Shi-Yang Tang

List of Publications by Year
in descending order

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		81743	76769
101	5,895	39	74
papers	citations	h-index	g-index

106	106	106	4796
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Liquid metal enabled microfluidics. Lab on A Chip, 2017, 17, 974-993.	3.1	354
2	Liquid metal enabled pump. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3304-3309.	3.3	299
3	Liquid metal-filled magnetorheological elastomer with positive piezoconductivity. Nature Communications, 2019, 10, 1300.	5.8	267
4	Liquid Metal Marbles. Advanced Functional Materials, 2013, 23, 144-152.	7.8	249
5	Ion-Driven Photoluminescence Modulation of Quasi-Two-Dimensional MoS₂ Nanoflakes for Applications in Biological Systems. Nano Letters, 2014, 14, 857-863.	4.5	245
6	Electrochemically induced actuation of liquid metal marbles. Nanoscale, 2013, 5, 5949.	2.8	205
7	Liquid Metal/Metal Oxide Frameworks. Advanced Functional Materials, 2014, 24, 3799-3807.	7.8	191
8	Recent progress of particle migration in viscoelastic fluids. Lab on A Chip, 2018, 18, 551-567.	3.1	186
9	Liquid Metal Actuator for Inducing Chaotic Advection. Advanced Functional Materials, 2014, 24, 5851-5858.	7.8	173
10	Printed droplet microfluidics for on demand dispensing of picoliter droplets and cells. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 8728-8733.	3.3	151
11	Liquid Metal/Metal Oxide Frameworks with Incorporated Ga₂O₃ for Photocatalysis. ACS Applied Materials & Interfaces, 2015, 7, 1943-1948.	4.0	138
12	Photochemically induced motion of liquid metal marbles. Applied Physics Letters, 2013, 103, .	1.5	133
13	Gallium Liquid Metal: The Devil's Elixir. Annual Review of Materials Research, 2021, 51, 381-408.	4.3	130
14	Microfluidic Mass Production of Stabilized and Stealthy Liquid Metal Nanoparticles. Small, 2018, 14, e1800118.	5.2	117
15	Microfluidic platforms for biomarker analysis. Lab on A Chip, 2014, 14, 1496-1514.	3.1	116
16	Liquidâ€Metal Microdroplets Formed Dynamically with Electrical Control of Size and Rate. Advanced Materials, 2016, 28, 604-609.	11.1	116
17	Phase Separation in Liquid Metal Nanoparticles. Matter, 2019, 1, 192-204.	5.0	110
18	An Integrated Liquid Cooling System Based on Galinstan Liquid Metal Droplets. ACS Applied Materials & Interfaces, 2016, 8, 2173-2180.	4.0	109

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19	A Wheeled Robot Driven by a Liquidâ€Metal Droplet. Advanced Materials, 2018, 30, e1805039.	11.1	109
20	Tunable particle separation in a hybrid dielectrophoresis (DEP)- inertial microfluidic device. Sensors and Actuators B: Chemical, 2018, 267, 14-25.	4.0	99
21	Sonication-enabled rapid production of stable liquid metal nanoparticles grafted with poly(1-octadecene-alt-maleic anhydride) in aqueous solutions. Nanoscale, 2018, 10, 19871-19878.	2.8	98
22	Gallium-Based Liquid Metal Particles for Therapeutics. Trends in Biotechnology, 2021, 39, 624-640.	4.9	85
23	Onâ€Chip Production of Sizeâ€Controllable Liquid Metal Microdroplets Using Acoustic Waves. Small, 2016, 12, 3861-3869.	5.2	84
24	A Liquid Metal Artificial Muscle. Advanced Materials, 2021, 33, e2103062.	11.1	82
25	Creation of Liquid Metal 3D Microstructures Using Dielectrophoresis. Advanced Functional Materials, 2015, 25, 4445-4452.	7.8	81
26	Hybridâ€Filler Stretchable Conductive Composites: From Fabrication to Application. Small Science, 2021, 1, 2000080.	5.8	80
27	Functional Liquid Metal Nanoparticles Produced by Liquidâ€Based Nebulization. Advanced Materials Technologies, 2019, 4, 1800420.	3.0	78
28	Focusing of sub-micrometer particles in microfluidic devices. Lab on A Chip, 2020, 20, 35-53.	3.1	77
29	Liquid Metal Composites with Anisotropic and Unconventional Piezoconductivity. Matter, 2020, 3, 824-841.	5.0	77
30	Nucleation and Growth of Polyaniline Nanofibers onto Liquid Metal Nanoparticles. Chemistry of Materials, 2020, 32, 4808-4819.	3.2	75
31	Versatile Microfluidic Platforms Enabled by Novel Magnetorheological Elastomer Microactuators. Advanced Functional Materials, 2018, 28, 1705484.	7.8	71
32	Steering liquid metal flow in microchannels using low voltages. Lab on A Chip, 2015, 15, 3905-3911.	3.1	64
33	Magneticallyâ€•and Electricallyâ€Controllable Functional Liquid Metal Droplets. Advanced Materials Technologies, 2019, 4, 1800694.	3.0	60
34	Biomedical Applications of Liquid Metal Nanoparticles: A Critical Review. Biosensors, 2020, 10, 196.	2.3	59
35	Liquid metal droplet robot. Applied Materials Today, 2020, 19, 100597.	2.3	57
36	Unconventional locomotion of liquid metal droplets driven by magnetic fields. Soft Matter, 2018, 14, 7113-7118.	1.2	54

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37	In situ SERS probing of nano-silver coated individual yeast cells. Biosensors and Bioelectronics, 2013, 49, 536-541.	5.3	52
38	Programmable Digital Liquid Metal Droplets in Reconfigurable Magnetic Fields. ACS Applied Materials & Interfaces, 2020, 12, 37670-37679.	4.0	44
39	Continuous transfer of liquid metal droplets across a fluidâ€“fluid interface within an integrated microfluidic chip. Lab on A Chip, 2015, 15, 2476-2485.	3.1	43
40	Sulfoxideâ€Containing Polymerâ€Coated Nanoparticles Demonstrate Minimal Protein Fouling and Improved Blood Circulation. Advanced Science, 2020, 7, 2000406.	5.6	43
41	Sheathless separation of microalgae from bacteria using a simple straight channel based on viscoelastic microfluidics. Lab on A Chip, 2019, 19, 2811-2821.	3.1	42
42	Liquid Metal Enabled Biodevices. Advanced Intelligent Systems, 2021, 3, 2000275.	3.3	40
43	Microfluidic Platforms for the Investigation of Intercellular Signalling Mechanisms. Small, 2014, 10, 4810-4826.	5.2	38
44	Dynamic Temperature Control System for the Optimized Production of Liquid Metal Nanoparticles. ACS Applied Nano Materials, 2020, 3, 6905-6914.	2.4	38
45	Liquid Metal Particles and Polymers: A Softâ€Soft System with Exciting Properties. Accounts of Materials Research, 2021, 2, 966-978.	5.9	34
46	Dean-flow-coupled elasto-inertial particle and cell focusing in symmetric serpentine microchannels. Microfluidics and Nanofluidics, 2019, 23, 1.	1.0	33
47	Liquid metals as soft electromechanical actuators. Materials Advances, 2022, 3, 173-185.	2.6	32
48	Exploiting machine learning for bestowing intelligence to microfluidics. Biosensors and Bioelectronics, 2021, 194, 113666.	5.3	31
49	Liquid metal-based amalgamation-assisted lithography for fabrication of complex channels with diverse structures and configurations. Lab on A Chip, 2018, 18, 785-792.	3.1	28
50	A portable, hand-powered microfluidic device for sorting of biological particles. Microfluidics and Nanofluidics, 2018, 22, 1.	1.0	28
51	High Resolution Scanning Electron Microscopy of Cells Using Dielectrophoresis. PLoS ONE, 2014, 9, e104109.	1.1	27
52	Acoustofluidic coating of particles and cells. Lab on A Chip, 2016, 16, 4366-4372.	3.1	27
53	High-Throughput, Off-Chip Microdroplet Generator Enabled by a Spinning Conical Frustum. Analytical Chemistry, 2019, 91, 3725-3732.	3.2	27
54	Liquid metal motor. IScience, 2021, 24, 101911.	1.9	27

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55	Light-controlled versatile manipulation of liquid metal droplets: a gateway to future liquid robots. Materials Horizons, 2021, 8, 3063-3071.	6.4	27
56	Asymmetric Synthesis of (+)â€(11R,12S)â€Mefloquine Hydrochloride. Chinese Journal of Chemistry, 2008, 26, 1272-1276.	2.6	26
57	Hybrid Dielectric-loaded Nanoridge Plasmonic Waveguide for Low-Loss Light Transmission at the Subwavelength Scale. Scientific Reports, 2017, 7, 40479.	1.6	26
58	Influence of semiconducting properties of nanoparticle coating on the electrochemical actuation of liquid metal marble. Applied Physics Letters, 2014, 105, .	1.5	25
59	Acoustofluidic waveguides for localized control of acoustic wavefront in microfluidics. Microfluidics and Nanofluidics, 2017, 21, 1.	1.0	25
60	Controlled Rotation and Vibration of Patterned Cell Clusters Using Dielectrophoresis. Analytical Chemistry, 2015, 87, 2389-2395.	3.2	24
61	Reversible Underwater Adhesion for Soft Robotic Feet by Leveraging Electrochemically Tunable Liquid Metal Interfaces. ACS Applied Materials & Interfaces, 2021, 13, 37904-37914.	4.0	24
62	Engineering Polymers via Understanding the Effect of Anchoring Groups for Highly Stable Liquid Metal Nanoparticles. ACS Applied Nano Materials, 2022, 5, 5959-5971.	2.4	24
63	Blood Triglyceride Monitoring With Smartphone as Electrochemical Analyzer for Cardiovascular Disease Prevention. IEEE Journal of Biomedical and Health Informatics, 2019, 23, 66-71.	3.9	22
64	A Controllable Untethered Vehicle Driven by Electrically Actuated Liquid Metal Droplets. IEEE Transactions on Industrial Informatics, 2019, 15, 2535-2543.	7.2	22
65	Liquid Metal Hybrid Composites with High-Sensitivity and Large Dynamic Range Enabled by Micro- and Macrostructure Engineering. ACS Applied Polymer Materials, 2021, 3, 5302-5315.	2.0	22
66	Modifying Dielectrophoretic Response of Nonviable Yeast Cells by Ionic Surfactant Treatment. Analytical Chemistry, 2013, 85, 6364-6371.	3.2	19
67	Superelongation of Liquid Metal. Advanced Science, 2022, 9, e2105289.	5.6	19
68	Analysing calcium signalling of cells under high shear flows using discontinuous dielectrophoresis. Scientific Reports, 2015, 5, 11973.	1.6	18
69	Modeling and Motion Control of a Liquid Metal Droplet in a Fluidic Channel. IEEE/ASME Transactions on Mechatronics, 2020, 25, 942-950.	3.7	18
70	Modular and Integrated Systems for Nanoparticle and Microparticle Synthesisâ€”A Review. Biosensors, 2020, 10, 165.	2.3	17
71	Particle-Based Porous Materials for the Rapid and Spontaneous Diffusion of Liquid Metals. ACS Applied Materials & Interfaces, 2020, 12, 11163-11170.	4.0	17
72	Amalgamationâ€Assisted Control of Profile of Liquid Metal for the Fabrication of Microfluidic Mixer and Wearable Pressure Sensor. Advanced Materials Interfaces, 2021, 8, 2100038.	1.9	17

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73	Lateral trapezoid microfluidic platform for investigating mechanotransduction of cells to spatial shear stress gradients. Sensors and Actuators B: Chemical, 2017, 251, 963-975.	4.0	16
74	Using dielectrophoresis to study the dynamic response of single budding yeast cells to Lyticase. Analytical and Bioanalytical Chemistry, 2015, 407, 3437-3448.	1.9	15
75	A Robot Boat Powered by Liquid Metal Engines. Advanced Materials Technologies, 2021, 6, .	3.0	14
76	Microfluidic flow cytometry for blood-based biomarker analysis. Analyst, The, 2022, 147, 2895-2917.	1.7	13
77	High-throughput production of uniformly sized liquid metal microdroplets using submerged electrodispersion. Applied Physics Letters, 2019, 114, 154101.	1.5	12
78	Mechanical Strain-Enabled Reconstitution of Dynamic Environment in Organ-on-a-Chip Platforms: A Review. Micromachines, 2021, 12, 765.	1.4	12
79	Modular off-chip emulsion generator enabled by a revolving needle. Lab on A Chip, 2020, 20, 4592-4599.	3.1	11
80	Highly stretchable and sensitive strain sensor based on liquid metal composite for wearable sign language communication device. Smart Materials and Structures, 2021, 30, 115005.	1.8	11
81	Automatic Morphology Control of Liquid Metal using a Combined Electrochemical and Feedback Control Approach. Micromachines, 2019, 10, 209.	1.4	10
82	Concurrent shear stress and chemical stimulation of mechano-sensitive cells by discontinuous dielectrophoresis. Biomicrofluidics, 2016, 10, 024117.	1.2	9
83	Variable stiffness wires based on magnetorheological liquid metals. International Journal of Smart and Nano Materials, 2022, 13, 232-243.	2.0	9
84	Reorientation of microfluidic channel enables versatile dielectrophoretic platforms for cell manipulations. Electrophoresis, 2013, 34, 1407-1414.	1.3	8
85	A rapid, maskless 3D prototyping for fabrication of capillary circuits: Toward urinary protein detection. Electrophoresis, 2018, 39, 957-964.	1.3	6
86	Top sheath flow-assisted secondary flow particle manipulation in microchannels with the slanted groove structure. Microfluidics and Nanofluidics, 2019, 23, 1.	1.0	6
87	Equipping New SMA Artificial Muscles With Controllable MRF Exoskeletons for Robotic Manipulators and Grippers. IEEE/ASME Transactions on Mechatronics, 2022, 27, 4585-4596.	3.7	6
88	Rotation of Liquid Metal Droplets Solely Driven by the Action of Magnetic Fields. Applied Sciences (Switzerland), 2019, 9, 1421.	1.3	5
89	Oscillation and self-propulsion of Leidenfrost droplets enclosed in cylindrical cavities. Soft Matter, 2020, 16, 8854-8860.	1.2	5
90	Modular and Self-Contained Microfluidic Analytical Platforms Enabled by Magnetorheological Elastomer Microactuators. Micromachines, 2021, 12, 604.	1.4	5

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91	Enhancement of laminar convective heat transfer using microparticle suspensions. Heat and Mass Transfer, 2017, 53, 169-176.	1.2	4
92	A hydrodynamic microchip for formation of continuous cell chains. Applied Physics Letters, 2014, 104, 203701.	1.5	3
93	Enhanced electrochemical heavy metal ion sensor using liquid metal marbles - towards on-chip application. , 2012, , .		2
94	Enhanced particle self-ordering in a double-layer channel. Biomedical Microdevices, 2018, 20, 23.	1.4	2
95	Power-Level Electrical Switch Enabled by a Liquid-Metal Bridge. ACS Applied Electronic Materials, 2022, 4, 2859-2868.	2.0	2
96	Amalgamationâ€Assisted Lithography: Amalgamationâ€Assisted Control of Profile of Liquid Metal for the Fabrication of Microfluidic Mixer and Wearable Pressure Sensor (Adv. Mater. Interfaces 10/2021). Advanced Materials Interfaces, 2021, 8, 2170058.	1.9	1
97	Simple, lowâ€cost fabrication of semiâ€circular channel using the surface tension of solder paste and its application to microfluidic valves. Electrophoresis, 2018, 39, 1460-1465.	1.3	0
98	10.1063/1.4826923.1. , 2013, , .		0
99	Discontinuous Dielectrophoresis - A Technique for Investigating the Response of Loosely Adherent Cells to High Shear Stress. , 2016, , .		0
100	Liquid Metal Motor. SSRN Electronic Journal, 0, , .	0.4	0
101	Liquid Metal Composites with Anisotropic and Unconventional Piezoconductivity. SSRN Electronic Journal, 0, , .	0.4	0