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Soft Matter

Where physics meets chemistry meets biology for fundamental soft matter research

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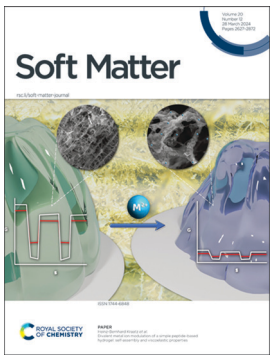
Cover
See Michael D. Bartlett, Andrew B. Croll *et al.*, pp. 2711–2719. Image reproduced by permission of Andrew B. Croll from *Soft Matter*, 2024, **20**, 2711.



Inside cover
See Heinz-Bernhard Kraatz *et al.*, pp. 2720–2729. Image reproduced by permission of Tsuimy Shao and Heinz-Bernhard Kraatz from *Soft Matter*, 2024, **20**, 2720.

REVIEWS

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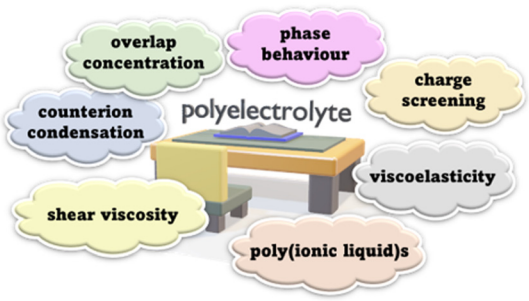
Dilute polyelectrolyte solutions: recent progress and open questions

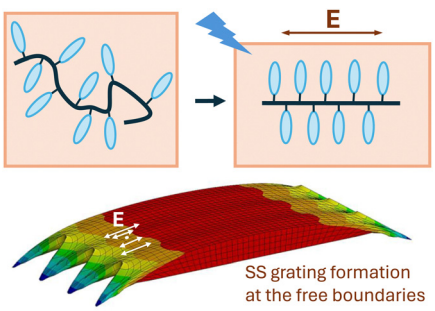
Carlos G. Lopez,* Atsushi Matsumoto* and Amy Q. Shen*



2688

Optical deformations of azobenzene polymers: orientation approach *vs.* other concepts

Marina Saphiannikova,* Vladimir Toshchevikov and Nina Tverdokhleb



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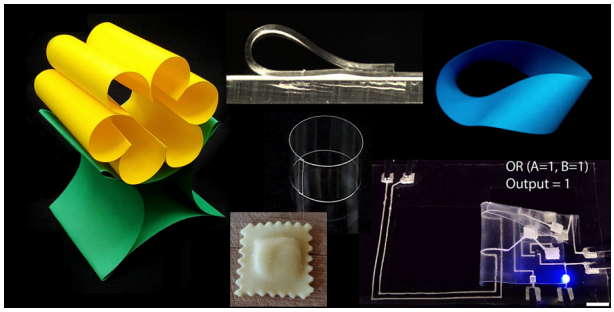
PAPERS

2711

Kuttsukigami: sticky sheet design

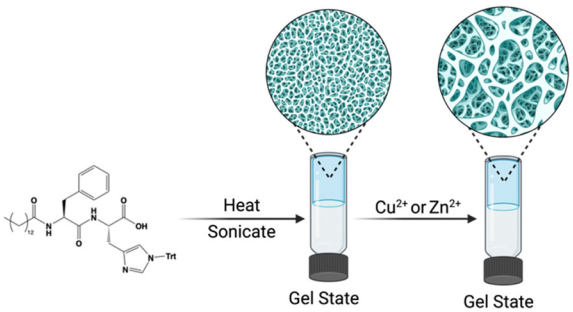
Timothy Twohig, Ravi Tutika, Wuzhou Zu, Michael D. Bartlett* and Andrew B. Croll*



2720

Divalent metal ion modulation of a simple peptide-based hydrogel: self-assembly and viscoelastic properties

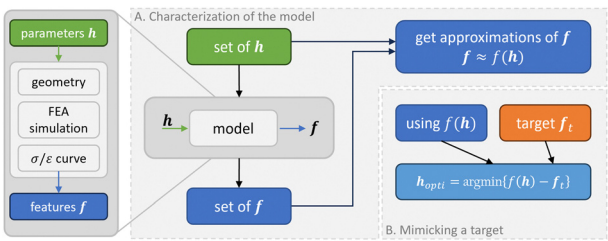
Tsuimy Shao, Meissam Noroozifar and Heinz-Bernhard Kraatz*



2730

Approximation of extracted features enabling 3D design tuning for reproducing the mechanical behaviour of biological soft tissues

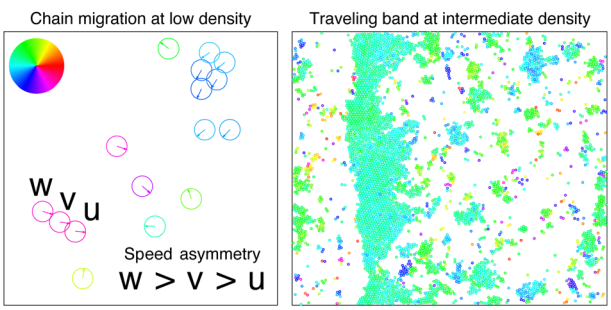
Vincent Serantoni,* Corinne Rouby, Ugo Heller and Jean Boisson



2739

Structure formation induced by non-reciprocal cell–cell interactions in a multicellular system

Biplab Bhattacherjee, Masayuki Hayakawa and Tatsuo Shibata



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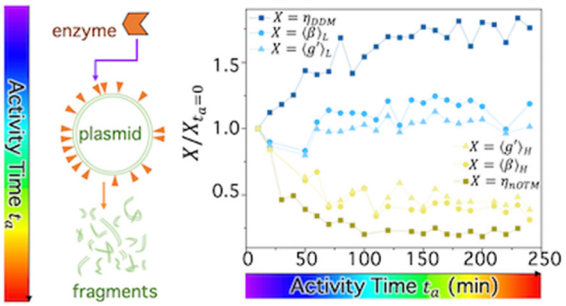
2750



Enzymatic cleaving of entangled DNA rings drives scale-dependent rheological trajectories

Philip Neill, Natalie Crist, Ryan McGorty and Rae Robertson-Anderson*

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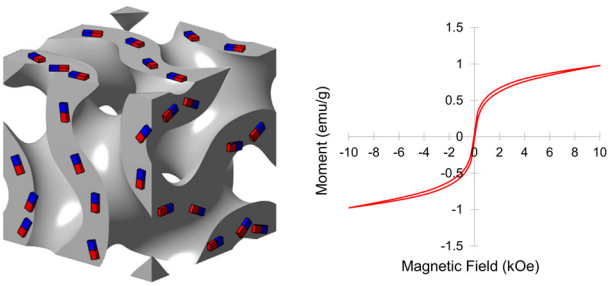

Block copolymer self-assembly derived mesoporous magnetic materials with three-dimensionally (3D) co-continuous gyroid nanostructure

Amaury Jousset Drouhin, William R. T. Tait, William Moore, Fei Yu, Yuanzhi Li, Jörg G. Werner, R. Bruce van Dover and Ulrich B. Wiesner*

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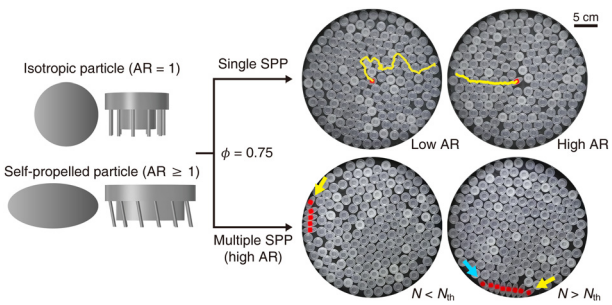

Dynamics of self-propelled particles in vibrated dense granular media

Kyungmin Son, Yunsik Choe, Euijoon Kwon, Leonardo Garibaldi Rigon, Yongjoo Baek* and Ho-Young Kim*

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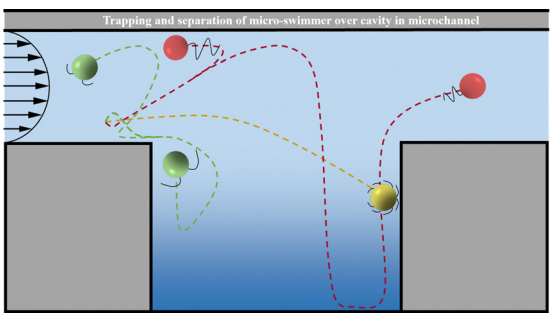

The motion of micro-swimmers over a cavity in a micro-channel

Xiao Hu, Weijin Chen, Jianzhong Lin,* Deming Nie, Zuchao Zhu and Peifeng Lin

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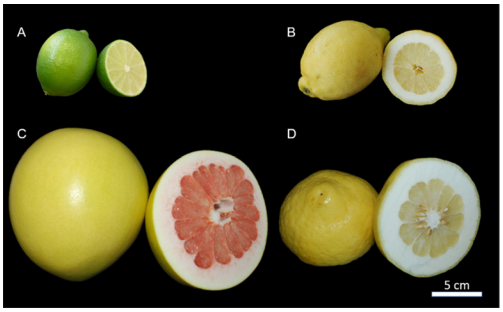
Analysis of the peel structure of different *Citrus* spp. *via* light microscopy, SEM and μCT with manual and automatic segmentation

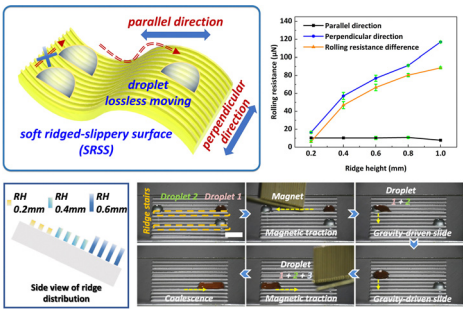
Maximilian Jentzsch,* Vanessa Albiez, Thalia C. Kardamakis and Thomas Speck*



2812

Efficient fabrication of bioinspired soft, ridged-slippery surfaces with large-range anisotropic wettability for droplet manipulation

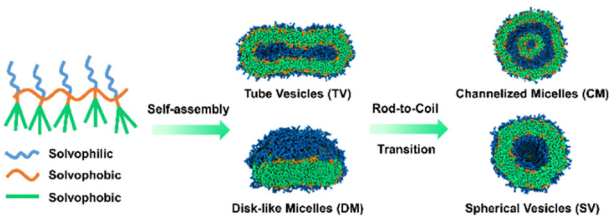
Long Jiao, Dingqiang Tan, Yanjun Hu,* Yijing Yang,* Qianqian Guo, Nan Zhou, Huaping Wu, Chen Chen, Xingang Zhao and Guohua Hu



2823

Self-assembly of amphiphilic asymmetric comb-like copolymers with responsive rigid side chains

Zhengyi Li, Weisheng Feng, Xing Zhang, Binbin Xu,* Liquan Wang and Shaoliang Lin*



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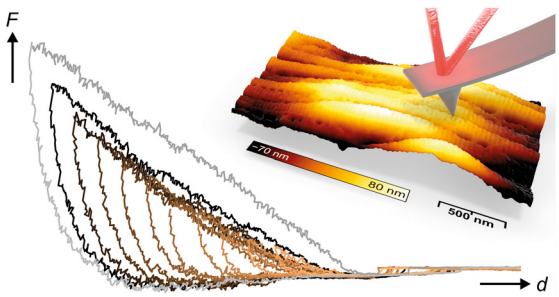
Rate-independent hysteretic energy dissipation in collagen fibrils

Robert Magerle,* Paul Zech, Martin Dehnert, Alexandra Bendixen and Andreas Otto



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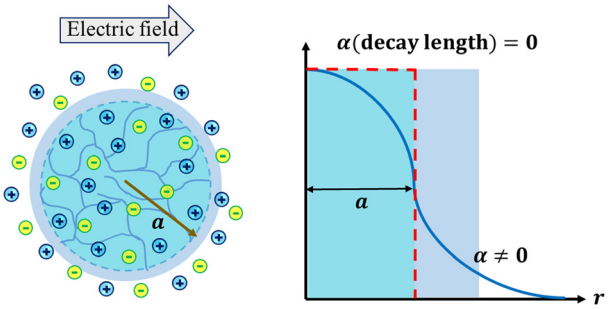

Electrohydrodynamics of diffuse porous colloids

Paramita Mahapatra, S. K. Pal, H. Ohshima and Partha P. Gopmandal*

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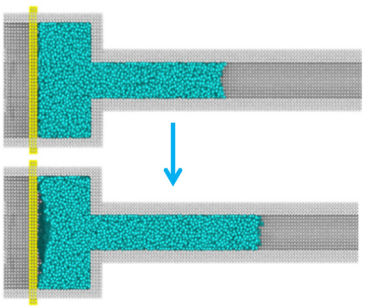

A capillary-induced negative pressure is able to initiate heterogeneous cavitation

Shan Chen, Hongguang Zhang, Zhenjiang Guo, Ignacio Pagonabarraga* and Xianren Zhang*

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