Don DeVoe

List of Publications by Year in descending order

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153	6,616	66234	69108
papers	citations	42 h-index	77 g-index

155	155	155	7100
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Bonding of thermoplastic polymer microfluidics. Microfluidics and Nanofluidics, 2009, 6, 1-16.	1.0	508
2	Microfluidic Mixing and the Formation of Nanoscale Lipid Vesicles. ACS Nano, 2010, 4, 2077-2087.	7.3	332
3	Microfluidic Directed Formation of Liposomes of Controlled Size. Langmuir, 2007, 23, 6289-6293.	1.6	323
4	Modeling and optimal design of piezoelectric cantilever microactuators. Journal of Microelectromechanical Systems, 1997, 6, 266-270.	1.7	290
5	Microhotplate platforms for chemical sensor research. Sensors and Actuators B: Chemical, 2001, 77, 579-591.	4.0	259
6	Low temperature bonding of PMMA and COC microfluidic substrates using UV/ozone surface treatment. Lab on A Chip, 2007, 7, 499.	3.1	220
7	Preparation of nanoparticles by continuous-flow microfluidics. Journal of Nanoparticle Research, 2008, 10, 925-934.	0.8	217
8	Piezoelectric thin film micromechanical beam resonators. Sensors and Actuators A: Physical, 2001, 88, 263-272.	2.0	176
9	Integration of Isoelectric Focusing with Parallel Sodium Dodecyl Sulfate Gel Electrophoresis for Multidimensional Protein Separations in a Plastic Microfludic Network. Analytical Chemistry, 2004, 76, 742-748.	3.2	156
10	Characterization of the Human Salivary Proteome by Capillary Isoelectric Focusing/Nanoreversed-Phase Liquid Chromatography Coupled with ESI-Tandem MS. Journal of Proteome Research, 2006, 5, 1469-1478.	1.8	145
11	An electrohydrodynamic polarization micropump for electronic cooling. Journal of Microelectromechanical Systems, 2001, 10, 98-106.	1.7	140
12	Capillary Isoelectric Focusing-Based Multidimensional Concentration/Separation Platform for Proteome Analysis. Analytical Chemistry, 2003, 75, 3145-3152.	3.2	138
13	Proteome Analysis of Microdissected Formalin-fixed and Paraffin-embedded Tissue Specimens. Journal of Histochemistry and Cytochemistry, 2007, 55, 763-772.	1.3	134
14	Microfluidic Preparation of Liposomes to Determine Particle Size Influence on Cellular Uptake Mechanisms. Pharmaceutical Research, 2014, 31, 401-413.	1.7	124
15	Polymer Microchips Integrating Solid-Phase Extraction and High-Performance Liquid Chromatography Using Reversed-Phase Polymethacrylate Monoliths. Analytical Chemistry, 2009, 81, 2545-2554.	3.2	107
16	Highâ€Throughput Continuous Flow Production of Nanoscale Liposomes by Microfluidic Vertical Flow Focusing. Small, 2015, 11, 5790-5799.	5.2	101
17	Nanoparticle-Functionalized Porous Polymer Monolith Detection Elements for Surface-Enhanced Raman Scattering. Analytical Chemistry, 2011, 83, 2119-2124.	3.2	100
18	Large-force electrothermal linear micromotors. Journal of Micromechanics and Microengineering, 2004, 14, 226-234.	1.5	97

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19	Efficient electrospray ionization from polymer microchannels using integrated hydrophobic membranes. Lab on A Chip, 2004, 4, 363.	3.1	97
20	Proteome Analysis of Microdissected Tumor Tissue Using a Capillary Isoelectric Focusing-Based Multidimensional Separation Platform Coupled with ESI-Tandem MS. Analytical Chemistry, 2005, 77, 6549-6556.	3.2	94
21	Surface micromachined piezoelectric accelerometers (PiXLs). Journal of Microelectromechanical Systems, 2001, 10, 180-186.	1.7	91
22	Nanoparticle engineering and control of tin oxide microstructures for chemical microsensor applications. Nanotechnology, 2001, 12, 336-349.	1.3	90
23	Surface micromachined piezoelectric resonant beam filters. Sensors and Actuators A: Physical, 2001, 91, 313-320.	2.0	77
24	Microfluidic remote loading for rapid single-step liposomal drug preparation. Lab on A Chip, 2014, 14, 3359.	3.1	70
25	Catalytic Propulsion and Magnetic Steering of Soft, Patchy Microcapsules: Ability to Pick-Up and Drop-Off Microscale Cargo. ACS Applied Materials & Interfaces, 2016, 8, 15676-15683.	4.0	69
26	Comparison of Electrokinetics-Based Multidimensional Separations Coupled with Electrospray Ionization-Tandem Mass Spectrometry for Characterization of Human Salivary Proteins. Analytical Chemistry, 2007, 79, 5785-5792.	3.2	68
27	A facile route to the synthesis of monodisperse nanoscale liposomes using 3D microfluidic hydrodynamic focusing in a concentric capillary array. Lab on A Chip, 2014, 14, 2403-2409.	3.1	68
28	Microfluidic technologies for MALDI-MS in proteomics. Electrophoresis, 2006, 27, 3559-3568.	1.3	63
29	Microfluidic Synthesis of PEG- and Folate-Conjugated Liposomes for One-Step Formation of Targeted Stealth Nanocarriers. Pharmaceutical Research, 2013, 30, 1597-1607.	1.7	62
30	Integration of polymeric membranes with microfluidic networks for bioanalytical applications. Electrophoresis, 2001, 22, 3857-3867.	1.3	60
31	DNA Mutation Detection in a Polymer Microfluidic Network Using Temperature Gradient Gel Electrophoresis. Analytical Chemistry, 2004, 76, 874-881.	3.2	58
32	Microfluidic synthesis of monodisperse PDMS microbeads as discrete oxygen sensors. Soft Matter, 2012, 8, 923-926.	1.2	58
33	Field-effect flow control in a polydimethylsiloxane-based microfluidic system. Electrophoresis, 2001, 22, 3902-3907.	1.3	55
34	Membrane Proteome Analysis of Microdissected Ovarian Tumor Tissues Using Capillary Isoelectric Focusing/Reversed-Phase Liquid Chromatographyâ^'Tandem MS. Analytical Chemistry, 2007, 79, 1002-1009.	3.2	55
35	Parametric identification of piezoelectric microscale resonators. Journal of Micromechanics and Microengineering, 2006, 16, 1593-1601.	1.5	53
36	Polyacrylamide gel plugs enabling 2â€Ð microfluidic protein separations via isoelectric focusing and multiplexed sodium dodecyl sulfate gel electrophoresis. Electrophoresis, 2008, 29, 2241-2250.	1.3	50

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37	Integrated thin-film piezoelectric traveling wave ultrasonic motors. Sensors and Actuators A: Physical, 2012, 188, 305-311.	2.0	49
38	Dynamic analyte introduction and focusing in plastic microfluidic devices for proteomic analysis. Electrophoresis, 2003, 24, 193-199.	1.3	48
39	Polymer Nanochannels Fabricated by Thermomechanical Deformation for Single-Molecule Analysis. Analytical Chemistry, 2005, 77, 2252-2258.	3.2	46
40	High-pressure needle interface for thermoplastic microfluidics. Lab on A Chip, 2009, 9, 50-55.	3.1	46
41	Integrated microfluidic UV absorbance detector with attomol-level sensitivity for BSA. Lab on A Chip, 2006, 6, 115-120.	3.1	44
42	Single molecule measurements within individual membrane-bound ion channels using a polymer-based bilayer lipid membrane chip. Lab on A Chip, 2008, 8, 602.	3.1	43
43	Dynamic Electrowetting on Nanofilament Silicon for Matrix-Free Laser Desorption/Ionization Mass Spectrometry. Analytical Chemistry, 2008, 80, 2973-2981.	3.2	42
44	Induced Pressure Pumping in Polymer Microchannels via Field-Effect Flow Control. Analytical Chemistry, 2004, 76, 1942-1947.	3.2	41
45	Microfluidic 2-D PAGE using multifunctional in situ polyacrylamide gels and discontinuous buffers. Lab on A Chip, 2009, 9, 592-599.	3.1	41
46	Development of a microchip Europium nanoparticle immunoassay for sensitive point-of-care HIV detection. Biosensors and Bioelectronics, 2014, 61, 177-183.	5.3	41
47	High Throughput Nanoliposome Formation Using 3D Printed Microfluidic Flow Focusing Chips. Advanced Materials Technologies, 2019, 4, 1800511.	3.0	41
48	Millimeter-Scale Traveling Wave Rotary Ultrasonic Motors. Journal of Microelectromechanical Systems, 2015, 24, 108-114.	1.7	39
49	Microfluidic on-demand droplet generation, storage, retrieval, and merging for single-cell pairing. Lab on A Chip, 2019, 19, 493-502.	3.1	38
50	Electrospray interfacing of polymer microfluidics to MALDI-MS. Electrophoresis, 2005, 26, 3631-3640.	1.3	37
51	Integrated Capillary Isoelectric Focusing/Nano-reversed Phase Liquid Chromatography Coupled with ESIâ“MS for Characterization of Intact Yeast Proteins. Journal of Proteome Research, 2005, 4, 36-42.	1.8	37
52	High-pressure on-chip mechanical valves for thermoplastic microfluidic devices. Lab on A Chip, 2009, 9, 3511.	3.1	36
53	Proteomic analysis of steroid-triggered autophagic programmed cell death during Drosophila development. Cell Death and Differentiation, 2007, 14, 916-923.	5.0	35
54	High-power optical microswitch based on direct fiber actuation. Sensors and Actuators A: Physical, 2005, 119, 512-519.	2.0	32

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55	Glycomic Analysis by Glycoprotein Immobilization for Glycan Extraction and Liquid Chromatography on Microfluidic Chip. Analytical Chemistry, 2013, 85, 10117-10125.	3.2	31
56	Rapid real-time PCR and high resolution melt analysis in a self-filling thermoplastic chip. Lab on A Chip, 2016, 16, 3524-3531.	3.1	30
57	Microfluidic-Enabled Liposomes Elucidate Size-Dependent Transdermal Transport. PLoS ONE, 2014, 9, e92978.	1.1	29
58	Micromechanism fabrication using silicon fusion bonding. Robotics and Computer-Integrated Manufacturing, 2001, 17, 131-137.	6.1	28
59	Capillary separations enabling tissue proteomics-based biomarker discovery. Electrophoresis, 2006, 27, 3523-3532.	1.3	28
60	Integrated microfluidic gas sensor for detection of volatile organic compounds in water. Sensors and Actuators B: Chemical, 2007, 121, 679-688.	4.0	28
61	Flow-through immunosensors using antibody-immobilized polymer monoliths. Biosensors and Bioelectronics, 2010, 26, 182-188.	5.3	28
62	Microfluidic Device Fabrication by Thermoplastic Hot-Embossing. Methods in Molecular Biology, 2013, 949, 115-123.	0.4	28
63	Sensitivity, selectivity and stability of tin oxide nanostructures on large area arrays of microhotplates. Nanotechnology, 2006, 17, 415-425.	1.3	27
64	Young's Modulus Measurements in Standard IC CMOS Processes Using MEMS Test Structures. IEEE Electron Device Letters, 2007, 28, 960-963.	2.2	24
65	Nonlinear oscillations of piezoelectric microresonators with curved cross-sections. Sensors and Actuators A: Physical, 2008, 144, 194-200.	2.0	24
66	Mixed-mode electrokinetic and chromatographic peptide separations in a microvalve-integrated polymer chip. Lab on A Chip, 2010, 10, 2122.	3.1	24
67	Transverse Interdigitated Electrode Actuation of Homogeneous Bulk PZT. Journal of Microelectromechanical Systems, 2012, 21, 1513-1518.	1.7	24
68	Pen microfluidics: rapid desktop manufacturing of sealed thermoplastic microchannels. Lab on A Chip, 2013, 13, 1102.	3.1	24
69	Microfluidics: A New Approach to In-Situ â€œMicromanufacturingâ€• Microfluidic Fabrication of Magnetic and Fluorescent Chains Using Chitosan Microparticles as Building Blocks (Small 17/2011). Small, 2011, 7, 2469-2469.	5.2	23
70	Denaturing gradient-based two-dimensional gene mutation scanning in a polymer microfluidic network. Lab on A Chip, 2005, 5, 392.	3.1	22
71	Interfacing microfluidics to LDI-MS by automatic robotic spotting. Microfluidics and Nanofluidics, 2010, 8, 777-787.	1.0	22
72	Microfluidic generation of uniform water droplets using gas as the continuous phase. Journal of Colloid and Interface Science, 2015, 448, 275-279.	5.0	21

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73	Light-Directed Self-Assembly of Robust Alginate Gels at Precise Locations in Microfluidic Channels. ACS Applied Materials & Interfaces, 2016, 8, 17529-17538.	4.0	21
74	Controlled droplet discretization and manipulation using membrane displacement traps. Lab on A Chip, 2017, 17, 3717-3724.	3.1	20
75	Modeling and design of composite freeâ€“free beam piezoelectric resonators. Sensors and Actuators A: Physical, 2005, 118, 63-69.	2.0	19
76	A New Approach to Inâ€Situ â€œMicromanufacturingâ€: Microfluidic Fabrication of Magnetic and Fluorescent Chains Using Chitosan Microparticles as Building Blocks. Small, 2011, 7, 2470-2476.	5.2	19
77	Microfluidic Assembly of Janus-Like Dimer Capsules. Langmuir, 2013, 29, 13624-13629.	1.6	19
78	Microscale Patterning of Thermoplastic Polymer Surfaces by Selective Solvent Swelling. Langmuir, 2012, 28, 12923-12929.	1.6	18
79	Sacrificial etching of AlxGa1-xAs for IIIâ€“V MEMS surface micromachining. Applied Physics A: Materials Science and Processing, 2007, 88, 711-714.	1.1	17
80	Miniature Bulk PZT Traveling Wave Ultrasonic Motors for Low-Speed High-Torque Rotary Actuation. Journal of Microelectromechanical Systems, 2018, 27, 547-554.	1.7	17
81	Fabrication of suspended piezoelectric microresonators. Integrated Ferroelectrics, 1999, 24, 147-154.	0.3	16
82	A chitosan coated monolith for nucleic acid capture in a thermoplastic microfluidic chip. Biomicrofluidics, 2014, 8, 044109.	1.2	16
83	Ex situ integration of multifunctional porous polymer monoliths into thermoplastic microfluidic chips. Sensors and Actuators B: Chemical, 2014, 202, 866-872.	4.0	16
84	Sol-Gel PZT for MEMS Applications. Integrated Ferroelectrics, 2002, 42, 25-37.	0.3	15
85	Microfluidic synthesis of macroporous polymer immunobeads. Polymer, 2012, 53, 5469-5475.	1.8	15
86	Moving reflector type micro optical switch for high-power transfer in a MEMS-based safety and arming system. Journal of Micromechanics and Microengineering, 2004, 14, 138-146.	1.5	14
87	Capturing rare cells from blood using a packed bed of custom-synthesized chitosan microparticles. Journal of Materials Chemistry B, 2013, 1, 4313.	2.9	14
88	Novel functionalities of hybrid paper-polymer centrifugal devices for assay performance enhancement. Biomicrofluidics, 2017, 11, 054101.	1.2	14
89	Piezoelectric AlGaAs bimorph microactuators. Journal of Micromechanics and Microengineering, 2006, 16, 1062-1066.	1.5	13
90	Optimization of sample transfer in two-dimensional microfluidic separation systems. Lab on A Chip, 2008, 8, 1145.	3.1	13

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91	Microfabrication of bulk PZT transducers by dry film photolithography and micro powder blasting. Journal of Micromechanics and Microengineering, 2012, 22, 085017.	1.5	13
92	Optical detection enhancement in porous volumetric microfluidic capture elements using refractive index matching fluids. Analyst, The, 2015, 140, 5724-5731.	1.7	13
93	Large Vertical Displacement Electrostatic Zipper Microstage Actuators. Journal of Microelectromechanical Systems, 2015, 24, 896-903.	1.7	13
94	Isolation of intact bacteria from blood by selective cell lysis in a microfluidic porous silica monolith. Microsystems and Nanoengineering, 2019, 5, 30.	3.4	13
95	Fabrication of piezoelectric Al0.3Ga0.7As microstructures. Sensors and Actuators A: Physical, 2004, 115, 96-103.	2.0	12
96	Polyelectrolyte multilayer-treated electrodes for real-time electronic sensing of cell proliferation. Journal of Research of the National Institute of Standards and Technology, 2010, 115, 61.	0.4	12
97	Dynamics of Ceramide Channels Detected Using a Microfluidic System. PLoS ONE, 2012, 7, e43513.	1.1	12
98	Droplet formation from hydrodynamically coupled capillaries for parallel microfluidic contact spotting. Journal of Micromechanics and Microengineering, 2008, 18, 025013.	1.5	11
99	Rapid Microfluidic Perfusion Enabling Kinetic Studies of Lipid Ion Channels in a Bilayer Lipid Membrane Chip. Annals of Biomedical Engineering, 2011, 39, 2242-2251.	1.3	11
100	Staggered trap arrays for robust microfluidic sample digitization. Lab on A Chip, 2017, 17, 4105-4112.	3.1	10
101	Miniaturization of Hydrocyclones by Highâ€Resolution 3D Printing for Rapid Microparticle Separation. Advanced Materials Technologies, 2020, 5, 1901105.	3.0	10
102	Active flow control using microelectromechanical systems. , 2000, , .		9
103	Single-use thermoplastic microfluidic burst valves enabling on-chip reagent storage. Microfluidics and Nanofluidics, 2015, 18, 1045-1053.	1.0	9
104	Screw-actuated displacement micropumps for thermoplastic microfluidics. Lab on A Chip, 2016, 16, 3940-3946.	3.1	9
105	<title>Analysis of an optical energy interrupter for MEMS-based safety and arming systems</title>. , 1999, 3880, 101.		8
106	High-power optical microswitch fabricated by deep reactive ion etching (DRIE). , 2003, 4983, 75.		8
107	Soft lithography microfabrication of functionalized thermoplastics by solvent casting. Journal of Polymer Science, Part B: Polymer Physics, 2015, 53, 1315-1323.	2.4	8
108	Programmable digital droplet microfluidics using a multibarrel capillary bundle. Sensors and Actuators B: Chemical, 2015, 220, 992-999.	4.0	8

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109	<title>Microhotplate gas sensor arrays</title>. , 1999, 3857, 38.		7
110	Piezoelectric Disk Resonators Based on Epitaxial AlGaAs Films. Journal of Microelectromechanical Systems, 2007, 16, 155-162.	1.7	7
111	Impedimetric immunosensing in a porous volumetric microfluidic detector. Sensors and Actuators B: Chemical, 2016, 234, 493-497.	4.0	7
112	Piezoelectric Disc Transformer Modeling Utilizing Extended Hamilton's Principle. IEEE Transactions on Power Electronics, 2019, 34, 6583-6592.	5.4	7
113	Enhanced sample filling and discretization in thermoplastic 2D microwell arrays using asymmetric contact angles. Biomicrofluidics, 2020, 14, 014113.	1.2	7
114	Micromachined Array Studies of Tin Oxide Films: Nucleation, Structure and Gas Sensing Characteristics. Materials Research Society Symposia Proceedings, 1999, 574, 213.	0.1	6
115	Piezoelectric Al<tex>$_0.3$</tex>Ga<tex>$_0.7$</tex>As Longitudinal Mode Bar Resonators. Journal of Microelectromechanical Systems, 2006, 15, 465-470.	1.7	6
116	Electro-optical BLM chips enabling dynamic imaging of ordered lipid domains. Lab on A Chip, 2012, 12, 3142.	3.1	6
117	Electrical contact resistance force sensing in SOI-DRIE MEMS. Sensors and Actuators A: Physical, 2018, 269, 474-482.	2.0	6
118	<title>Large-displacement microactuators in deep reactive ion-etched single-crystal silicon</title>. , 2001, 4559, 138.		5
119	Mass spectrometry-based tissue proteomics for cancer biomarker discovery. Personalized Medicine, 2007, 4, 45-58.	0.8	5
120	Visualizing the Growth and Dynamics of Liquidâ€Ordered Domains During Lipid Bilayer Folding in a Microfluidic Chip. Small, 2012, 8, 3613-3619.	5.2	5
121	Flow-through microfluidic immunosensors with refractive index-matched silica monoliths as volumetric optical detection elements. Sensors and Actuators B: Chemical, 2018, 254, 878-886.	4.0	5
122	Nano-printed miniature compound refractive lens for desktop hard x-ray microscopy. PLoS ONE, 2018, 13, e0203319.	1.1	5
123	Plasma Isolation in a Syringe by Conformal Integration of Inertial Microfluidics. Annals of Biomedical Engineering, 2021, 49, 139-148.	1.3	5
124	Thin-film piezoelectric traveling wave ultrasonic rotary motor. , 2012, , .		4
125	A programmable microfluidic platform for multisample injection, discretization, and droplet manipulation. Biomicrofluidics, 2020, 14, 014112.	1.2	4
126	Microfabricated sequential-leaf time-delay mechanisms. Journal of Microelectromechanical Systems, 2005, 14, 1051-1060.	1.7	3

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127	Traveling wave annular ultrasonic micromotors using bulk PZT. , 2012, , .		3
128	Microfluidic formation of nanoscale liposomes for passive transdermal drug delivery. , 2013, , .		3
129	Annular ultrasonic micromotors fabricated from bulk PZT. , 2017, , .		3
130	In situ photografting during direct laser writing in thermoplastic microchannels. Scientific Reports, 2021, 11, 10980.	1.6	3
131	Nanofilament Silicon for Matrix-Free Laser Desorption/Ionization Mass Spectrometry. Methods in Molecular Biology, 2011, 790, 183-189.	0.4	3
132	<title>Progress toward an orthogonal strain state sensor-based optical fiber technology</title>. , 1999, 3670, 516.		2
133	Modeling and Analysis of Microfabricated Bulk Piezoelectric Disc Transformers. , 2017, , .		2
134	Active or Passive On-Demand Droplet Merging in a Microfluidic Valve-Based Trap*. , 2018, 2018, 5350-5353.		2
135	A Silicon Microfluidic Multiplexer Using Field Effect Flow Control. , 2001, , 187-188.		2
136	Reagent integration and controlled release for multiplexed nucleic acid testing in disposable thermoplastic 2D microwell arrays. Biomicrofluidics, 2021, 15, 014103.	1.2	1
137	Integrated Thin Film Temperature Sensors for Polycarbonate Microfluidics. , 2002, , 724-726.		1
138	<title>Solid state gas microsensors for environmental and industrial monitoring</title>. , 1999, , .		0
139	SOI/DRIE all-fiber optical switch for high-power applications. , 2003, 4983, 65.		0
140	Microfluidics-Based Proteome Analysis. , 2006, , 205-223.		0
141	A Microfabricated Flow Controller for Refrigerant Expansion. Journal of Microelectromechanical Systems, 2007, 16, 1106-1112.	1.7	0
142	Ceramide channel formed in open well thermal plastic chips. , 2009, , .		0
143	Isoelectric Focusing-Reversed Phase Liquid Chromatography Polymer Microchip With Integrated High-Pressure Valves. , 2009, , .		0
144	Microfluidic-Enabled Real-Time Imaging of Lipid Domains in Bilayer Membranes. Biophysical Journal, 2012, 102, 298a.	0.2	0

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145	Novel fabrication process for transverse and longitudinal mode PZT actuators. , 2012, , .		0
146	Software-defined microstrip antennas enabled through large vertical displacement zipper microactuators. , 2012, , .		0
147	Microfluidic synthesis of PEGylated liposomes. , 2012, , .		0
148	A Scalable Random Access Micro-traps Array for Formation, Selective Retrieval and Capturing of Individual Droplets. , 2019, 2019, 1054-1057.		0
149	Deterministic assembly of chromosome ensembles in a programmable membrane trap array. Biofabrication, 2021, 13, 045005.	3.7	0
150	Microfluidic Emulsion Generation and Trapping Enabling Droplet-Interfaced Bilayer Lipid Membrane Arrays. , 2009, , .		0
151	Planar Phospholipid Membrane Formation in Open Well Thermoplastic Chips. , 2009, , .		0
152	High Pressure On-Chip Valves for Thermoplastic Microfluidics. , 2009, , .		0
153	Microfluidic SERS Using a 3-Dimensional Porous Monolith as a SERS-Active Solid Phase in a Microchannel. , 2010, , .		0