Shuhuai Yao

List of Publications by Year
in descending order

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90 papers	4,917 citations	126708 33 h-index	95083 68 g-index
96 all docs	96 docs citations	96 times ranked	4962 citing authors

#	Article	IF	Citations
1	Nanograssed Micropyramidal Architectures for Continuous Dropwise Condensation. Advanced Functional Materials, 2011, 21, 4617-4623.	7.8	500
2	Recurrent Filmwise and Dropwise Condensation on a Beetle Mimetic Surface. ACS Nano, 2015, 9, 71-81.	7.3	436
3	Single-Exosome-Counting Immunoassays for Cancer Diagnostics. Nano Letters, 2018, 18, 4226-4232.	4.5	292
4	Directional transport of high-temperature Janus droplets mediated by structural topography. Nature Physics, 2016, 12, 606-612.	6.5	263
5	Porous glass electroosmotic pumps: theory. Journal of Colloid and Interface Science, 2003, 268, 133-142.	5.0	197
6	Closed-loop electroosmotic microchannel cooling system for VLSI circuits. IEEE Transactions on Components and Packaging Technologies, 2002, 25, 347-355.	1.4	191
7	Evaporation of Droplets on Superhydrophobic Surfaces: Surface Roughness and Small Droplet Size Effects. Physical Review Letters, 2012, 109, 116101.	2.9	176
8	Porous glass electroosmotic pumps: design and experiments. Journal of Colloid and Interface Science, 2003, 268, 143-153.	5.0	168
9	Activating the Microscale Edge Effect in a Hierarchical Surface for Frosting Suppression and Defrosting Promotion. Scientific Reports, 2013, 3, 2515.	1.6	166
10	How nanorough is rough enough to make a surface superhydrophobic during water condensation?. Soft Matter, 2012, 8, 8786.	1.2	165
11	Factors Affecting the Spontaneous Motion of Condensate Drops on Superhydrophobic Copper Surfaces. Langmuir, 2012, 28, 6067-6075.	1.6	154
12	Slow Unfolded-State Structuring in Acyl-CoA Binding Protein Folding Revealed by Simulation and Experiment. Journal of the American Chemical Society, 2012, 134, 12565-12577.	6.6	132
13	Mechanism of Delayed Frost Growth on Superhydrophobic Surfaces with Jumping Condensates: More Than Interdrop Freezing. Langmuir, 2014, 30, 15416-15422.	1.6	132
14	Why Condensate Drops Can Spontaneously Move Away on Some Superhydrophobic Surfaces but Not on Others. ACS Applied Materials & Interfaces, 2012, 4, 6618-6625.	4.0	122
15	Tunable Water Harvesting Surfaces Consisting of Biphilic Nanoscale Topography. ACS Nano, 2018, 12, 11022-11030.	7.3	111
16	Suppressing Ice Nucleation of Supercooled Condensate with Biphilic Topography. Physical Review Letters, 2018, 120, 075902.	2.9	84
17	Electroosmotic Pumps Fabricated From Porous Silicon Membranes. Journal of Microelectromechanical Systems, 2006, 15, 717-728.	1.7	78
18	Protein Hydrophobic Collapse and Early Folding Steps Observed in a Microfluidic Mixer. Biophysical Journal, 2007, 93, 218-224.	0.2	74

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19	All-weather thermochromic windows for synchronous solar and thermal radiation regulation. Science Advances, 2022, 8, eabn7359.	4.7	70
20	Real-time monitoring of hydrophobic aggregation reveals a critical role of cooperativity in hydrophobic effect. Nature Communications, 2017, 8, 15639.	5.8	67
21	Lipid-Polymer Bilaminar Oxygen Nanobubbles for Enhanced Photodynamic Therapy of Cancer. ACS Applied Materials & Interfaces, 2018, 10, 36805-36813.	4.0	65
22	Do droplets always move following the wettability gradient?. Applied Physics Letters, 2011, 98, .	1.5	62
23	Improvements in Mixing Time and Mixing Uniformity in Devices Designed for Studies of Protein Folding Kinetics. Analytical Chemistry, 2007, 79, 5753-5759.	3.2	51
24	Solar-assisted icephobicity down to â^'60Â°C with superhydrophobic selective surfaces. Cell Reports Physical Science, 2021, 2, 100384.	2.8	43
25	Isothermal Background-Free Nucleic Acid Quantification by a One-Pot Cas13a Assay Using Droplet Microfluidics. Analytical Chemistry, 2022, 94, 5883-5892.	3.2	41
26	Controllable Formation of Monodisperse Polymer Microbubbles as Ultrasound Contrast Agents. ACS Applied Materials & Interfaces, 2018, 10, 14312-14320.	4.0	40
27	Evolution of entrapped air under bouncing droplets on viscoelastic surfaces. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2011, 384, 726-732.	2.3	38
28	Electrostatic charging and control of droplets in microfluidic devices. Lab on A Chip, 2013, 13, 962.	3.1	38
29	pH-Responsive Oxygen Nanobubbles for Spontaneous Oxygen Delivery in Hypoxic Tumors. Langmuir, 2019, 35, 10166-10172.	1.6	38
30	Solar Deicing Nanocoatings Adaptive to Overhead Power Lines. Advanced Functional Materials, 2022, 32, .	7.8	38
31	Visualizing millisecond chaotic mixing dynamics in microdroplets: A direct comparison of experiment and simulation. Biomicrofluidics, 2012, 6, 12810-1281012.	1.2	37
32	Modeling and optimization of condensation heat transfer at biphilic interface. International Journal of Heat and Mass Transfer, 2018, 122, 117-127.	2.5	37
33	Enhancing cooling performance of NiTi elastocaloric tube refrigerant via internal grooving. Applied Thermal Engineering, 2022, 213, 118657.	3.0	37
34	Crack engineering for the construction of arbitrary hierarchical architectures. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 23909-23914.	3.3	34
35	A facile microfluidic strategy for measuring interfacial tension. Applied Physics Letters, 2013, 103, .	1.5	30
36	Regulating the Membrane Transport Activity and Death of Cells via Electroosmotic Manipulation. Biophysical Journal, 2016, 110, 2769-2778.	0.2	29

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37	Droplet digital recombinase polymerase amplification (ddRPA) reaction unlocking via picoinjection. Biosensors and Bioelectronics, 2022, 202, 114019.	5.3	28
38	Investigation and improvement of reversible microfluidic devices based on glassâ€“PDMSâ€“glass sandwich configuration. Microfluidics and Nanofluidics, 2014, 16, 83-90.	1.0	27
39	Microfluidic production of nanoscale perfluorocarbon droplets as liquid contrast agents for ultrasound imaging. Lab on A Chip, 2017, 17, 3504-3513.	3.1	27
40	Multiplexed analysis of small extracellular vesicle-derived mRNAs by droplet digital PCR and machine learning improves breast cancer diagnosis. Biosensors and Bioelectronics, 2021, 194, 113615.	5.3	27
41	Ruggedness in the folding landscape of protein L. HFSP Journal, 2008, 2, 388-395.	2.5	25
42	High aspect ratio induced spontaneous generation of monodisperse picolitre droplets for digital PCR. Biomicrofluidics, 2018, 12, 014103.	1.2	25
43	A facile on-demand droplet microfluidic system for lab-on-a-chip applications. Microfluidics and Nanofluidics, 2014, 16, 667-675.	1.0	24
44	A Robust Oxygen Microbubble Radiosensitizer for Iodineâ€125 Brachytherapy. Advanced Science, 2021, 8, 2002567.	5.6	24
45	In Vitro Epithelial Organoid Generation Induced by Substrate Nanotopography. Scientific Reports, 2015, 5, 9293.	1.6	23
46	Scanning distortion correction in STEM images. Ultramicroscopy, 2018, 184, 274-283.	0.8	23
47	Transparent selective photothermal coatings for antifogging applications. Cell Reports Physical Science, 2021, 2, 100435.	2.8	23
48	An on-demand nanofluidic concentrator. Lab on A Chip, 2015, 15, 1524-1532.	3.1	22
49	Microsecond Protein Folding Events Revealed by Time-Resolved Fluorescence Resonance Energy Transfer in a Microfluidic Mixer. Analytical Chemistry, 2015, 87, 5589-5595.	3.2	22
50	ADVANCED COOLING TECHNOLOGIES FOR MICROPROCESSORS. International Journal of High Speed Electronics and Systems, 2006, 16, 301-313.	0.3	21
51	Quantitative imaging of mixing dynamics in microfluidic droplets using two-photon fluorescence lifetime imaging. Optics Letters, 2011, 36, 2236.	1.7	19
52	Development of Reaction-Based AIE Handy Pen for Visual Detection of Toxic Vapors. , 2021, 3, 249-254.		18
53	Modelling of elastocaloric regenerators with enhanced heat transfer structures. International Journal of Heat and Mass Transfer, 2021, 176, 121372.	2.5	18
54	Directional motion of evaporating droplets on gradient surfaces. Applied Physics Letters, 2012, 101, 064101.	1.5	17

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55	Microchannel plate electro-osmotic pump. Microfluidics and Nanofluidics, 2012, 13, 279-288.	1.0	17
56	Controllable formation of aromatic nanoparticles in a three-dimensional hydrodynamic flow focusing microfluidic device. RSC Advances, 2013, 3, 17762.	1.7	16
57	Silicon electroosmotic micropumps for integrated circuit thermal management. , 0, , .		15
58	Toward orientation-independent design for gas recombination in closed-loop electroosmotic pumps. Sensors and Actuators B: Chemical, 2007, 128, 334-339.	4.0	15
59	Scalable Production of Monodisperse Functional Microspheres by Multilayer Parallelization of High Aspect Ratio Microfluidic Channels. Micromachines, 2019, 10, 592.	1.4	15
60	Data-driven modeling of a forced convection system for super-real-time transient thermal performance prediction. International Communications in Heat and Mass Transfer, 2021, 126, 105387.	2.9	15
61	Energy consumption modelling of a passive hybrid system for office buildings in different climates. Energy, 2022, 239, 121914.	4.5	14
62	A SURF4-to-proteoglycan relay mechanism that mediates the sorting and secretion of a tagged variant of sonic hedgehog. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2113991119.	3.3	14
63	An electro-osmotic microfluidic system to characterize cancer cell migration under confinement. Journal of the Royal Society Interface, 2019, 16, 20190062.	1.5	13
64	An experimental study of condensation on an aluminum radiant ceiling panel surface with superhydrophobic treatment. Energy and Buildings, 2021, 252, 111393.	3.1	13
65	Coalescence-Induced Jumping Droplets on Nanostructured Biphilic Surfaces with Contact Electrification Effects. ACS Applied Materials & Interfaces, 2021, 13, 11470-11479.	4.0	12
66	A droplet-based pH regulator in microfluidics. Lab on A Chip, 2014, 14, 1917-1922.	3.1	11
67	Tunable Confinement for Bridging Singleâ€Cell Manipulation and Singleâ€Molecule DNA Linearization. Small, 2018, 14, e1800229.	5.2	11
68	Liquid-curtain-based strategy to restrain plume during flushing. Physics of Fluids, 2020, 32, 111707.	1.6	11
69	Selective Solar Harvesting Windows for Fullâ€Spectrum Utilization. Advanced Science, 2022, 9, .	5.6	10
70	The role of entrance functionalization in carbon nanotube-based nanofluidic systems: An intrinsic challenge. Physics of Fluids, 2021, 33, .	1.6	9
71	Enhancing the cooling capacity of radiant ceiling panels by latent heat transfer of superhydrophobic surfaces. Energy and Buildings, 2022, 263, 112036.	3.1	9
72	Markov State Models of Millisecond Folder ACBP Reveals New Views of the Folding Reaction. Biophysical Journal, 2011, 100, 515a.	0.2	8

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73	Publisherâ€™s Note: Evaporation of Droplets on Superhydrophobic Surfaces: Surface Roughness and Small Droplet Size Effects [Phys. Rev. Lett.109, 116101 (2012)]. Physical Review Letters, 2012, 109, .	2.9	7
74	Facile fabrication of uniform nanoscale perfluorocarbon droplets as ultrasound contrast agents. Microfluidics and Nanofluidics, 2019, 23, 1.	1.0	7
75	A Micromachined Silicon Low-Voltage Parallel-Plate Electrokinetic Pump. , 2001, , 892-895.		4
76	Evaporation of Condensate Droplets on Structured Surfaces with Gradient Roughness. Journal of Heat Transfer, 2015, 137, .	1.2	4
77	Droplet-Based Microfluidic Synthesis of Hydrogel Microparticles via Click Chemistry-Based Cross-Linking for the Controlled Release of Proteins. ACS Applied Bio Materials, 2021, 4, 6186-6194.	2.3	4
78	Microfluidic Mixers for Studying Protein Folding. Journal of Visualized Experiments, 2012, , .	0.2	3
79	Dynamic Adhesion Energy Between Surfaces Connected by Molecular Bonds and its Application to Peel Test. Cellular and Molecular Bioengineering, 2010, 3, 247-255.	1.0	2
80	Electroosmotic Pumps Fabricated From Porous Silicon Membranes. , 2004, , .		2
81	Large-Scale Dewetting via Surfactant-Laden Droplet Impact. Langmuir, 2021, 37, 13729-13736.	1.6	2
82	Biomimetic Surfaces for Enhanced Dropwise Condensation Heat Transfer: Mimic Nature and Transcend Nature. , 2016, , 185-228.		1
83	A Three-Dimensional Flow Focusing Microsecond Mixer for Dynamic Assessment of Nanoparticle Formation. IEEE Nanotechnology Magazine, 2016, 15, 828-835.	1.1	1
84	One-Step RT-PCR for Detection of Micrornas in Exosomes Using Droplet Microfluidics. , 2020, , .		1
85	ADVANCED COOLING TECHNOLOGIES FOR MICROPROCESSORS. , 2006, , .		1
86	Thermodynamic Efficiency of Porous Glass Electroosmotic Pumps. , 2003, , 383.		0
87	CONFORMATION AND CONFINEMENT ENERGY OF INTERACTING END-GRAFTED MOLECULES. International Journal of Applied Mechanics, 2012, 04, 1250008.	1.3	0
88	A three-dimensional flow focusing microsecond mixer for dynamic assessment of nanoparticle formation. , 2015, , .		0
89	Temporal Response of Porous Glass Electroosmotic Pumps. , 2002, , .		0
90	Continuous Operating Elastocaloric Device: Model and Experiments. , 2022, , .		0