Minghao Nie

List of Publications by Year
in descending order

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75 papers	5,352 citations	117625 34 h-index	144013 57 g-index
76 all docs	76 docs citations	76 times ranked	6103 citing authors

#	Article	IF	Citations
1	Metre-long cell-laden microfibres exhibit tissue morphologies and functions. Nature Materials, 2013, 12, 584-590.	27.5	725
2	Biofabrication strategies for 3D in vitro models and regenerative medicine. Nature Reviews Materials, 2018, 3, 21-37.	48.7	502
3	Lipid Bilayer Formation by Contacting Monolayers in a Microfluidic Device for Membrane Protein Analysis. Analytical Chemistry, 2006, 78, 8169-8174.	6.5	443
4	Highly coupled ATP synthesis by F1-ATPase single molecules. Nature, 2005, 433, 773-777.	27.8	380
5	The bioprinting roadmap. Biofabrication, 2020, 12, 022002.	7.1	291
6	Molding Cell Beads for Rapid Construction of Macroscopic 3D Tissue Architecture. Advanced Materials, 2011, 23, H90-4.	21.0	275
7	Skin integrated with perfusable vascular channels on a chip. Biomaterials, 2017, 116, 48-56.	11.4	203
8	Rapid Detection of a Cocaine-Binding Aptamer Using Biological Nanopores on a Chip. Journal of the American Chemical Society, 2011, 133, 8474-8477.	13.7	187
9	Biohybrid robot powered by an antagonistic pair of skeletal muscle tissues. Science Robotics, 2018, 3, .	17.6	170
10	Three-dimensional neuronâ€“muscle constructs with neuromuscular junctions. Biomaterials, 2013, 34, 9413-9419.	11.4	162
11	Cell-laden microfibers for bottom-up tissue engineering. Drug Discovery Today, 2015, 20, 236-246.	6.4	130
12	Automated Parallel Recordings of Topologically Identified Single Ion Channels. Scientific Reports, 2013, 3, 1995.	3.3	123
13	Highly sensitive and selective odorant sensor using living cells expressing insect olfactory receptors. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 15340-15344.	7.1	116
14	Perspective: The promise of multi-cellular engineered living systems. APL Bioengineering, 2018, 2, 040901.	6.2	110
15	Multichannel Simultaneous Measurements of Single-Molecule Translocation in Î±-Hemolysin Nanopore Array. Analytical Chemistry, 2009, 81, 9866-9870.	6.5	103
16	Artificial Cell Membrane Systems for Biosensing Applications. Analytical Chemistry, 2017, 89, 216-231.	6.5	97
17	Unidirectional Transport of Kinesin-Coated Beads on Microtubules Oriented in a Microfluidic Device. Nano Letters, 2004, 4, 2265-2270.	9.1	83
18	Three-dimensional axisymmetric flow-focusing device using stereolithography. Biomedical Microdevices, 2009, 11, 369-377.	2.8	83

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19	Formation of contractile 3D bovine muscle tissue for construction of millimetre-thick cultured steak. Npj Science of Food, 2021, 5, 6.	5.5	81
20	Point-, line-, and plane-shaped cellular constructs for 3D tissue assembly. Advanced Drug Delivery Reviews, 2015, 95, 29-39.	13.7	63
21	Chemical Vapor Detection Using a Reconstituted Insect Olfactory Receptor Complex. Angewandte Chemie - International Edition, 2014, 53, 11798-11802.	13.8	60
22	Smooth Muscle-Like Tissue Constructs with Circumferentially Oriented Cells Formed by the Cell Fiber Technology. PLoS ONE, 2015, 10, e0119010.	2.5	59
23	Formation of liquid rope coils in a coaxial microfluidic device. RSC Advances, 2015, 5, 33691-33695.	3.6	57
24	Meterâ€Long and Robust Supramolecular Strands Encapsulated in Hydrogel Jackets. Angewandte Chemie - International Edition, 2012, 51, 1553-1557.	13.8	55
25	Cellular building unit integrated with microstrand-shaped bacterial cellulose. Biomaterials, 2013, 34, 2421-2427.	11.4	53
26	Membrane protein-based biosensors. Journal of the Royal Society Interface, 2018, 15, 20170952.	3.4	53
27	Biohybrid robot with skeletal muscle tissue covered with a collagen structure for moving in air. APL Bioengineering, 2020, 4, 026101.	6.2	51
28	Pesticide vapor sensing using an aptamer, nanopore, and agarose gel on a chip. Lab on A Chip, 2017, 17, 2421-2425.	6.0	46
29	Construction of a Biohybrid Odorant Sensor Using Biological Olfactory Receptors Embedded into Bilayer Lipid Membrane on a Chip. ACS Sensors, 2019, 4, 711-716.	7.8	46
30	A Portable Lipid Bilayer System for Environmental Sensing with a Transmembrane Protein. PLoS ONE, 2014, 9, e102427.	2.5	43
31	Bottom-up biofabrication using microfluidic techniques. Biofabrication, 2018, 10, 044103.	7.1	42
32	Perfusable and stretchable 3D culture system for skin-equivalent. Biofabrication, 2019, 11, 011001.	7.1	42
33	Three-dimensional printed microfluidic modules for design changeable coaxial microfluidic devices. Sensors and Actuators B: Chemical, 2018, 274, 491-500.	7.8	37
34	Construction of 3D, Layered Skin, Microsized Tissues by Using Cell Beads for Cellular Function Analysis. Advanced Healthcare Materials, 2013, 2, 261-265.	7.6	34
35	Centrifuge-based cell encapsulation in hydrogel microbeads using sub-microliter sample solution. RSC Advances, 2014, 4, 30480.	3.6	31
36	Differentiation Induction of Mouse Neural Stem Cells in Hydrogel Tubular Microenvironments with Controlled Tube Dimensions. Advanced Healthcare Materials, 2016, 5, 1104-1111.	7.6	31

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37	3D Tissue Formation of Unilocular Adipocytes in Hydrogel Microfibers. Advanced Healthcare Materials, 2016, 5, 548-556.	7.6	31
38	Biofabricating murine and human myoâ€substitutes for rapid volumetric muscle loss restoration. EMBO Molecular Medicine, 2021, 13, e12778.	6.9	29
39	Three-dimensional contractile muscle tissue consisting of human skeletal myocyte cell line. Experimental Cell Research, 2018, 370, 168-173.	2.6	25
40	Microfluidics based synthesis of coiled hydrogel microfibers with flexible shape and dimension control. Sensors and Actuators B: Chemical, 2017, 246, 358-362.	7.8	24
41	A hybrid axisymmetric flow-focusing device for monodisperse picoliter droplets. Journal of Micromechanics and Microengineering, 2011, 21, 054031.	2.6	20
42	Biohybrid sensor for odor detection. Lab on A Chip, 2021, 21, 2643-2657.	6.0	20
43	Biohybrid device with antagonistic skeletal muscle tissue for measurement of contractile force. Advanced Robotics, 2019, 33, 208-218.	1.8	19
44	Multicellular Biohybrid Materials: Probing the Interplay of Cells of Different Types Precisely Positioned and Constrained on 3D Wireframeâ€Like Microstructures. Advanced Healthcare Materials, 2017, 6, 1601053.	7.6	17
45	3D culture of functional human iPSC-derived hepatocytes using a core-shell microfiber. PLoS ONE, 2020, 15, e0234441.	2.5	16
46	Portable biohybrid odorant sensors using cell-laden collagen micropillars. Lab on A Chip, 2019, 19, 1971-1976.	6.0	15
47	Formation of Branched and Chained Alginate Microfibers Using Theta-Glass Capillaries. Micromachines, 2018, 9, 303.	2.9	13
48	A pumpless solution exchange system for nanopore sensors. Biomicrofluidics, 2019, 13, 064104.	2.4	11
49	Manufacturing of animal products by the assembly of microfabricated tissues. Essays in Biochemistry, 2021, 65, 611-623.	4.7	9
50	A Cylindrical Molding Method for the Biofabrication of Plane-Shaped Skeletal Muscle Tissue. Micromachines, 2021, 12, 1411.	2.9	7
51	3D Biofabrication Using Living Cells for Applications in Biohybrid Sensors and Actuators. ACS Applied Bio Materials, 2020, 3, 8121-8126.	4.6	5
52	Cell-laden microfibers fabricated using Î¼l cell-suspension. Biofabrication, 2020, 12, 045021.	7.1	5
53	Luer-lock valve: A pre-fabricated pneumatic valve for 3D printed microfluidic automation. Biomicrofluidics, 2020, 14, 044115.	2.4	4
54	Microfluidic Device for the Analysis of Angiogenic Sprouting under Bidirectional Biochemical Gradients. Micromachines, 2020, 11, 1049.	2.9	4

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55	In vitro proliferation and long-term preservation of functional primary rat hepatocytes in cell fibers. Scientific Reports, 2022, 12, .	3.3	4
56	A Lipid-Bilayer-On-A-Cup Device for Pumpless Sample Exchange. Micromachines, 2020, 11, 1123.	2.9	2
57	Efficient Lipid Bilayer Formation by Dipping Lipid-Loaded Microperforated Sheet in Aqueous Solution. Micromachines, 2021, 12, 53.	2.9	2
58	Handheld nanopore-based biosensing device. , 2018, , .		1
59	Vascularized Spheroid Array in a Microfluidic Channel. , 2019, , .		1
60	3D Microfluidic Device for Perfusion Culture of Spheroids. , 2020, , .		1
61	A lateral-axis MEMS tuning fork gyroscope with nozzle-optimized squeeze-film sensing element. , 2013, , .		0
62	Digital fast startup procedure for micro-machined vibratory gyroscopes using optimized fuzzy control strategy. , 2014, , .		0
63	Microfluidic fabrication of hydrogel-fiber-based 3D constructs utilizing liquid rope-coil effect. , 2016, , .		0
64	Stacking 2D Droplet Arrays for 3D Configurable Droplet Network. , 2019, , .		0
65	Pumpless Solution Exchange for Repeatable Nanopore Biosensor Driven by Superabsorbent Polymer and Hydrostatic Pressure. , 2019, , .		0
66	3D Pocket-Shape Dermis-Equivalent as a Skin Material for a Robotic Finger. , 2020, , .		0
67	Locally-Patterned Parylene Membrane Enables Electrical Resistance Measurement for a Cellular Barrier Consisting of < 100 Cells. , 2020, , .		0
68	Odorant Sensor Using Olfactory Receptor Reconstituted in a Lipid Bilayer Membrane with Gas Flow System. , 2020, , .		0
69	Micro Tissue Assembly for Co-Culturing 3D Skeletal Muscle and Adipose Tissues. , 2020, , .		0
70	Artificial Cell Membrane Sensors with Membrane Proteins. Vacuum and Surface Science, 2021, 64, 162-167.	0.1	0
71	Monolithic Fabrication of a Lipid Bilayer Device Using Stereolithography. , 2021, , .		0
72	3D culture of functional human iPSC-derived hepatocytes using a core-shell microfiber. , 2020, 15, e0234441.		0

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73	3D culture of functional human iPSC-derived hepatocytes using a core-shell microfiber. , 2020, 15, e0234441.		0
74	3D culture of functional human iPSC-derived hepatocytes using a core-shell microfiber. , 2020, 15, e0234441.		0
75	3D culture of functional human iPSC-derived hepatocytes using a core-shell microfiber. , 2020, 15, e0234441.		0