

Xuming Zhang

List of Publications by Year in descending order

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151
papers

5,498
citations

117619

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91872

69
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152
all docs

152
docs citations

152
times ranked

7034
citing authors

#	ARTICLE	IF	CITATIONS
1	Plasmonic photocatalysis. Reports on Progress in Physics, 2013, 76, 046401.	20.1	1,140
2	Switchable Magnetic Metamaterials Using Micromachining Processes. Advanced Materials, 2011, 23, 1792-1796.	21.0	228
3	A study of the static characteristics of a torsional micromirror. Sensors and Actuators A: Physical, 2001, 90, 73-81.	4.1	183
4	A Micromachined Reconfigurable Metamaterial via Reconfiguration of Asymmetric Split-Ring Resonators. Advanced Functional Materials, 2011, 21, 3589-3594.	14.9	170
5	Optofluidic waveguide as a transformation optics device for lightwave bending and manipulation. Nature Communications, 2012, 3, 651.	12.8	153
6	Microfluidic reactors for photocatalytic water purification. Lab on A Chip, 2014, 14, 1074-1082.	6.0	151
7	Hot-Electron Tunneling of Metal-Insulator-COF Nanostructures for Efficient Hydrogen Production. Angewandte Chemie - International Edition, 2019, 58, 18290-18294.	13.8	138
8	Refractive index measurement of single living cells using on-chip Fabry-Pérot cavity. Applied Physics Letters, 2006, 89, 203901.	3.3	129
9	A review of MEMS external-cavity tunable lasers. Journal of Micromechanics and Microengineering, 2007, 17, R1-R13.	2.6	121
10	Laser-induced thermal bubbles for microfluidic applications. Lab on A Chip, 2011, 11, 1389.	6.0	119
11	Recycled waste black polyurethane sponges for solar vapor generation and distillation. Applied Energy, 2017, 206, 63-69.	10.1	119
12	Optofluidic planar reactors for photocatalytic water treatment using solar energy. Biomicrofluidics, 2010, 4, 43004.	2.4	111
13	Tunable active edge sites in PtSe ₂ films towards hydrogen evolution reaction. Nano Energy, 2017, 42, 26-33.	16.0	109
14	Microfluidic photoelectrocatalytic reactors for water purification with an integrated visible-light source. Lab on A Chip, 2012, 12, 3983.	6.0	87
15	Microfluidic immobilized enzyme reactors for continuous biocatalysis. Reaction Chemistry and Engineering, 2020, 5, 9-32.	3.7	82
16	Electrochemical Surface Plasmon Resonance Fiber-Optic Sensor: <i>In Situ</i> Detection of Electroactive Biofilms. Analytical Chemistry, 2016, 88, 7609-7616.	6.5	64
17	Continuous artificial synthesis of glucose precursor using enzyme-immobilized microfluidic reactors. Nature Communications, 2019, 10, 4049.	12.8	60
18	Discrete wavelength tunable laser using microelectromechanical systems technology. Applied Physics Letters, 2004, 84, 329-331.	3.3	58

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19	Differential single living cell refractometry using grating resonant cavity with optical trap. Applied Physics Letters, 2007, 91, .	3.3	57
20	Terahertz Microfluidic Metamaterial Biosensor for Sensitive Detection of Small-Volume Liquid Samples. IEEE Transactions on Terahertz Science and Technology, 2019, 9, 209-214.	3.1	56
21	A digitally generated ultrafine optical frequency comb for spectral measurements with 0.01-pm resolution and 0.7-Å response time. Light: Science and Applications, 2015, 4, e300-e300.	16.6	51
22	Linear MEMS variable optical attenuator using reflective elliptical mirror. IEEE Photonics Technology Letters, 2005, 17, 402-404.	2.5	50
23	MEMS variable optical attenuator using low driving voltage for DWDM systems. Electronics Letters, 2002, 38, 382.	1.0	49
24	Plasmonic Au/TiO ₂ Dumbbell-on-Film Nanocavities for High-Efficiency Hot-Carrier Generation and Extraction. Advanced Functional Materials, 2018, 28, 1800383.	14.9	47
25	Optofluidic microcavities: Dye-lasers and biosensors. Biomicrofluidics, 2010, 4, 043002.	2.4	44
26	Miniature fiber optic pressure sensor with composite polymer-metal diaphragm for intradiscal pressure measurements. Journal of Biomedical Optics, 2008, 13, 044040.	2.6	43
27	High-frequency ultrasonic transducer based on lead-free BSZT piezoceramics. Ultrasonics, 2011, 51, 811-814.	3.9	43
28	Optical and mechanical models for a variable optical attenuator using a micromirror drawbridge. Journal of Micromechanics and Microengineering, 2003, 13, 400-411.	2.6	42
29	Precise Sorting of Gold Nanoparticles in a Flowing System. ACS Photonics, 2016, 3, 2497-2504.	6.6	42
30	Rough gold films as broadband absorbers for plasmonic enhancement of TiO ₂ photocurrent over 400-800 nm. Scientific Reports, 2016, 6, 33049.	3.3	42
31	Biomimetic optical directional microphone with structurally coupled diaphragms. Applied Physics Letters, 2008, 93, .	3.3	41
32	Tunable laser using micromachined grating with continuous wavelength tuning. Applied Physics Letters, 2004, 85, 3684-3686.	3.3	40
33	A novel integrated micromachined tunable laser using polysilicon 3-D mirror. IEEE Photonics Technology Letters, 2001, 13, 427-429.	2.5	38
34	Optofluidic tunable lenses using laser-induced thermal gradient. Lab on A Chip, 2016, 16, 104-111.	6.0	38
35	Microfluidic droplet grating for reconfigurable optical diffraction. Optics Letters, 2010, 35, 1890.	3.3	37
36	An optical crossconnect (OXC) using drawbridge micromirrors. Sensors and Actuators A: Physical, 2002, 97-98, 227-238.	4.1	35

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37	Continuous wavelength tuning in micromachined Littrow external-cavity lasers. IEEE Journal of Quantum Electronics, 2005, 41, 187-197.	1.9	35
38	Resonant Optical Tunneling Effect: Recent Progress in Modeling and Applications. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 9000310-9000310.	2.9	34
39	Electric-Field-Mediated Electron Tunneling of Supramolecular Naphthalimide Nanostructures for Biomimetic H ₂ Production. Angewandte Chemie - International Edition, 2021, 60, 1235-1243.	13.8	33
40	Microfluidics-Based Plasmonic Biosensing System Based on Patterned Plasmonic Nanostructure Arrays. Micromachines, 2021, 12, 826.	2.9	33
41	Miniature surface-mountable Fabry-Perot pressure sensor constructed with a 45° angled fiber. Optics Letters, 2010, 35, 1701.	3.3	32
42	A comparative study of preparation methods of nanoporous TiO ₂ films for microfluidic photocatalysis. Microelectronic Engineering, 2011, 88, 2797-2799.	2.4	32
43	Fiber-Tip Polymer Microcantilever for Fast and Highly Sensitive Hydrogen Measurement. ACS Applied Materials & Interfaces, 2020, 12, 33163-33172.	8.0	32
44	Pure angular momentum generator using a ring resonator. Optics Express, 2010, 18, 21651.	3.4	31
45	Enhanced Photocatalytic Activity of WS ₂ Film by Laser Drilling to Produce Porous WS ₂ /WO ₃ Heterostructure. Scientific Reports, 2017, 7, 3125.	3.3	31
46	Hot-Electron Tunneling of Metal-Insulator-COF Nanostructures for Efficient Hydrogen Production. Angewandte Chemie, 2019, 131, 18458-18462.	2.0	31
47	Molecular Dipole-Induced Photoredox Catalysis for Hydrogen Evolution over Self-Assembled Naphthalimide Nanoribbons. Angewandte Chemie - International Edition, 2022, 61, .	13.8	31
48	Microfluidic chip-based one-step fabrication of an artificial photosystem I for photocatalytic cofactor regeneration. RSC Advances, 2016, 6, 101974-101980.	3.6	29
49	Micromachined wavelength tunable laser with an extended feedback model. IEEE Journal of Selected Topics in Quantum Electronics, 2002, 8, 73-79.	2.9	28
50	Microfluidic reactors for visible-light photocatalytic water purification assisted with thermolysis. Biomicrofluidics, 2014, 8, 054122.	2.4	28
51	Tunable self-imaging effect using hybrid optofluidic waveguides. Lab on A Chip, 2015, 15, 4398-4403.	6.0	28
52	Review on optofluidic microreactors for artificial photosynthesis. Beilstein Journal of Nanotechnology, 2018, 9, 30-41.	2.8	28
53	Measuring the Charge of a Single Dielectric Nanoparticle Using a High-Q Optical Microresonator. Physical Review Applied, 2016, 6, .	3.8	27
54	Micromachined optical well structure for thermo-optic switching. Applied Physics Letters, 2007, 91, 261106.	3.3	26

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55	Plasmonic Black Absorbers for Enhanced Photocurrent of Visible-Light Photocatalysis. <i>Advanced Optical Materials</i> , 2017, 5, 1600399.	7.3	26
56	Phase modulation with micromachined resonant mirrors for low-coherence fiber-tip pressure sensors. <i>Optics Express</i> , 2009, 17, 23965.	3.4	25
57	Synthesis of reduced graphene oxide/ $\text{Bi}_2\text{Mo}_3\text{O}_{12}$ @ Bi_2O_3 heterojunctions by organic electrolytes assisted UV-excited method. <i>Chemical Engineering Journal</i> , 2014, 257, 309-316.	12.7	24
58	Tunable transformation optical waveguide bends in liquid. <i>Optica</i> , 2017, 4, 839.	9.3	24
59	A micromachined optical double well for thermo-optic switching via resonant tunneling effect. <i>Applied Physics Letters</i> , 2008, 92, 251101.	3.3	23
60	Dual Mach-Zehnder Interferometer Based on Side-Hole Fiber for High-Sensitivity Refractive Index Sensing. <i>IEEE Photonics Journal</i> , 2019, 11, 1-13.	2.0	23
61	Aberration-free aspherical in-plane tunable liquid lenses by regulating local curvatures. <i>Lab on A Chip</i> , 2020, 20, 995-1001.	6.0	23
62	Determination of refractive index for single living cell using integrated biochip. , 0, , .		22
63	Meta-microwindmill structure with multiple absorption peaks for the detection of ketamine and amphetamine type stimulants in terahertz domain. <i>Optical Materials Express</i> , 2014, 4, 1876.	3.0	22
64	Dielectrophoresis-actuated in-plane optofluidic lens with tunability of focal length from negative to positive. <i>Optics Express</i> , 2018, 26, 6532.	3.4	22
65	Optofluidic Tunable Lenses for In-Plane Light Manipulation. <i>Micromachines</i> , 2018, 9, 97.	2.9	22
66	Single-/multi-mode tunable lasers using MEMS mirror and grating. <i>Sensors and Actuators A: Physical</i> , 2003, 108, 49-54.	4.1	20
67	Multifunctional optical MEMS sensor platform with heterogeneous fiber optic Fabry-Pérot sensors for wireless sensor networks. <i>Sensors and Actuators A: Physical</i> , 2012, 188, 471-480.	4.1	20
68	TiO_2 nanosheet array thin film for self-cleaning coating. <i>RSC Advances</i> , 2015, 5, 9861-9864.	3.6	20
69	Optofluidic UV-Vis spectrophotometer for online monitoring of photocatalytic reactions. <i>Scientific Reports</i> , 2016, 6, 28928.	3.3	20
70	Clam-inspired nanoparticle immobilization method using adhesive tape as microchip substrate. <i>Sensors and Actuators B: Chemical</i> , 2016, 222, 106-111.	7.8	20
71	Tunable Visible Cloaking Using Liquid Diffusion. <i>Laser and Photonics Reviews</i> , 2017, 11, 1700066.	8.7	20
72	Retro-Axial VOA Using Parabolic Mirror Pair. <i>IEEE Photonics Technology Letters</i> , 2007, 19, 692-694.	2.5	18

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73	Optofluidic refractometer using resonant optical tunneling effect. <i>Biomicrofluidics</i> , 2010, 4, 43008.	2.4	18
74	Biomimetic microchannels of planar reactors for optimized photocatalytic efficiency of water purification. <i>Biomicrofluidics</i> , 2016, 10, 014123.	2.4	18
75	A Real Pivot Structure for MEMS Tunable Lasers. <i>Journal of Microelectromechanical Systems</i> , 2007, 16, 269-278.	2.5	17
76	A micromachined tunable coupled-cavity laser for wide tuning range and high spectral purity. <i>Optics Express</i> , 2008, 16, 16670.	3.4	17
77	High photoelectrochemical activity and stability of Au-WS ₂ /silicon heterojunction photocathode. <i>Solar Energy Materials and Solar Cells</i> , 2018, 174, 300-306.	6.2	16
78	A miniature tunable coupled-cavity laser constructed by micromachining technology. <i>Applied Physics Letters</i> , 2008, 92, 031105.	3.3	15
79	Tunable visual color filter using microfluidic grating. <i>Biomicrofluidics</i> , 2010, 4, 043013.	2.4	15
80	Quantitative investigation of plasmonic hot-electron injection by KPFM. <i>Applied Surface Science</i> , 2019, 492, 644-650.	6.1	15
81	Polysilicon micromachined fiber-optical attenuator for DWDM applications. <i>Sensors and Actuators A: Physical</i> , 2003, 108, 28-35.	4.1	14
82	Asymmetric Tuning Schemes of MEMS Dual-Shutter VOA. <i>Journal of Lightwave Technology</i> , 2008, 26, 569-579.	4.6	14
83	Surface Plasmon Resonance Sensor Based on an Angled Optical Fiber. <i>IEEE Sensors Journal</i> , 2014, 14, 3229-3235.	4.7	14
84	Theoretical Analysis of an Optical Accelerometer Based on Resonant Optical Tunneling Effect. <i>Sensors</i> , 2017, 17, 389.	3.8	14
85	Dielectrophoresis-actuated liquid lenses with dual air/liquid interfaces tuned from biconcave to biconvex. <i>Lab on A Chip</i> , 2018, 18, 3849-3854.	6.0	14
86	Microfluidic Reactors for Plasmonic Photocatalysis Using Gold Nanoparticles. <i>Micromachines</i> , 2019, 10, 869.	2.9	14
87	Thermal-Optic Switch by Total Internal Reflection of Micromachined Silicon Prism. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2007, 13, 348-358.	2.9	13
88	Broadband efficient light absorbing in the visible regime by a metanoring array. <i>Annalen Der Physik</i> , 2014, 526, 112-117.	2.4	13
89	Rapid Screening of Graphitic Carbon Nitrides for Photocatalytic Cofactor Regeneration Using a Drop Reactor. <i>Micromachines</i> , 2017, 8, 175.	2.9	13
90	Enhancing plasmonic hot-carrier generation by strong coupling of multiple resonant modes. <i>Nanoscale</i> , 2021, 13, 2792-2800.	5.6	13

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91	Highly Sensitive Cell Concentration Detection by Resonant Optical Tunneling Effect. Journal of Lightwave Technology, 2019, 37, 2800-2806.	4.6	12
92	Liquid refractive index sensors using resonant optical tunneling effect for ultra-high sensitivity. Sensors and Actuators A: Physical, 2011, 169, 347-351.	4.1	11
93	Photoelectrocatalytic microreactor for seawater decontamination with negligible chlorine generation. Microsystems Technologies, 2017, 23, 4495-4500.	2.0	11
94	Plasmonic Nanohole Arrays with Enhanced Visible Light Photoelectrocatalytic Activity. ACS Photonics, 2022, 9, 652-663.	6.6	11
95	Light switching via thermo-optic effect of micromachined silicon prism. Applied Physics Letters, 2006, 88, 243501.	3.3	10
96	Tunable dual-wavelength laser constructed by silicon micromachining. Applied Physics Letters, 2008, 92, 051113.	3.3	10
97	Modeling of the optical torsion micromirror. , 1999, 3899, 109.		9
98	Vibration measurement with a micromachined mirror in a very-short external cavity laser. Sensors and Actuators A: Physical, 2004, 116, 232-240.	4.1	9
99	Miniaturized injection-locked laser using microelectromechanical systems technology. Applied Physics Letters, 2005, 87, 101101.	3.3	9
100	One-pot synthesis of Cu ₂ O/C@H-TiO ₂ nanocomposites with enhanced visible-light photocatalytic activity. RSC Advances, 2019, 9, 41540-41548.	3.6	9
101	Exact step-coupling theory for mode-coupling behavior in geometrical variation photonic crystal waveguides. Physical Review B, 2009, 80, .	3.2	8
102	Microfluidic flow direction control using continuous-wave laser. Sensors and Actuators A: Physical, 2012, 188, 329-334.	4.1	8
103	Ultrafast polarization bio-imaging based on coherent detection and time-stretch techniques. Biomedical Optics Express, 2018, 9, 6556.	2.9	8
104	Integrated micromachined tunable lasers for all optical network (AON) applications. Sensors and Actuators A: Physical, 2002, 97-98, 54-60.	4.1	7
105	A monolithically integrated photonic MEMS subsystem for optical network applications. Optics Communications, 2005, 249, 579-586.	2.1	7
106	Narrow-Linewidth Tunable Lasers With Retro-Reflective External Cavity. IEEE Photonics Technology Letters, 2012, 24, 1591-1593.	2.5	7
107	Enhancement of photo-electrochemical reactions in MAPbI ₃ /Au. Materials Today Energy, 2018, 9, 303-310.	4.7	7
108	Enhancement of the volume refractive index sensing by ROTe and its application on cancer and normal cells discrimination. Sensors and Actuators A: Physical, 2020, 313, 112177.	4.1	7

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109	Molecular Dipole-Induced Photoredox Catalysis for Hydrogen Evolution over Self-Assembled Naphthalimide Nanoribbons. <i>Angewandte Chemie</i> , 2022, 134, .	2.0	7
110	New near-field and far-field attenuation models for free-space variable optical attenuators. <i>Journal of Lightwave Technology</i> , 2003, 21, 3417-3426.	4.6	6
111	Optical and quantum models of resonant optical tunneling effect. <i>Optics Communications</i> , 2018, 428, 191-199.	2.1	6
112	Electric-Field-Mediated Electron Tunneling of Supramolecular Naphthalimide Nanostructures for Biomimetic H ₂ Production. <i>Angewandte Chemie</i> , 2021, 133, 1255-1263.	2.0	6
113	Biomimetic reusable microfluidic reactors with physically immobilized RuBisCO for glucose precursor production. <i>Catalysis Science and Technology</i> , 2022, 12, 5009-5020.	4.1	6
114	Understanding fly-ear inspired directional microphones. , 2009, , .		5
115	Lensed Water-Core Teflon-Amorphous Fluoroplastics Optical Fiber. <i>Journal of Lightwave Technology</i> , 2014, 32, 1538-1542.	4.6	5
116	Hierarchic random nanosphere model for broadband solar energy absorbers. <i>Optical Materials Express</i> , 2015, 5, 2777.	3.0	5
117	Photocatalytic ozonation for sea water decontamination. <i>Journal of Water Process Engineering</i> , 2020, 37, 101501.	5.6	5
118	Parity-time symmetry based on resonant optical tunneling effect for biosensing. <i>Optics Communications</i> , 2020, 475, 125815.	2.1	5
119	Enhanced solar water splitting using plasmon-induced resonance energy transfer and unidirectional charge carrier transport. <i>Optics Express</i> , 2021, 29, 34810.	3.4	5
120	<title>MEMS widely tunable lasers for WDM system applications</title>. , 2002, , .		4
121	Finite element simulation and theoretical analysis of fiber-optical switches. <i>Sensors and Actuators A: Physical</i> , 2002, 96, 167-178.	4.1	4
122	Self-Latched Micromachined Mechanism With Large Displacement Ratio. <i>Journal of Microelectromechanical Systems</i> , 2006, 15, 1576-1585.	2.5	4
123	Time-variant 1D photonic crystals using flowing microdroplets. <i>Optics Express</i> , 2012, 20, 24330.	3.4	4
124	PPy enhanced Fe, W Co-doped Co ₃ O ₄ free-standing electrode for highly-efficient oxygen evolution reaction. <i>Journal of Applied Electrochemistry</i> , 2018, 48, 1189-1195.	2.9	4
125	UV-curable liquid-core fiber lenses with controllable focal length. <i>Optics Express</i> , 2013, 21, 5505.	3.4	3
126	Tunable Visible Cloaking Using Liquid Diffusion (<i>Laser Photonics Rev.</i> 11(6)/2017). <i>Laser and Photonics Reviews</i> , 2017, 11, 1770062.	8.7	3

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127	Planar polarization-routing optical cross-connects using nematic liquid crystal waveguides. Optics Express, 2018, 26, 402.	3.4	3
128	Temperature Tolerance Electric Cell-Substrate Impedance Sensing for Joint Assessment of Cell Viability and Vitality. ACS Sensors, 2021, 6, 3640-3649.	7.8	3
129	Co-Ni Basic Carbonate Nanowire/Carbon Nanotube Network With High Electrochemical Capacitive Performance via Electrochemical Conversion. Frontiers in Chemistry, 2021, 9, 655025.	3.6	3
130	Electrically generated optical waveguide in a lithium-niobate thin film. Optics Express, 2020, 28, 29895.	3.4	3
131	Optofluidic Planar Optical Cross-Connect Using Nematic Liquid-Crystal Waveguides. IEEE Photonics Journal, 2018, 10, 1-17.	2.0	2
132	Electrically controlled polarization rotator using nematic liquid crystal. Optics Express, 2018, 26, 32317.	3.4	2
133	4x4 MEMS optical cross-connections (OXC)s. , 2000, 4230, 174.		1
134	Discretely tunable micromachined injection-locked lasers. Journal of Micromechanics and Microengineering, 2010, 20, 085018.	2.6	1
135	Laser-actuated micro-valves and micro-pumps. , 2011, , .		1
136	Photocatalytic microreactors for water purification: Selective control of oxidation pathways. , 2013, , .		1
137	Controllable parabolic lensed liquid-core optical fiber by using electrostatic force. Optics Express, 2014, 22, 20948.	3.4	1
138	Variable Optical Delay Line Using Discrete Harmonic Oscillation in Waveguide Lattices. Journal of Lightwave Technology, 2015, 33, 5095-5102.	4.6	1
139	Au/CQDs@TiO ₂ composite nanorod array film with simple preparation route and enhanced visible light response. Micro and Nano Letters, 2021, 16, 132-141.	1.3	1
140	Review on optofluidic microreactors for photocatalysis. Reviews in Chemical Engineering, 2022, .	4.4	1
141	An integrated microfluidic chip with 40 MHz lead-free transducer for fluid analysis. Review of Scientific Instruments, 2011, 82, 024903.	1.3	0
142	Photocatalytic water purification using planar microreactor. , 2012, , .		0
143	Visible-light photocatalysis using plasmonic coupling effect for optofluidic microreactors. , 2015, , .		0
144	Optofluidic Microreactors for Visible-Light Photocatalysis. , 2015, , .		0

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145	Experimental study on microfluidic nanoparticle immobilization using a biomimetic method. , 2015, , .		0
146	Microfluidics for Photochemical Harvesting of Solar Energy. , 2016, , .		0
147	Tunable optical delay line using quadratic-coupled waveguide lattices. , 2016, , .		0
148	Photocatalysis: Plasmonic Black Absorbers for Enhanced Photocurrent of Visibleâ€Light Photocatalysis (Advanced Optical Materials 2/2017). Advanced Optical Materials, 2017, 5, .	7.3	0
149	Editorial for the Special Issue on Advances in Optofluidics. Micromachines, 2018, 9, 302.	2.9	0
150	Editorial for the Special Issue on IMCO 2019. Micromachines, 2020, 11, 684.	2.9	0
151	Optofluidic Tunable Lens Using Laser-induced Thermal Gradient. , 2016, , .		0