokkaido University, Japan

Ian Hamley, University of Reading, UK

Jianbin Huang, Peking University, China

Lucio Isa, ETH Zurich, Switzerland

Paul Janmey, University of Pennsylvania, USA

Gijze Koenderink, AMOLF, Netherlands

Daniela Kraft, Leiden University, Netherlands

Eugenia Kumacheva, University of Toronto, Canada

Oleg Lavrentovich, Kent State University, USA

Junbai Li, Institute of Chemistry, Chinese Academy of Sciences, China

Christos Likos, University of Vienna, Austria

Dongsheng Liu, Tsinghua University, China

Tom McLeish, University of York, UK

Bradley Olsen, Massachusetts Institute of Technology, USA

Rossana Pasquino, The University of Naples

Federico Il, Italy

Susan Perkin, University of Oxford, UK

Sarah Perry, University of Massachusetts Amherst, USA

Darrin Pochan, University of Delaware, USA

David Quéré, ESPCI, France

Sriram Ramaswamy, Indian Institute of Science, India

Meital Reches, The Hebrew University of Jerusalem, Israel

Alejandro Rey, McGill University, Canada

Connie Roth, Emory University, USA

Michael Rubinstein, Duke University, USA

Sam Safran, Weizmann Institute of Science, Israel

Takamasa Sakai, The University of Tokyo, Japan

Peter Schurtenburger, Lund University, Sweden

Kathleen Stebe, University of Pennsylvania, USA

Joakim Stenhammar, Lund University, Sweden

Howard Stone, Princeton University, USA

Hajime Tanaka, University of Tokyo, Japan

Evelyn Van Ruymbeke, Université Catholique de Louvain, Belgium

Jan Vermant, ETH Zurich, Switzerland

Petia Vlahovska, Northwestern University, USA

Dimitris Vlassopoulos, University of Crete, Greece

Yilin Wang, Institute of Chemistry, Chinese Academy of Sciences, China

Catherine Whitby, Massey University of New Zealand, New Zealand

Tim White, University of Colorado, USA

Duyang Zang, Northwestern Polytechnical University, China

Information for Authors

Full details on how to submit material for publication in

Soft Matter are given in the Instructions for Authors (available from <http://www.rsc.org/authors>). Submissions should be made via the journal's homepage: rsc.li/soft-matter-journal. Submissions: The journal welcomes

submissions of manuscripts for publication as Full Papers, Communications, Reviews, Perspectives, Tutorial Reviews. Full Papers and Communications should describe original work of high quality and impact.

Additional details are available from the Editorial Office or

<http://www.rsc.org/authors>

Authors may reproduce/republish portions of their published contribution without seeking permission from the Royal Society of Chemistry, provided that any such republication is accompanied by an acknowledgement in the form: (Original Citation)–Reproduced by permission of the Royal Society of Chemistry.

This journal is © The Royal Society of Chemistry 2023.

Apart from fair dealing for the purposes of research or private study for non-commercial purposes, or criticism or review, as permitted under the Copyright, Designs and Patents Act 1988 and the Copyright and Related Rights Regulation 2003, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the Publishers or in the case of reprographic reproduction in accordance with the terms of licences issued by the Copyright Licensing Agency in the UK. US copyright law is applicable to users in the USA.

Registered charity number: 207890

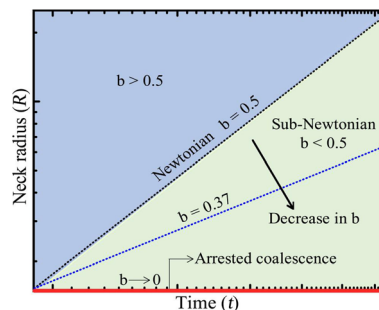


PAPERS

4847

Sub-Newtonian coalescence in polymeric fluids

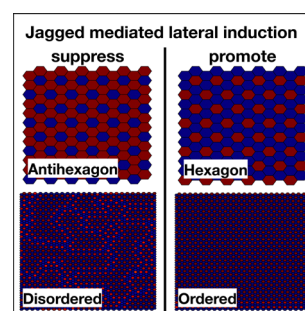
Abhineet Singh Rajput, Sarath Chandra Varma and Alope Kumar*



4859

The alternate ligand Jagged enhances the robustness of Notch signaling patterns

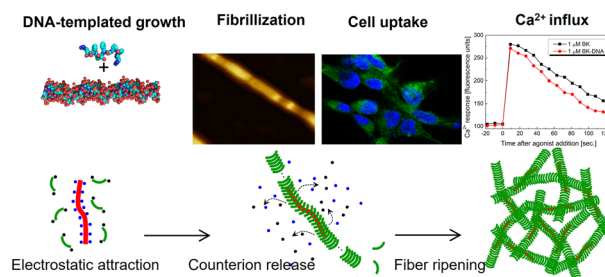
Mrinmoy Mukherjee* and Herbert Levine



4869

DNA-templated self-assembly of bradykinin into bioactive nanofibrils

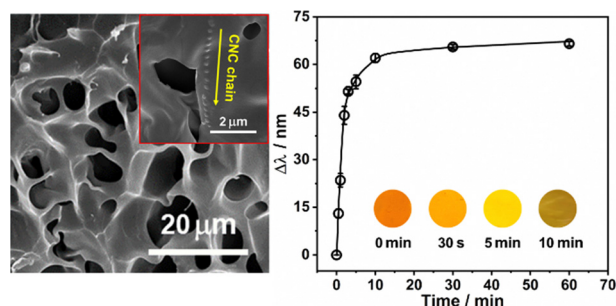
Thiago C. Lourenço, Lucas R. de Mello, Marcelo Y. Icimoto, Renata N. Bicev, Ian W. Hamley, Valeria Castelletto, Clovis R. Nakaie and Emerson R. da Silva*



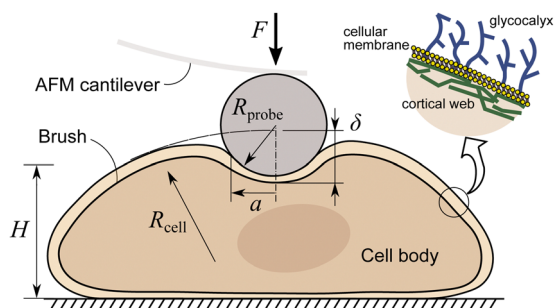
4880

A K⁺-sensitive photonic crystal hydrogel sensor for efficient visual monitoring of hyperkalemia/hypokalemia

Yan-Lin Wang, Xi Wang, Hai-Rong Yu,* Ting Liang, Xing-Bin Lv and Chang-Jing Cheng*



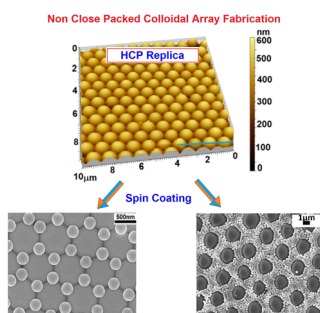
4891



AFM-based spherical indentation of a brush-coated soft material: modeling the bottom effect

Ivan Argatov, Xiaoqing Jin* and Gennady Mishuris

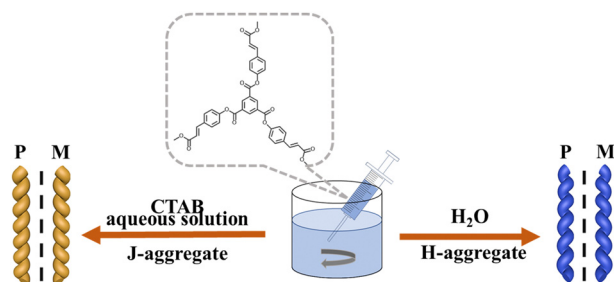
4899



Ordered non-close packed colloidal array with morphology control

Madhumita Choudhuri, Meneka Banik and Rabibrata Mukherjee*

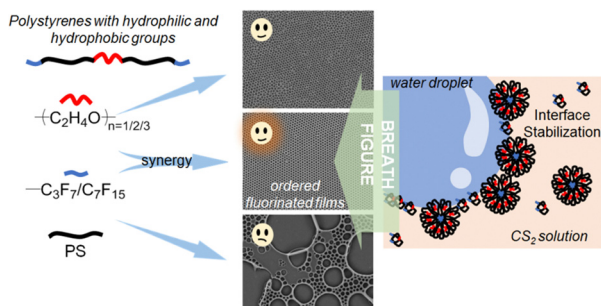
4909



Tunable molecular packing modes via H- or J-aggregates in the supramolecular helical nanostructures from an achiral C_3 symmetric molecule

Yi Lu, Zhaocun Shen, Changshuo Lian, Jie Wu,* Minghua Liu* and Zongxia Guo*

4916



Polystyrenes with both hydrophilic and hydrophobic moieties: synthesis and self-assembly behaviors

Di Zhou, Ping Fu, Tian Gao, Zhi-Kang Xu and Ling-Shu Wan*

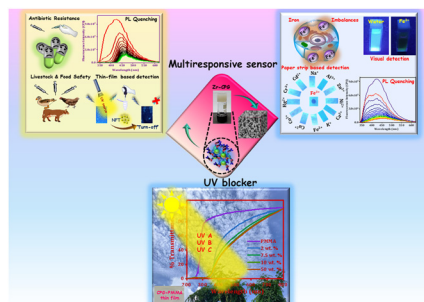


PAPERS

4926

A coordination driven 'heat-set' Zr-gel: efficient fluorophore probe for selective detection of Fe³⁺ and nitrofuran-based antibiotics and smart approach for UV protection

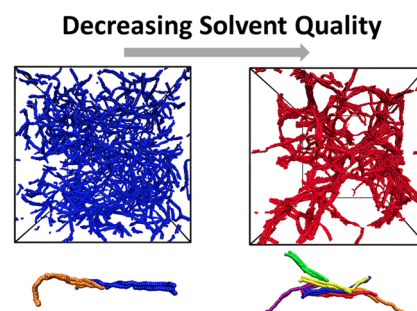
Sumit Mondal and Debajit Sarma*



4939

Effects of solvent conditions on the self-assembly of heterotrimeric collagen-like peptide (CLP) triple helices: a coarse-grained simulation study

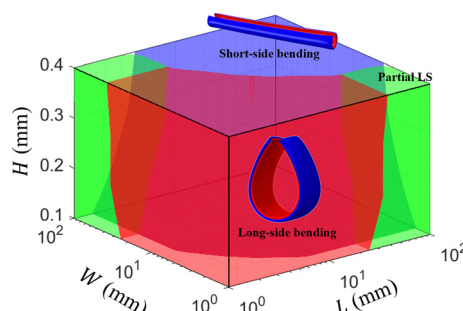
Phillip A. Taylor, Stephen Kronenberger, April M. Kloxin and Arthi Jayaraman*



4954

Size-dependent bending of a rectangular polymer film

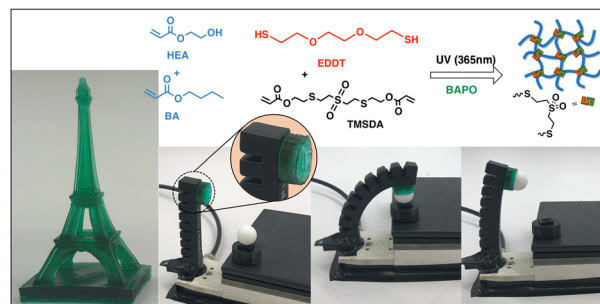
Yin Liu, Xuemei Fu, Ruochen Yang, Jun Liu, Benjamin Chee Keong Tee and Zhuangjian Liu*



4964

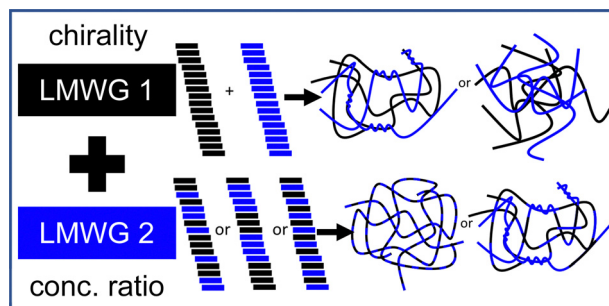
3D printable adhesive elastomers with dynamic covalent bond rearrangement

Shiwanka V. Wanasinghe, Brent Johnson, Rebekah Revadelo, Grant Eifert, Allyson Cox, Joseph Beckett, Timothy Osborn, Carl Thrasher,* Robert Lowe* and Dominik Konkolewicz*



PAPERS

4972

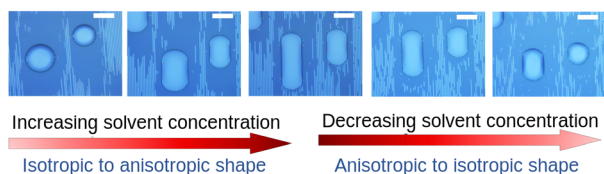


Investigating multigelator systems across multiple length scales

Libby J. Marshall, Simona Bianco, Rebecca E. Ginesi, James Douth, Emily R. Draper and Dave J. Adams*

4982

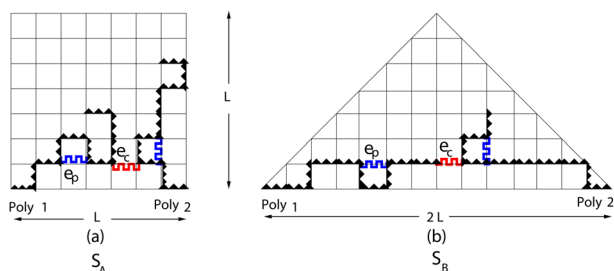
Drop shape transition due to motion of contact line in presence of solvent vapors



Contact line motion in dewetted polymer droplets on anisotropic nanopatterned surfaces

Pichkari Saikiran, D. Purnima and Nandini Bhandaru*

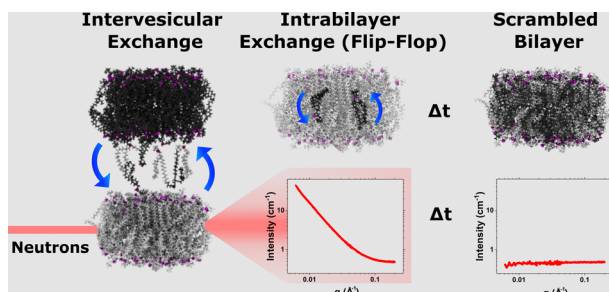
4991



Solvent effect on equilibrium organization of confined polymers

Dibyajyoti Mohanta

5001

Investigating the cut-off effect of *n*-alcohols on lipid movement: a biophysical study

Michael H.L. Nguyen, Dominik Dziura, Mitchell DiPasquale, Stuart R. Castillo, Elizabeth G. Kelley and Drew Marquardt*



5016

Geometric confinement guides topological defect pairings and emergent flow in nematic cell populations

Ryo Ienaga, Kazusa Beppu and Yusuke T. Maeda*

