

Soft Matter

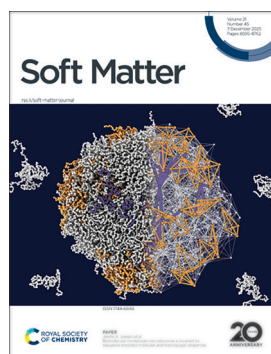
Where physics meets chemistry meets biology for fundamental soft matter research

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Cover

See Jerelle A. Joseph *et al.*, pp. 8635–8654. Image reproduced by permission of Daniel Tan, Dilimulati Aierken, Pablo Garcia and Jerelle Joseph from *Soft Matter*, 2025, 21, 8635.



Inside cover

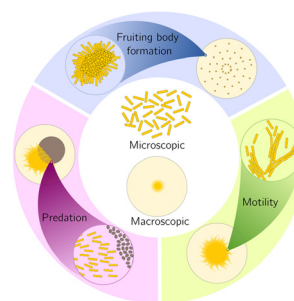
See Yang Liu *et al.*, pp. 8655–8668. Image reproduced by permission of Yang Liu from *Soft Matter*, 2025, 21, 8655.

TUTORIAL REVIEW

8602

Myxococcus xanthus for active matter studies: a tutorial for its growth and potential applications

Jesus Manuel Antúnez Domínguez,* Laura Pérez García, Natsuko Rivera-Yoshida, Jasmin Di Franco, David Steiner, Alejandro V. Arzola, Mariana Benítez, Charlotte Hamngren Blomqvist, Roberto Cerbino, Caroline Beck Adiels and Giovanni Volpe*

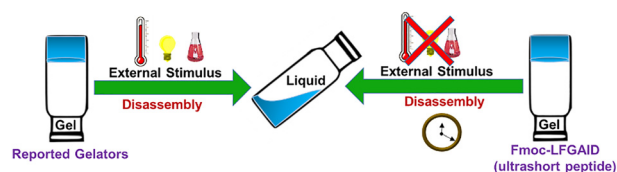


COMMUNICATIONS

8624

Self-disassembling supramolecular hydrogel from functionalized ultrashort peptides without external stimuli

Anagha C Unnikrishnan, Harini Parthiban and Ganesh Shanmugam*



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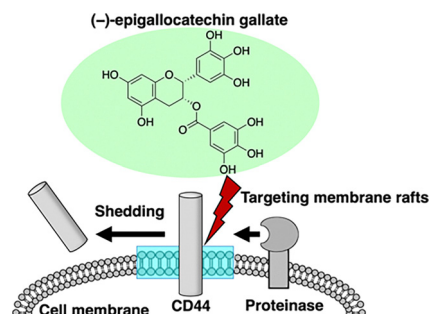


COMMUNICATIONS

8629

Green tea (–)-epigallocatechin gallate exerts CD44 shedding in tumour cells and modulates membrane domains

Toshiyuki Murai,* Mika Ishihara and Kazuma Yasuhara

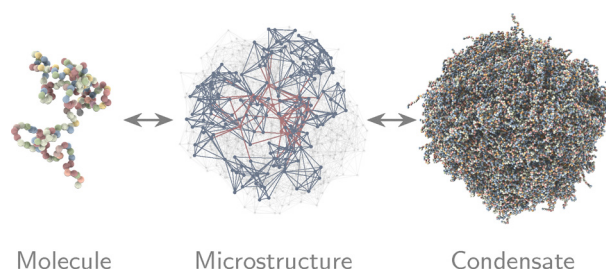


PAPERS

8635

Biomolecular condensate microstructure is invariant to sequence-encoded molecular and macroscopic properties

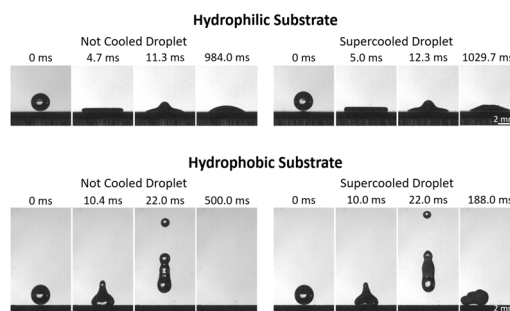
Daniel Tan, Dilimulati Aierken, Pablo L. Garcia and Jerelle A. Joseph*



8655

Revealing the dynamic and thermal behaviors of supercooled droplet impinging on surfaces with varying wettability

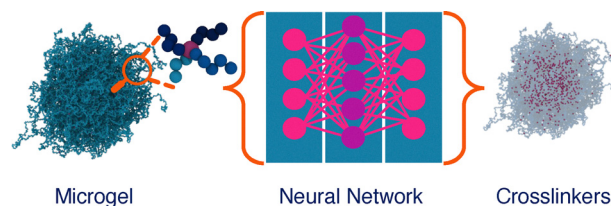
Haipeng Zhang, Jorge Ahumada Lazo, MD Sohaib Bin Sarwar and Yang Liu*



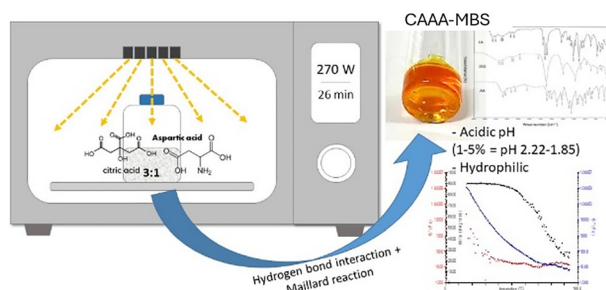
8669

Predicting the structure and swelling of microgels with different crosslinker concentrations by combining machine learning with numerical simulations

Susana Marín-Aguilar* and Emanuela Zaccarelli



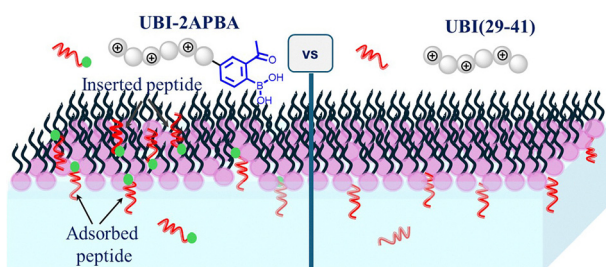
8678



Microwave-assisted synthesis of a citric acid–aspartic acid Maillard byproduct solvent: characterization, phytotoxicity assessment, and application in polysaccharide extraction

Pei-Gee Yap, Cheng Li, Olusegun Abayomi Olalere and Chee-Yuen Gan*

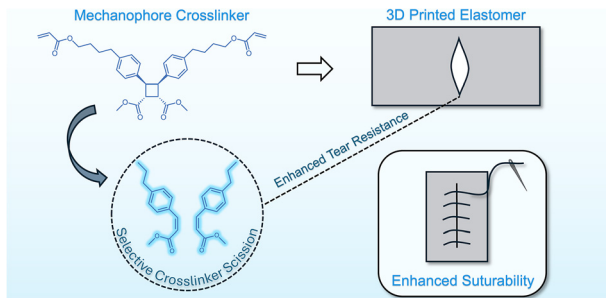
8692



Superior affinity of ubiquitin peptide united with *ortho*-borylated acetophenone to an amine-containing model bacterial membrane

Sonam Raghav, Bibekananda Pati, Nancy Jaglan, Archana Mukherjee, Veerendra K. Sharma,* Anupam Bandyopadhyay* and Sajal K. Ghosh*

8704

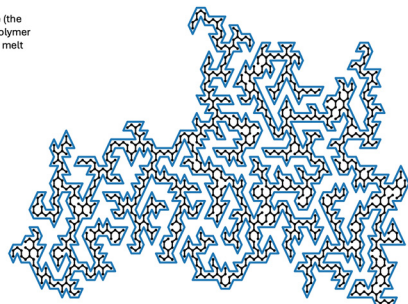


Toughening 3D printed elastomers using mechanophore crosslinkers

Ana Paula Kitos Vasconcelos, Nicholas J. Van Zee, Allison Rattay, Aileen Y. Sun, Yunxin Yao, S. Cem Millik, Claire J. Ogilvie, Ayokunle Olanrewaju, Stephen L. Craig* and Alshakim Nelson*

8711

Typical branched, or tree-like, structure (the black path) of a two-dimensional ring polymer conformation (the blue circular path) in melt conditions.



Ring polymers in two-dimensional melts double-fold around randomly branching "primitive shapes"

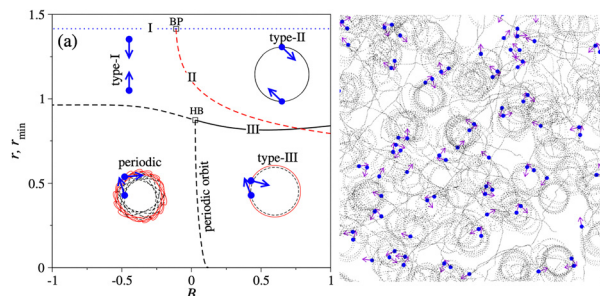
Mattia A. Ubertini and Angelo Rosa*



8724

Structural order and pair formation in a two-dimensional colony of hydrodynamically interacting pushers

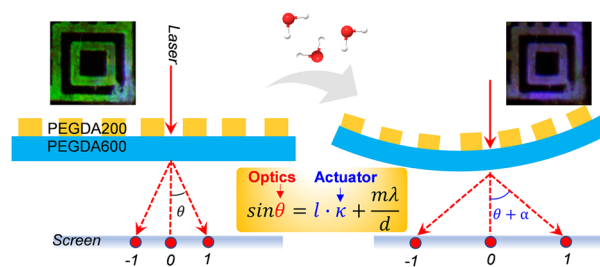
Andrey Pototsky



8733

A soft hydrogel-based bilayer grating for moisture-driven actuation and optical encoding

Chiyu Wang, Chuang Peng, Jeong Jin Kim, Zifan Ye, Manman Zhang, Xueying Zhang, Ying Liu, Xianrui Meng,* Wenkai Zhang* and Gil Ju Lee



8746

Thermocapillary instability in self-rewetting liquid films flowing down a heated soft vertical fibre

Mohammed Zubair and Rajagopal Vellingiri*

