2019

Rational approach to guest confinement inside MOF cavities for low-temperature catalysis.

2018

Tuning of Structural Colors Like a Chameleon Enabled by Shape-Memory Polymers.

Bottom-Up Synthesis of Polymeric Micro- and Nanoparticles with Regular Anisotropic Shapes.

Bottom-up Formation of Carbon-Based Structures with Multilevel Hierarchy from MOF-Guest Polyhedra.

2017

Mechanisms and Control of Self-Emulsification upon Freezing and Melting of Dispersed Alkane Drops.

Fault-Tolerant Electro-Responsive Surfaces for Dynamic Micropattern Molds and Tunable Optics.

Semi-Interpenetrating Polymer Networks for Enhanced Supercapacitor Electrodes.

CMC prediction for ionic surfactants in pure water and aqueous salt solutions based solely on tabulated molecular parameters.
Karakashev SI and Smoukov SK. Journal of Colloid and Interface Science vol. 501, 142-149.

Self-Shaping of Multicomponent Drops.

A novel phenomenological model for dynamic behavior of magnetorheological elastomers in tension-compression mode.
Vatandoost H, Norouzi M, Alehashem SMS and Smoukov SK. Smart Materials and Structures vol. 26, (6).

Cartilage-like electrostatic stiffening of responsive cryogel scaffolds.
Offeddu GS, Mela I, Jeggle P, Henderson RM, Smoukov SK and Oyen ML. Scientific Reports vol. 7,

Theory of Shape-Shifting Droplets.
Haas PA, Goldstein RE, Smoukov SK, Cholakova D and Denkov N. Physical Review Letters vol. 118, (8).
Efficient self-emulsification via cooling-heating cycles.

2016

Dissolution behaviour of ferric pyrophosphate and its mixtures with soluble pyrophosphates: Potential strategy for increasing iron bioavailability.

Control of drop shape transformations in cooled emulsions.

Functional conductive nanomaterials: Via polymerisation in nano-channels: PEDOT in a MOF.

On the Mechanism of Drop Self-Shaping in Cooled Emulsions.

Electroactive polymers for sensing.

Dual-modality self-heating and antibacterial polymer-coated nanoparticles for magnetic hyperthermia.

Light-induced actuating nanotransducers.


Organic-inorganic patchy particles as a versatile platform for fluid-in-fluid dispersion stabilisation.

2015

Self-shaping of oil droplets via the formation of intermediate rotator phases upon cooling.

Ion-specific effects in foams.

Remote, fast actuation of programmable multiple shape memory composites by magnetic fields.

A 3-dimensional fibre scaffold as an investigative tool for studying the morphogenesis of isolated plant cells.

Smarter Actuator Design with Complementary and Synergetic Functions.

Revealing Invisible Photonic Inscriptions: Images from Strain.
Ding T, Cao G, SchÄffer CG, Zhao Q, Gallei M, Smoukov SK and Baumberg JJ. Acs Applied Materials and Interfaces vol. 7, (24) 13497-13502.

Wetting properties of phospholipid dispersion on tunable hydrophobic SiO2-glass plates.

Scalable liquid shear-driven fabrication of polymer nanofibers.

Fast estimation of the equilibrium adsorption constants of ionic surfactants with account for ion-specific effects.

Symmetry breaking polymerization: One-pot synthesis of plasmonic hybrid Janus nanoparticles.

Stamping colloidal photonic crystals: A facile way towards complex pixel colour patterns for sensing and displays.
Ding T, Smoukov SK and Baumberg JJ. *Nanoscale* vol. 7, (5) 1857-1863.

2014

Erratum: Electro-mechanical actuator with muscle memory (Journal of Materials Chemistry C (2014) 2 (8029-8034)).

Harnessing nonlinear rubber swelling for bulk synthesis of anisotropic hybrid nanoparticles.
Ding T, Smoukov SK and Baumberg JJ. *Journal of Materials Chemistry C* vol. 2, (41) 8745-8749.

Electro-mechanical actuator with muscle memory.

Magnetic actuation and transition shapes of a bistable spherical cap.

Pulsed actuation avoids failure in dielectric elastomer artificial muscles.

Anisotropic colloidal micromuscles from liquid crystal elastomers.

Selectively Patterning Polymer Opal Films via Microimprint Lithography.
Ding T, Zhao Q, Smoukov SK and Baumberg JJ. *Advanced Optical Materials* vol. 2, (11) 1098-1104.

2013

Stability and viscoelasticity of magneto-pickering foams.

2011

Nanoparticle-loaded aerogels and layered aerogels cast from sol-gel mixtures.

Magnetically responsive pickering foams.
Independence of primary and secondary structures in periodic precipitation patterns.

Antibacterial nanoparticle monolayers prepared on chemically inert surfaces by cooperative electrostatic adsorption (CELA).

Lift-off and micropatterning of mono- and multilayer nanoparticle films.

Synthetic popularity reflects chemical reactivity.

Electrostatically patchy coatings via cooperative adsorption of charged nanoparticles.
Smoukov SK, Bishop KJM, Kowalczyk B, Kalsin AM and Grzybowski BA. *Journal of The American Chemical Society* vol. 129, (50) 15623-15630. 2007

Bulk synthesis and surface patterning of nanoporous metals and alloys from supraspherical nanoparticle aggregates.

Wet-stamped precipitant gradients control the growth of protein microcrystals in an array of nanoliter wells.

Electrostatically patchy coatings via cooperative adsorption of charged nanoparticles.
Smoukov SK, Bishop KJM, Kowalczyk B, Kalsin AM and Grzybowski BA. *Journal of The American Chemical Society* vol. 129, (50) 15623-15630. 2006

Multilevel surface nano- and microstructuring via sequential photoswelling of dichromated gelatin.

Ionic-like behavior of oppositely charged nanoparticles.

Maskless microetching of transparent conductive oxides (ITO and ZnO) and semiconductors (GaAs) based on reaction-diffusion.
Smoukov SK and Grzybowski BA. *Chemistry of Materials* vol. 18, (20) 4722-4723. 2006

Electrostatic aggregation and formation of core-shell suprastructures in binary mixtures of charged metal nanoparticles.
Kalsin AM, Pinchuk AO, Smoukov SK, Paszewski M, Schatz GC and Grzybowski BA. *Nano Letters* vol. 6, (9) 1896-1903. 2006

Direct printing of 3D and curvilinear micrometer-sized architectures into solid substrates with sub-micrometer resolution.
Electrostatic self-assembly of binary nanoparticle crystals with a diamond-like lattice.
Kalsin AM, Fialkowski M, Paszewski M, Smoukov SK, Bishop KJM and Grzybowski BA. Science vol. 312, (5772) 420-424.

Principles and implementations of dissipative (dynamic) self-assembly.

2005

Nano- and microscopic surface wrinkles of linearly increasing heights prepared by periodic precipitation.

Self-organization of planar microlenses by periodic precipitation.

Micro- and nanotechnology via reaction-diffusion.

Measurements of flow-induced anisotropic thermal conduction in a polyisobutylene melt following step shear flow.

Cutting into solids with micropatterned gels.

Amplification of changes of a thin film's macromolecular structure into macroscopic reaction-diffusion patterns.

Reactive surface micropatterning by wet stamping.
Campbell CJ, Smoukov SK, Bishop KJM and Grzybowski BA. Langmuir vol. 21, (7) 2637-2640.

Freestanding three-dimensional copper foils prepared by electroless deposition on micropatterned gels.

Effect of substrate on the diiron(III) site in stearoyl acyl carrier protein 9-desaturase as disclosed by cryoreduction electron paramagnetic resonance/electron nuclear double resonance spectroscopy.

2004

Measurement of anisotropic transport in flowing polymers by using a holographic technique.

Erratum: Anisotropic thermal conduction in a polymer liquid subjected to shear flow (Physical Review Letters (2004) 93 (098301)).

Anisotropic thermal conduction in a polymer liquid subjected to shear flow.
Venerus DC, Schieber JD, Balasubramanian V, Bush K and Smoukov S. Physical Review Letters vol. 93, (9).

Multicolour micropatterning of thin films of dry gels.
2003

EPR and ENDOR evidence for a 1-His, hydroxo-bridged mixed-valent diiron site in Desulfovibrio vulgaris ruberythrin.

2002

Product binding to the diiron(III) and mixed-valence diiron centers of methane monooxygenase hydroxylase studied by 1,2H and 19F ENDOR spectroscopy.

Electron-nuclear double resonance spectroscopic evidence for a hydroxo-bridge nucleophile involved in catalysis by a dinuclear hydrolase.

EPR study of substrate binding to the MN(II) active site of the bacterial antibiotic resistance enzyme fosa: A better way to examine MN(II).