Taesung Kim

List of Publications by Year in descending order

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84 papers	2,563 citations	172386 29 h-index	206029 48 g-index
84 all docs	84 docs citations	84 times ranked	3604 citing authors

#	Article	IF	Citations
1	Inkjet Printing Based Mono-layered Photonic Crystal Patterning for Anti-counterfeiting Structural Colors. Scientific Reports, 2016, 6, 30885.	1.6	147
2	High humidity- and contamination-resistant triboelectric nanogenerator with superhydrophobic interface. Nano Energy, 2019, 57, 903-910.	8.2	119
3	Review of Micro/Nanotechnologies for Microbial Biosensors. Frontiers in Bioengineering and Biotechnology, 2015, 3, 61.	2.0	116
4	Triboelectric Nanogeneratorâ€Based Sensor Systems for Chemical or Biological Detection. Advanced Materials, 2021, 33, e2008276.	11.1	108
5	Snake fangâ€“inspired stamping patch for transdermal delivery of liquid formulations. Science Translational Medicine, 2019, 11, .	5.8	95
6	Cracking-assisted photolithography for mixed-scale patterning and nanofluidic applications. Nature Communications, 2015, 6, 6247.	5.8	92
7	Active Alignment of Microtubules with Electric Fields. Nano Letters, 2007, 7, 211-217.	4.5	73
8	Review of microfluidic approaches for surface-enhanced Raman scattering. Sensors and Actuators B: Chemical, 2016, 227, 504-514.	4.0	72
9	Generating steep, shear-free gradients of small molecules for cell culture. Biomedical Microdevices, 2009, 11, 65-73.	1.4	67
10	Development of a highly specific and sensitive cadmium and lead microbial biosensor using synthetic CadC-T7 genetic circuitry. Biosensors and Bioelectronics, 2016, 79, 701-708.	5.3	66
11	Multimodal and Covertâ€“Overt Convertible Structural Coloration Transformed by Mechanical Stress. Advanced Materials, 2020, 32, e2001467.	11.1	66
12	Chemostat-like microfluidic platform for highly sensitive detection of heavy metal ions using microbial biosensors. Biosensors and Bioelectronics, 2015, 65, 257-264.	5.3	65
13	Transparent-flexible-multimodal triboelectric nanogenerators for mechanical energy harvesting and self-powered sensor applications. Nano Energy, 2018, 48, 471-480.	8.2	63
14	Ion concentration polarization in a single and open microchannel induced by a surface-patterned perm-selective film. Analyst, The, 2013, 138, 1370.	1.7	62
15	Diffusion-Based and Long-Range Concentration Gradients of Multiple Chemicals for Bacterial Chemotaxis Assays. Analytical Chemistry, 2010, 82, 9401-9409.	3.2	61
16	Synthetic multicellular cell-to-cell communication in inkjet printed bacterial cell systems. Biomaterials, 2011, 32, 2500-2507.	5.7	58
17	Nanochannel-Assisted Perovskite Nanowires: From Growth Mechanisms to Photodetector Applications. ACS Nano, 2018, 12, 8406-8414.	7.3	56
18	Microfluidic static droplet array for analyzing microbial communication on a population gradient. Lab on A Chip, 2015, 15, 889-899.	3.1	53

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19	Cracking-assisted fabrication of nanoscale patterns for micro/nanotechnological applications. Nanoscale, 2016, 8, 9461-9479.	2.8	48
20	Multiphysics Simulation of Ion Concentration Polarization Induced by Nanoporous Membranes in Dual Channel Devices. Analytical Chemistry, 2014, 86, 7360-7367.	3.2	45
21	Nanomechanical Model of Microtubule Translocation in the Presence of Electric Fields. Biophysical Journal, 2008, 94, 3880-3892.	0.2	39
22	Concentration gradient generation of multiple chemicals using spatially controlled self-assembly of particles in microchannels. Lab on A Chip, 2012, 12, 3968.	3.1	38
23	Characterizing self-assembly and deposition behavior of nanoparticles in inkjet-printed evaporating droplets. Sensors and Actuators B: Chemical, 2017, 252, 1063-1070.	4.0	37
24	Directional Reflective Surface Formed via Gradient-Impeding Acoustic Meta-Surfaces. Scientific Reports, 2016, 6, 32300.	1.6	35
25	Micropatterning bacterial suspensions using aqueous two phase systems. Analyst, The, 2010, 135, 2848.	1.7	33
26	Microfluidic Technologies for Synthetic Biology. International Journal of Molecular Sciences, 2011, 12, 3576-3593.	1.8	32
27	Biomolecular motor-driven molecular sorter. Lab on A Chip, 2009, 9, 1282.	3.1	31
28	Productive Chemical Interaction between a Bacterial Microcolony Couple Is Enhanced by Periodic Relocation. Journal of the American Chemical Society, 2013, 135, 2242-2247.	6.6	31
29	Biomolecular motor-driven microtubule translocation in the presence of shear flow: analysis of redirection behaviours. Nanotechnology, 2007, 18, 025101.	1.3	30
30	Unconventional micro-/nanofabrication technologies for hybrid-scale lab-on-a-chip. Lab on A Chip, 2016, 16, 4296-4312.	3.1	30
31	Microâ€/Nanofluidics for Liquidâ€Mediated Patterning of Hybridâ€Scale Material Structures. Advanced Materials, 2019, 31, e1804953.	11.1	30
32	Review of microfluidic approaches for fabricating intelligent fiber devices: importance of shape characteristics. Lab on A Chip, 2021, 21, 1217-1240.	3.1	30
33	Synthetic biology for biofuels: Building designer microbes from the scratch. Biotechnology and Bioprocess Engineering, 2010, 15, 11-21.	1.4	29
34	Dynamic Transport Control of Colloidal Particles by Repeatable Active Switching of Solute Gradients. ACS Nano, 2019, 13, 12939-12948.	7.3	29
35	Integration of nanoporous membranes into microfluidic devices: electrokinetic bio-sample pre-concentration. Analyst, The, 2013, 138, 6007.	1.7	28
36	Microfluidic device for analyzing preferential chemotaxis and chemoreceptor sensitivity of bacterial cells toward carbon sources. Analyst, The, 2011, 136, 3238.	1.7	25

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37	Multiphysics Simulation of Ion Concentration Polarization Induced by a Surface-Patterned Nanoporous Membrane in Single Channel Devices. Analytical Chemistry, 2014, 86, 10365-10372.	3.2	25
38	Microbial linguistics: perspectives and applications of microbial cell-to-cell communication. BMB Reports, 2011, 44, 1-10.	1.1	24
39	Nanofluidic Concentration of Selectively Extracted Biomolecule Analytes by Microtubules. Analytical Chemistry, 2008, 80, 5383-5390.	3.2	23
40	Portable triboelectric microfluidic system for self-powered sensors towards in-situ detection. Nano Energy, 2021, 85, 105980.	8.2	23
41	Switchable Gene Expression in Escherichia coli Using a Miniaturized Photobioreactor. PLoS ONE, 2013, 8, e52382.	1.1	22
42	Crack-Photolithography for Membrane-Free Diffusion-Based Micro/Nanofluidic Devices. Analytical Chemistry, 2015, 87, 11215-11223.	3.2	21
43	Reusable and storable whole-cell microbial biosensors with a microchemostat platform for in situ on-demand heavy metal detection. Sensors and Actuators B: Chemical, 2018, 264, 372-381.	4.0	21
44	Ultra-fast responsive colloidalâ€“polymer composite-based volatile organic compounds (VOC) sensor using nanoscale easy tear process. Scientific Reports, 2018, 8, 5291.	1.6	21
45	A Hierarchical Nanostructureâ€Based Surfaceâ€Enhanced Raman Scattering Sensor for Preconcentration and Detection of Antibiotic Pollutants. Advanced Materials Technologies, 2017, 2, 1700028.	3.0	20
46	Inkjet-printed Ag micro-/nanostructure clusters on Cu substrates for in-situ pre-concentration and surface-enhanced Raman scattering. Sensors and Actuators B: Chemical, 2017, 243, 176-183.	4.0	20
47	Spider-inspired regenerated silk fibroin fiber actuator via microfluidic spinning. Chemical Engineering Journal, 2022, 444, 136556.	6.6	20
48	Microfabricated ratchet structure integrated concentrator arrays for synthetic bacterial cell-to-cell communication assays. Lab on A Chip, 2012, 12, 3914.	3.1	19
49	A microfluidic concentrator array for quantitative predation assays of predatory microbes. Lab on A Chip, 2011, 11, 2916.	3.1	18
50	A cracking-assisted micro-/nanofluidic fabrication platform for silver nanobelt arrays and nanosensors. Nanoscale, 2017, 9, 9622-9630.	2.8	18
51	Patterned delivery and expression of gene constructs into zebrafish embryos using microfabricated interfaces. Biomedical Microdevices, 2009, 11, 633-641.	1.4	16
52	A Microfluidic Platform for High-Throughput Screening of Small Mutant Libraries. Analytical Chemistry, 2016, 88, 5234-5242.	3.2	16
53	Biomolecular motor-driven microtubule translocation in the presence of shear flow: modeling microtubule deflection due to shear. Biomedical Microdevices, 2007, 9, 501-511.	1.4	15
54	Microfabricated ratchet structures for concentrating and patterning motile bacterial cells. Journal of Micromechanics and Microengineering, 2010, 20, 095006.	1.5	13

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55	Low-electric-potential-assisted diffusiophoresis for continuous separation of nanoparticles on a chip. Lab on A Chip, 2020, 20, 2735-2747.	3.1	13
56	Patterning of various silicon structures via polymer lithography and catalytic chemical etching. Nanotechnology, 2011, 22, 275305.	1.3	12
57	Patterning and transferring hydrogel-encapsulated bacterial cells for quantitative analysis of synthetically engineered genetic circuits. Biomaterials, 2012, 33, 624-633.	5.7	12
58	Self-assembled particle membranes for in situ concentration and chemostat-like cultivation of microorganisms on a chip. Lab on A Chip, 2016, 16, 1072-1080.	3.1	12
59	Long-Term and Programmable Bacterial Subculture in Completely Automated Microchemostats. Analytical Chemistry, 2017, 89, 9676-9684.	3.2	12
60	Controlled open-cell two-dimensional liquid foam generation for micro- and nanoscale patterning of materials. Nature Communications, 2019, 10, 3209.	5.8	10
61	Aptamer-functionalized microtubules for continuous and selective concentration of target analytes. Sensors and Actuators B: Chemical, 2014, 202, 1229-1236.	4.0	9
62	Nanoscale Hydrodynamic Film for Diffusive Mass Transport Control in Compartmentalized Microfluidic Chambers. Analytical Chemistry, 2017, 89, 10286-10295.	3.2	9
63	Dynamic Culture and Selective Extraction of Target Microbial Cells in Self-Assembled Particle Membrane-Integrated Microfluidic Bioreactor Array. Analytical Chemistry, 2019, 91, 6162-6171.	3.2	8
64	Direct Single-Step Printing of Conductive Grids on Curved Surfaces Using Template-Guided Foaming. ACS Applied Materials & Interfaces, 2021, 13, 19168-19175.	4.0	8
65	Combined Effects of Zeta-potential and Temperature of Nanopores on Diffusioosmotic Ion Transport. Analytical Chemistry, 2021, 93, 14169-14177.	3.2	7
66	Fabricating a multi-level barrier-integrated microfluidic device using grey-scale photolithography. Journal of Micromechanics and Microengineering, 2013, 23, 105015.	1.5	6
67	Rapid and accurate generation of various concentration gradients using polydimethylsiloxane-sealed hydrogel device. Microfluidics and Nanofluidics, 2014, 16, 645-654.	1.0	6
68	Pneumatically controlled multi-level microchannel for separation and extraction of microparticles. Sensors and Actuators B: Chemical, 2014, 190, 86-92.	4.0	6
69	Structural Color Platforms: Multimodal and Covertâ€“Overt Convertible Structural Coloration Transformed by Mechanical Stress (Adv. Mater. 25/2020). Advanced Materials, 2020, 32, 2070192.	11.1	6
70	Evaporation-driven transport-control of small molecules along nanoslits. Nature Communications, 2021, 12, 1336.	5.8	6
71	Theoretical model and experimental validation for underwater oxygen extraction for realizing artificial gills. Sensors and Actuators A: Physical, 2018, 284, 103-111.	2.0	5
72	Design and performance evaluation of a 3-DOF mobile microrobot for micromanipulation. Journal of Mechanical Science and Technology, 2003, 17, 1268-1275.	0.4	4

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73	Current Application of Micro/Nano-Interfaces to Stimulate and Analyze Cellular Responses. Annals of Biomedical Engineering, 2010, 38, 2056-2067.	1.3	4
74	Pervaporation-assisted in situ formation of nanoporous microchannels with various material and structural properties. Lab on A Chip, 2022, 22, 1474-1485.	3.1	4
75	Inkjet-printing-based structural coloring for anti-counterfeit applications. , 2015, , .		3
76	Heterogeneous semiconductor nanowire array for sensitive broadband photodetector by crack photolithography-based micro-/nanofluidic platforms. RSC Advances, 2020, 10, 23712-23719.	1.7	3
77	Numerical simulation of particle deposition patterns in evaporating droplets. Journal of Micromechanics and Microengineering, 2021, 31, 105007.	1.5	2
78	High-Throughput Screening of Acyl-CoA Thioesterase I Mutants Using a Fluid Array Platform. ACS Omega, 2019, 4, 21848-21854.	1.6	1
79	Double-Sided Microwells with a Stepped Through-Hole Membrane for High-Throughput Microbial Assays. Analytical Chemistry, 2020, 92, 9501-9510.	3.2	1
80	Chemostat-like microfluidic platform for highly sensitive detection of heavy metal ions using microbial biosensors. , 2015, , .		0
81	Inkjet-printed AG micro-/nanostructure clusters on CU substrates for in-situ pre-concentration and surface-enhanced Raman scattering. , 2017, , .		0
82	Permanent encapsulation of nanoparticle patterns formed by inkjet printer for transparent and flexible anti-counterfeit applications. , 2017, , .		0
83	Micro-/Nanofluidic Diffusiophoresis Platform for Simple Concentration and Extraction of Particles Using Ionic Solutions. , 2019, , .		0
84	Comprehensive Analysis and Control of Diffusioosmosis-Driven Ionic Transport Through Interconnected Nanoporous Membranes. , 2020, , .		0