Abraham P Lee

List of Publications by Year
in descending order

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161	12,787	34105	23533
papers	citations	52 h-index	111 g-index

175	175	175	12342
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Droplet microfluidics. Lab on A Chip, 2008, 8, 198.	6.0	2,385
2	Human neural stem cell growth and differentiation in a gradient-generating microfluidic device. Lab on A Chip, 2005, 5, 401.	6.0	501
3	Thin film shape memory alloy microactuators. Journal of Microelectromechanical Systems, 1996, 5, 270-282.	2.5	466
4	Design of microfluidic channel geometries for the control of droplet volume, chemical concentration, and sorting. Lab on A Chip, 2004, 4, 292.	6.0	446
5	Alternating droplet generation and controlled dynamic droplet fusion in microfluidic device for CdS nanoparticle synthesis. Lab on A Chip, 2006, 6, 174.	6.0	362
6	An AC magnetohydrodynamic micropump. Sensors and Actuators B: Chemical, 2000, 63, 178-185.	7.8	361
7	In Vitro Perfused Human Capillary Networks. Tissue Engineering - Part C: Methods, 2013, 19, 730-737.	2.1	337
8	Engineering microscale cellular niches for three-dimensional multicellular co-cultures. Lab on A Chip, 2009, 9, 1740.	6.0	331
9	3D microtumors in vitro supported by perfused vascular networks. Scientific Reports, 2016, 6, 31589.	3.3	301
10	Photothermal properties of shape memory polymer micro-actuators for treating stroke. Lasers in Surgery and Medicine, 2002, 30, 1-11.	2.1	282
11	Monodispersed microfluidic droplet generation by shear focusing microfluidic device. Sensors and Actuators B: Chemical, 2006, 114, 350-356.	7.8	277
12	1-Million droplet array with wide-field fluorescence imaging for digital PCR. Lab on A Chip, 2011, 11, 3838.	6.0	274
13	Dielectrophoresis switching with vertical sidewall electrodes for microfluidic flow cytometry. Lab on A Chip, 2007, 7, 1114.	6.0	258
14	A vascularized and perfused organ-on-a-chip platform for large-scale drug screening applications. Lab on A Chip, 2017, 17, 511-520.	6.0	250
15	Controlled Microfluidic Encapsulation of Cells, Proteins, and Microbeads in Lipid Vesicles. Journal of the American Chemical Society, 2006, 128, 5656-5658.	13.7	249
16	On-chip generation of microbubbles as a practical technology for manufacturing contrast agents for ultrasonic imaging. Lab on A Chip, 2007, 7, 463.	6.0	248
17	Single beam acoustic trapping. Applied Physics Letters, 2009, 95, 73701.	3.3	199
18	Engineering anastomosis between living capillary networks and endothelial cell-lined microfluidic channels. Lab on A Chip, 2016, 16, 282-290.	6.0	197

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19	Unique Dielectric Properties Distinguish Stem Cells and Their Differentiated Progeny. Stem Cells, 2008, 26, 656-665.	3.2	185
20	A microfluidic platform for generating large-scale nearly identical human microphysiological vascularized tissue arrays. Lab on A Chip, 2013, 13, 2990.	6.0	175
21	PLGA micro/nanosphere synthesis by droplet microfluidic solvent evaporation and extraction approaches. Lab on A Chip, 2010, 10, 1820.	6.0	139
22	Droplet coalescence by geometrically mediated flow in microfluidic channels. Microfluidics and Nanofluidics, 2007, 3, 495-499.	2.2	137
23	Dual frequency dielectrophoresis with interdigitated sidewall electrodes for microfluidic flowâ€through separation of beads and cells. Electrophoresis, 2009, 30, 782-791.	2.4	132
24	Stable, biocompatible lipid vesicle generation by solvent extraction-based droplet microfluidics. Biomicrofluidics, 2011, 5, 44113-4411312.	2.4	127
25	Full range physiological mass transport control in 3D tissue cultures. Lab on A Chip, 2013, 13, 81-89.	6.0	112
26	Microfluidic separation of satellite droplets as the basis of a monodispersed micron and submicron emulsification system. Lab on A Chip, 2005, 5, 1178.	6.0	109
27	Tailoring the Size Distribution of Ultrasound Contrast Agents: Possible Method for Improving Sensitivity in Molecular Imaging. Molecular Imaging, 2007, 6, 7290.2007.00034.	1.4	109
28	Rapid microfabrication of solvent-resistant biocompatible microfluidic devices. Lab on A Chip, 2008, 8, 983.	6.0	102
29	Maintaining Monodispersity in a Microbubble Population Formed by Flow-Focusing. Langmuir, 2008, 24, 1745-1749.	3.5	102
30	A practical microgripper by fine alignment, eutectic bonding and SMA actuation. Sensors and Actuators A: Physical, 1996, 54, 755-759.	4.1	97
31	Cardiac tissue engineering: state-of-the-art methods and outlook. Journal of Biological Engineering, 2019, 13, 57.	4.7	89
32	Lateral cavity acoustic transducer. Lab on A Chip, 2009, 9, 41-43.	6.0	87
33	Mixed-sputter deposition of Ni-Ti-Cu shape memory films. Thin Solid Films, 1996, 274, 101-105.	1.8	86
34	Droplet microfluidics for amplification-free genetic detection of single cells. Lab on A Chip, 2012, 12, 3341.	6.0	81
35	Side-Wall Vertical Electrodes for Lateral Field Microfluidic Applications. Journal of Microelectromechanical Systems, 2007, 16, 454-461.	2.5	78
36	Vertical-actuated electrostatic comb drive with in situ capacitive position correction for application in phase shifting diffraction interferometry. Journal of Microelectromechanical Systems, 2003, 12, 960-971.	2.5	77

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37	Microfluidic sorting of droplets by size. Microfluidics and Nanofluidics, 2008, 4, 343-348.	2.2	76
38	Cavity-induced microstreaming for simultaneous on-chip pumping and size-based separation of cells and particles. Lab on A Chip, 2014, 14, 3860.	6.0	73
39	Fungi Use Efficient Algorithms for the Exploration of Microfluidic Networks. Small, 2006, 2, 1212-1220.	10.0	72
40	Targeted cell immobilization by ultrasound microbeam. Biotechnology and Bioengineering, 2011, 108, 1643-1650.	3.3	71
41	Lateral air cavities for microfluidic pumping with the use of acoustic energy. Microfluidics and Nanofluidics, 2011, 10, 1269-1278.	2.2	70
42	Biophysical Characteristics Reveal Neural Stem Cell Differentiation Potential. PLoS ONE, 2011, 6, e25458.	2.5	69
43	Lateral cavity acoustic transducer as an on-chip cell/particle microfluidic switch. Lab on A Chip, 2012, 12, 139-145.	6.0	69
44	Controllable microfluidic synthesis of multiphase drugâ€carrying lipospheres for siteâ€targeted therapy. Biotechnology Progress, 2009, 25, 938-945.	2.6	68
45	A truly Lego^{Â®}-like modular microfluidics platform. Journal of Micromechanics and Microengineering, 2017, 27, 035004.	2.6	67
46	Microfluidic flow transducer based on the measurement of electrical admittance. Lab on A Chip, 2004, 4, 7.	6.0	59
47	Transverse Acoustic Trapping Using a Gaussian Focused Ultrasound. Ultrasound in Medicine and Biology, 2010, 36, 350-355.	1.5	58
48	Anin vitrovascularized micro-tumor model of human colorectal cancer recapitulatesin vivoresponses to standard-of-care therapy. Lab on A Chip, 2021, 21, 1333-1351.	6.0	58
49	Tunable 3D droplet self-assembly for ultra-high-density digital micro-reactor arrays. Lab on A Chip, 2011, 11, 2509.	6.0	57
50	Whole-blood sorting, enrichment and in situ immunolabeling of cellular subsets using acoustic microstreaming. Microsystems and Nanoengineering, 2018, 4, .	7.0	57
51	Parallel generation of uniform fine droplets at hundreds of kilohertz in a flow-focusing module. Biomicrofluidics, 2013, 7, 34112.	2.4	55
52	An AC Magnetohydrodynamic Microfluidic Switch for Micro Total Analysis Systems. Biomedical Microdevices, 2003, 5, 55-60.	2.8	53
53	Molecular motors-based micro- and nano-biocomputation devices. Microelectronic Engineering, 2006, 83, 1582-1588.	2.4	53
54	Passive droplet sorting using viscoelastic flow focusing. Lab on A Chip, 2013, 13, 1308.	6.0	53

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55	Rapid and label-free identification of single leukemia cells from blood in a high-density microfluidic trapping array by fluorescence lifetime imaging microscopy. Lab on A Chip, 2018, 18, 1349-1358.	6.0	53
56	Counting single molecules in sub-nanolitre droplets. Lab on A Chip, 2010, 10, 161-164.	6.0	52
57	Rapid label-free DNA analysis in picoliter microfluidic droplets using FRET probes. Microfluidics and Nanofluidics, 2009, 6, 391.	2.2	51
58	Tailoring the size distribution of ultrasound contrast agents: possible method for improving sensitivity in molecular imaging. Molecular Imaging, 2007, 6, 384-92.	1.4	51
59	Flow-focusing regimes for accelerated production of monodisperse drug-loadable microbubbles toward clinical-scale applications. Lab on A Chip, 2013, 13, 4816.	6.0	48
60	Precision Manufacture of Phase-Change Perfluorocarbon Droplets Using Microfluidics. Ultrasound in Medicine and Biology, 2011, 37, 1952-1957.	1.5	47
61	Microfluidic droplet sorting with a high frequency ultrasound beam. Lab on A Chip, 2012, 12, 2736.	6.0	47
62	Microfluidics structures for probing the dynamic behaviour of filamentous fungi. Microelectronic Engineering, 2010, 87, 786-789.	2.4	46
63	High-speed, clinical-scale microfluidic generation of stable phase-change droplets for gas embolotherapy. Lab on A Chip, 2011, 11, 3990.	6.0	46
64	Advancing practical usage of microtechnology: a study of the functional consequences of dielectrophoresis on neural stem cells. Integrative Biology (United Kingdom), 2012, 4, 1223-1236.	1.3	43
65	Particle manipulation in a microfluidic channel using acoustic trap. Biomedical Microdevices, 2011, 13, 779-788.	2.8	42
66	Defense Applications of MEMS. MRS Bulletin, 2001, 26, 318-319.	3.5	41
67	A high throughput microfluidic platform for size-selective enrichment of cell populations in tissue and blood samples. Analyst, The, 2017, 142, 2558-2569.	3.5	41
68	Acoustic responses of monodisperse lipid encapsulated microbubble contrast agents produced by flow focusing. Bubble Science, Engineering & Technology, 2010, 2, 33-40.	0.2	40
69	Nonviral gene vector formation in monodispersed picolitre incubator for consistent gene delivery. Lab on A Chip, 2009, 9, 2638.	6.0	39
70	A Laplace pressure based microfluidic trap for passive droplet trapping and controlled release. Biomicrofluidics, 2012, 6, 14110-1411013.	2.4	38
71	High-throughput continuous dielectrophoretic separation of neural stem cells. Biomicrofluidics, 2019, 13, 064111.	2.4	38
72	An on-chip microfluidic pressure regulator that facilitates reproducible loading of cells and hydrogels into microphysiological system platforms. Lab on A Chip, 2016, 16, 868-876.	6.0	37

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73	A hydrostatic pressure-driven passive micropump enhanced with siphon-based autofill function. Lab on A Chip, 2018, 18, 2167-2177.	6.0	37
74	Core Competencies for Undergraduates in Bioengineering and Biomedical Engineering: Findings, Consequences, and Recommendations. Annals of Biomedical Engineering, 2020, 48, 905-912.	2.5	37
75	Microfluidic Generation of Acoustically Active Nanodroplets. Small, 2012, 8, 1876-1879.	10.0	36
76	Lipoplexâ€Mediated Singleâ€Cell Transfection via Droplet Microfluidics. Small, 2018, 14, e1802055.	10.0	36
77	Cell Surface N-Glycans Influence Electrophysiological Properties and Fate Potential of Neural Stem Cells. Stem Cell Reports, 2018, 11, 869-882.	4.8	35
78	Polysilicon angular microvibromotors. Journal of Microelectromechanical Systems, 1992, 1, 70-76.	2.5	34
79	In situ mRNA isolation from a microfluidic single-cell array using an external AFM nanoprobe. Lab on A Chip, 2017, 17, 1635-1644.	6.0	34
80	High-efficiency single cell encapsulation and size selective capture of cells in picoliter droplets based on hydrodynamic micro-vortices. Lab on A Chip, 2017, 17, 4324-4333.	6.0	34
81	A microfluidic concentration-gradient droplet array generator for the production of multi-color nanoparticles. Lab on A Chip, 2013, 13, 2815.	6.0	33
82	Membrane Biophysics Define Neuron and Astrocyte Progenitors in the Neural Lineage. Stem Cells, 2014, 32, 706-716.	3.2	33
83	Investigating PLGA microparticle swelling behavior reveals an interplay of expansive intermolecular forces. Scientific Reports, 2021, 11, 14512.	3.3	29
84	Polymerâ€“lipid microbubbles for biosensing and the formation of porous structures. Journal of Colloid and Interface Science, 2010, 344, 521-527.	9.4	28
85	Scaled-up production of monodisperse, dual layer microbubbles using multi-array microfluidic module for medical imaging and drug delivery. Bubble Science, Engineering & Technology, 2012, 4, 12-20.	0.2	28
86	A slow-adapting microfluidic-based tactile sensor. Journal of Micromechanics and Microengineering, 2009, 19, 085002.	2.6	27
87	Motility of bacteria in microfluidic structures. Microelectronic Engineering, 2010, 87, 810-813.	2.4	27
88	Increasing label-free stem cell sorting capacity to reach transplantation-scale throughput. Biomicrofluidics, 2014, 8, 064106.	2.4	26
89	Frequency discretization in dielectrophoretic assisted cell sorting arrays to isolate neural cells. Lab on A Chip, 2012, 12, 2182.	6.0	25
90	Novel on-demand droplet generation for selective fluid sample extraction. Biomicrofluidics, 2012, 6, 24103-2410310.	2.4	23

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91	A modular microfluidic system based on a multilayered configuration to generate large-scale perfusable microvascular networks. Microsystems and Nanoengineering, 2021, 7, 4.	7.0	23
92	Piezoelectrically driven vertical cavity acoustic transducers for the convective transport and rapid detection of DNA and protein binding to DNA microarrays with SPR imagingâ€"A parametric study. Biosensors and Bioelectronics, 2012, 35, 37-43.	10.1	22
93	Low-cost experimentation for the study of droplet microfluidics. Lab on A Chip, 2014, 14, 3978-3986.	6.0	22
94	Evaluation of quantum dot immunofluorescence and a digital CMOS imaging system as an alternative to conventional organic fluorescence dyes and laser scanning for quantifying protein microarrays. Proteomics, 2016, 16, 1271-1279.	2.2	22
95	Rapid immunodiagnostics of multiple viral infections in an acoustic microstreaming device with serum and saliva samples. Lab on A Chip, 2019, 19, 1524-1533.	6.0	22
96	Rapid isolation of circulating cancer associated fibroblasts by acoustic microstreaming for assessing metastatic propensity of breast cancer patients. Lab on A Chip, 2021, 21, 875-887.	6.0	22
97	Microfluidic Droplet Manipulations and Their Applications. , 2012, , 23-50.		21
98	The third decade of microfluidics. Lab on A Chip, 2013, 13, 1660.	6.0	21
99	A microfluidic device for blood plasma separation and fluorescence detection of biomarkers using acoustic microstreaming. Sensors and Actuators A: Physical, 2021, 317, 112482.	4.1	20
100	Special Issue on Biomedical Applications for MEMS and Microfluidics. Proceedings of the IEEE, 2004, 92, 3-5.	21.3	19
101	Label-free enrichment of fate-biased human neural stem and progenitor cells. Biosensors and Bioelectronics, 2020, 152, 111982.	10.1	19
102	Highâ€Throughput and Dosageâ€Controlled Intracellular Delivery of Large Cargos by an Acousticâ€Electric Microâ€Vortices Platform. Advanced Science, 2022, 9, e2102021.	11.2	18
103	SPECIAL ISSUE FOREWORD. Lab on A Chip, 2004, 4, 31N.	6.0	17
104	An integrated microfluidic platform for size-selective single-cell trapping of monocytes from blood. Biomicrofluidics, 2018, 12, 054104.	2.4	17
105	Control of serial microfluidic droplet size gradient by step-wise ramping of flow rates. Microfluidics and Nanofluidics, 2006, 3, 19-25.	2.2	16
106	Post-Formation Shrinkage and Stabilization of Microfluidic Bubbles in Lipid Solution. Langmuir, 2016, 32, 1939-1946.	3.5	15
107	LCAT pump optimization for an integrated microfluidic droplet generator. Microfluidics and Nanofluidics, 2015, 18, 1265-1275.	2.2	13
108	Integrated On-Chip Microfluidic Immunoassay for Rapid Biomarker Detection. Procedia Engineering, 2016, 159, 53-57.	1.2	13

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109	It's Electric: When Technology Gives a Boost to Stem Cell Science. Current Stem Cell Reports, 2018, 4, 116-126.	1.6	13
110	The vascular niche in next generation microphysiological systems. Lab on A Chip, 2021, 21, 3244-3262.	6.0	13
111	Microfluidic Compartmentalization Platforms for Single Cell Analysis. Biosensors, 2022, 12, 58.	4.7	12
112	3D Anastomosed Microvascular Network Model with Living Capillary Networks and Endothelial Cell-Lined Microfluidic Channels. Methods in Molecular Biology, 2017, 1612, 325-344.	0.9	11
113	A mass manufacturable thermoplastic based microfluidic droplet generator on cyclic olefin copolymer. Journal of Micromechanics and Microengineering, 2019, 29, 055009.	2.6	11
114	LCAT DNA Shearing. Journal of the Association for Laboratory Automation, 2014, 19, 163-170.	2.8	10
115	Impact, Friction, and Wear Testing of Microsamples of Polycrystalline Silicon. Materials Research Society Symposia Proceedings, 1992, 276, 67.	0.1	9
116	Microfluidics: an emerging technology for food and health science. Annals of the New York Academy of Sciences, 2010, 1190, 186-192.	3.8	8
117	Backscattering measurement from a single microdroplet. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2011, 58, 874-879.	3.0	8
118	High-throughput microfluidic single-cell trapping arrays for biomolecular and imaging analysis. Methods in Cell Biology, 2018, 148, 35-50.	1.1	8
119	Repetitive impact testing of micromechanical structures. Sensors and Actuators A: Physical, 1993, 39, 73-82.	4.1	6
120	Electrostatic comb drive for vertical actuation. , 1997, , .		6
121	Labelâ€Free Metabolic Classification of Single Cells in Droplets Using the Phasor Approach to Fluorescence Lifetime Imaging Microscopy. Cytometry Part A: the Journal of the International Society for Analytical Cytology, 2019, 95, 93-100.	1.5	6
122	Microfluidic cellular and molecular detection for lab-on-a-chip applications. , 2009, 2009, 4147-9.		5
123	A microfabricated, optically accessible device to study the effects of mechanical cues on collagen fiber organization. Biomedical Microdevices, 2014, 16, 255-267.	2.8	5
124	Cell-sized lipid vesicles for cell-cell synaptic therapies. Technology, 2017, 05, 201-213.	1.4	5
125	Inspiring Engineering Minds to Advance Human Health: The Henry Samueli School of Engineering's Department of BME. IEEE Pulse, 2012, 3, 42-45.	0.3	4
126	A real-time characterization method to rapidly optimize molecular beacon signal for sensitive nucleic acids analysis. Analytical and Bioanalytical Chemistry, 2014, 406, 3059-3067.	3.7	4

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127	10.1063/1.3206910.1. , 2009, , .		4
128	3-D In-Bi-Sn Electrodes for Lab-on-PCB Cell Sorting. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2016, 6, 1295-1300.	2.5	3
129	2020 vision: celebrating the 20th year of Lab on a Chip. Lab on A Chip, 2020, 20, 1889-1890.	6.0	3
130	Shear-dependent microvortices in liquidâ€“liquid flow-focusing geometry: A theoretical, numerical, and experimental study. Physics of Fluids, 2021, 33, .	4.0	3
131	A Microfabrication Process for Polymer Microchannel With Embedded Vertical Electrodes for Microfluidic Applications. , 2004, , 439.		2
132	Cutting edge: Microfluidicâ€“micromagnetic blood cleansing device. Lab on A Chip, 2009, 9, 1167.	6.0	2
133	Micro-/Nanodroplets in Microfluidic Devices. , 2010, , 553-569.		2
134	Optimization of Shear Driven Droplet Generation in a Microfluidic Device. , 2003, , 579.		1
135	Fungal growth in confined microfabricated networks. , 2005, , .		1
136	Formulation of Monodisperse Contrast Agents in Microfluidic Systems for Ultrasonic Imaging. , 2006, , .		1
137	A slow-adapting microfluidic based tactile sensor. Proceedings of the IEEE International Conference on Micro Electro Mechanical Systems (MEMS), 2008, , .	0.0	1
138	Ultrasonic analysis of precision-engineered acoustically active lipospheres produced by microfluidic. , 2009, , .		1
139	Two-dimensional cell trapping by ultrasound microbeam. , 2011, , .		1
140	Functionalized Vesicles by Microfluidic Device. Methods in Molecular Biology, 2017, 1572, 489-510.	0.9	1
141	A Path Analysis of Physical Activity Intensity and Waist Circumference on the Lipid Profile: A Cross-sectional Study of NHANES Data. American Journal of Health Education, 2020, 51, 310-317.	0.6	1
142	Lab on a Chip â€“ past, present, and future. Lab on A Chip, 2021, 21, 1197-1198.	6.0	1
143	Micro/Nanodroplets in Microfluidic Devices. , 2007, , 571-590.		1
144	A Multi-Functional Micro Total Analysis System (Î¼TAS) Platform for Transport and Sensing of Biological Fluids using Microchannel Parallel Electrodes. , 2006, , 135-158.		1

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145	Polymer microstructures for cellular growth studies. , 2005, , .		0
146	Monodisperse Lipoplex Generation by Integrated Picoliter Micro Reactor and Incubator. , 2006, , .		0
147	Design and Fabrication of Vertical Electrodes in Microchannels for Particles/cells Sorting by Dielectrophoresis. , 2006, , .		0
148	Acoustic characterization of individual monodisperse contrast agents with an optical-acoustical system. , 2009, , .		0
149	Acoustic cavity transducers for the manipulation of cells and biomolecules. Proceedings of SPIE, 2010, , .	0.8	0
150	Improving Cell Loading Efficiency Into Microfluidic Devices Using LCATs. , 2010, , .		0
151	Acoustic particle trapping in a microfluidic device using frequency modulated signal. , 2011, , .		0
152	Real time acoustic sensing of flowing microdroplets in a microfluidic device. , 2011, , .		0
153	High-throughput single-cell pathogen detection on a droplet microfluidic platform. , 2011, , .		0
154	Microfluidic Micro/Nano Droplets. Springer Handbooks, 2017, , 537-558.	0.6	0
155	Two in One: Echocardiographic Features of Right-Ventricular Diverticulum and Left-Ventricular Aneurysm in the Same Patient. CJC Open, 2020, 2, 719-721.	1.5	0
156	Right ventricular outflow tract ventricular tachycardia as a result of uncontrolled hyperthyroidism. Journal of Electrocardiology, 2020, 62, 110-112.	0.9	0
157	NADH Autofluorescence Phasor Flim for the Metabolic Characterization of T Cell and Leukemia Cell in a Droplet. Biophysical Journal, 2021, 120, 359a.	0.5	0
158	A Microfluidic Approach and Enhancement Towards a Colorimetric Enzyme-Linked-Immunosorbant-Assay for Diagnostic Detection of Infectious Diseases. , 2007, , .		0
159	Fast Real Time Binding for Surface Assays Using VCAT Coupled With SPRI. , 2010, , .		0
160	Flow Rate Measurements, Methods. , 2013, , 1-18.		0
161	LCAT pump optimization for an integrated microfluidic droplet generator. Microfluidics and Nanofluidics, 2015, 18, 1265-1275.	2.2	0