Rohit Karnik

List of Publications by Year
in descending order

#	Article	IF	Citations
1	Microfluidic Platform for Controlled Synthesis of Polymeric Nanoparticles. Nano Letters, 2008, 8, 2906-2912.	4.5	728
2	Selective Ionic Transport through Tunable Subnanometer Pores in Single-Layer Graphene Membranes. Nano Letters, 2014, 14, 1234-1241.	4.5	687
3	Fundamental transport mechanisms, fabrication and potential applications of nanoporous atomically thin membranes. Nature Nanotechnology, 2017, 12, 509-522.	15.6	596
4	Electrostatic Control of Ions and Molecules in Nanofluidic Transistors. Nano Letters, 2005, 5, 943-948.	4.5	595
5	Engineering of self-assembled nanoparticle platform for precisely controlled combination drug therapy. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 17939-17944.	3.3	545
6	Mechanistic understanding of in vivo protein corona formation on polymeric nanoparticles and impact on pharmacokinetics. Nature Communications, 2017, 8, 777.	5.8	507
7	Rectification of Ionic Current in a Nanofluidic Diode. Nano Letters, 2007, 7, 547-551.	4.5	484
8	Selective Molecular Transport through Intrinsic Defects in a Single Layer of CVD Graphene. ACS Nano, 2012, 6, 10130-10138.	7.3	331
9	Transepithelial Transport of Fc-Targeted Nanoparticles by the Neonatal Fc Receptor for Oral Delivery. Science Translational Medicine, 2013, 5, 213ra167.	5.8	326
10	DNA Translocation in Inorganic Nanotubes. Nano Letters, 2005, 5, 1633-1637.	4.5	297
11	Single-Step Assembly of Homogenous Lipidâ˜'Polymeric and Lipidâ˜'Quantum Dot Nanoparticles Enabled by Microfluidic Rapid Mixing. ACS Nano, 2010, 4, 1671-1679.	7.3	283
12	Nanofiltration across Defect-Sealed Nanoporous Monolayer Graphene. Nano Letters, 2015, 15, 3254-3260.	4.5	272
13	Bioinspired multivalent DNA network for capture and release of cells. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 19626-19631.	3.3	266
14	Mechanisms of Molecular Permeation through Nanoporous Graphene Membranes. Langmuir, 2014, 30, 675-682.	1.6	242
15	Ultra-High Throughput Synthesis of Nanoparticles with Homogeneous Size Distribution Using a Coaxial Turbulent Jet Mixer. ACS Nano, 2014, 8, 6056-6065.	7.3	217
16	Graphene cleans up water. Nature Nanotechnology, 2012, 7, 552-554.	15.6	209
17	Heterogeneous sub-continuum ionic transport in statistically isolated graphene nanopores. Nature Nanotechnology, 2015, 10, 1053-1057.	15.6	203
18	Cell-surface sensors for real-time probing of cellular environments. Nature Nanotechnology, 2011, 6, 524-531.	15.6	201

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19	Synthesis of Sizeâ€Tunable Polymeric Nanoparticles Enabled by 3D Hydrodynamic Flow Focusing in Singleâ€Layer Microchannels. Advanced Materials, 2011, 23, H79-83.	11.1	200
20	Microfluidic Platform for Combinatorial Synthesis and Optimization of Targeted Nanoparticles for Cancer Therapy. ACS Nano, 2013, 7, 10671-10680.	7.3	196
21	Engineered cell homing. Blood, 2011, 118, e184-e191.	0.6	187
22	Implications of Permeation through Intrinsic Defects in Graphene on the Design of Defect-Tolerant Membranes for Gas Separation. ACS Nano, 2014, 8, 841-849.	7.3	185
23	Effects of Biological Reactions and Modifications on Conductance of Nanofluidic Channels. Nano Letters, 2005, 5, 1638-1642.	4.5	174
24	Harnessing the hygroscopic and biofluorescent behaviors of genetically tractable microbial cells to design biohybrid wearables. Science Advances, 2017, 3, e1601984.	4.7	170
25	Effects of ligands with different water solubilities on self-assembly and properties of targeted nanoparticles. Biomaterials, 2011, 32, 6226-6233.	5.7	169
26	Field-effect control of protein transport in a nanofluidic transistor circuit. Applied Physics Letters, 2006, 88, 123114.	1.5	167
27	Nanofluidic transport governed by the liquid/vapour interface. Nature Nanotechnology, 2014, 9, 317-323.	15.6	159
28	Parallel microfluidic synthesis of size-tunable polymeric nanoparticles using 3D flow focusing towards in vivo study. Nanomedicine: Nanotechnology, Biology, and Medicine, 2014, 10, 401-409.	1.7	134
29	Polymeric Nanoparticles Amenable to Simultaneous Installation of Exterior Targeting and Interior Therapeutic Proteins. Angewandte Chemie - International Edition, 2016, 55, 3309-3312.	7.2	121
30	Engineered mesenchymal stem cells with self-assembled vesicles for systemic cell targeting. Biomaterials, 2010, 31, 5266-5274.	5.7	120
31	Nanoporous Atomically Thin Graphene Membranes for Desalting and Dialysis Applications. Advanced Materials, 2017, 29, 1700277.	11.1	118
32	Evaporation-induced cavitation in nanofluidic channels. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 3688-3693.	3.3	116
33	Mixing Crowded Biological Solutions in Milliseconds. Analytical Chemistry, 2005, 77, 7618-7625.	3.2	109
34	Chemical Engineering of Mesenchymal Stem Cells to Induce a Cell Rolling Response. Bioconjugate Chemistry, 2008, 19, 2105-2109.	1.8	105
35	Molecular Sieving Across Centimeter-Scale Single-Layer Nanoporous Graphene Membranes. ACS Nano, 2017, 11, 5726-5736.	7.3	105
36	Microstructured barbs on the North American porcupine quill enable easy tissue penetration and difficult removal. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 21289-21294.	3.3	104

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37	Molecular size-dependent subcontinuum solvent permeation and ultrafast nanofiltration across nanoporous graphene membranes. Nature Nanotechnology, 2021, 16, 989-995.	15.6	98
38	Water and Solute Transport Governed by Tunable Pore Size Distributions in Nanoporous Graphene Membranes. ACS Nano, 2017, 11, 10042-10052.	7.3	96
39	High permeability sub-nanometre sieve composite MoS2 membranes. Nature Communications, 2020, 11, 2747.	5.8	93
40	Diffusion-Limited Patterning of Molecules in Nanofluidic Channels. Nano Letters, 2006, 6, 1735-1740.	4.5	78
41	Single-Layer Graphene Membranes Withstand Ultrahigh Applied Pressure. Nano Letters, 2017, 17, 3081-3088.	4.5	78
42	Cell sorting by deterministic cell rolling. Lab on A Chip, 2012, 12, 1427.	3.1	75
43	Highly porous nanofiber-supported monolayer graphene membranes for ultrafast organic solvent nanofiltration. Science Advances, 2021, 7, eabg6263.	4.7	75
44	A Scalable Route to Nanoporous Large-Area Atomically Thin Graphene Membranes by Roll-to-Roll Chemical Vapor Deposition and Polymer Support Casting. ACS Applied Materials & Interfaces, 2018, 10, 10369-10378.	4.0	71
45	Effects of annealing on copper substrate surface morphology and graphene growth by chemical vapor deposition. Carbon, 2015, 94, 369-377.	5.4	67
46	Water Filtration Using Plant Xylem. PLoS ONE, 2014, 9, e89934.	1.1	66
47	Facile Fabrication of Largeâ€Area Atomically Thin Membranes by Direct Synthesis of Graphene with Nanoscale Porosity. Advanced Materials, 2018, 30, e1804977.	11.1	56
48	Nanomechanical Control of Cell Rolling in Two Dimensions through Surface Patterning of Receptors. Nano Letters, 2008, 8, 1153-1158.	4.5	53
49	A mechanical-electrokinetic battery using a nano-porous membrane. Journal of Micromechanics and Microengineering, 2006, 16, 667-675.	1.5	49
50	Selective Nanoscale Mass Transport across Atomically Thin Single Crystalline Graphene Membranes. Advanced Materials, 2017, 29, 1605896.	11.1	46
51	Assessment and control of the impermeability of graphene for atomically thin membranes and barriers. Nanoscale, 2017, 9, 8496-8507.	2.8	45
52	Mimicking the inflammatory cell adhesion cascade by nucleic acid aptamer programmed cellâ€cell interactions. FASEB Journal, 2011, 25, 3045-3056.	0.2	43
53	Monolayer graphene transfer onto polypropylene and polyvinylidenedifluoride microfiltration membranes for water desalination. Desalination, 2016, 388, 29-37.	4.0	42
54	Integration of Solid-State Nanopores in Microfluidic Networks via Transfer Printing of Suspended Membranes. Analytical Chemistry, 2013, 85, 3871-3878.	3.2	41

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55	Desalination of water by vapor-phase transport through hydrophobic nanopores. Journal of Applied Physics, 2010, 108, .	1.1	38
56	Isolation of Circulating Plasma Cells in Multiple Myeloma Using CD138 Antibody-Based Capture in a Microfluidic Device. Scientific Reports, 2017, 7, 45681.	1.6	37
57	Solid-Phase Extraction, Preservation, Storage, Transport, and Analysis of Trace Contaminants for Water Quality Monitoring of Heavy Metals. Environmental Science & Technology, 2020, 54, 2646-2657.	4.6	36
58	Monolayer graphene membranes for molecular separation in high-temperature harsh organic solvents. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	30
59	A cell rolling cytometer reveals the correlation between mesenchymal stem cell dynamic adhesion and differentiation state. Lab on A Chip, 2014, 14, 161-166.	3.1	29
60	Design of Insulin-Loaded Nanoparticles Enabled by Multistep Control of Nanoprecipitation and Zinc Chelation. ACS Applied Materials & Interfaces, 2017, 9, 11440-11450.	4.0	28
61	Knudsen effusion through polymer-coated three-layer porous graphene membranes. Nanotechnology, 2017, 28, 184003.	1.3	28
62	Enhanced discrimination of DNA molecules in nanofluidic channels through multiple measurements. Lab on A Chip, 2012, 12, 1094.	3.1	22
63	A Semianalytical Model to Study the Effect of Cortical Tension on Cell Rolling. Biophysical Journal, 2010, 99, 3870-3879.	0.2	21
64	Examining the Lateral Displacement of HL60 Cells Rolling on Asymmetric P-Selectin Patterns. Langmuir, 2011, 27, 240-249.	1.6	20
65	Spontaneous Formation of Heterogeneous Patches on Polymerâ€"Lipid Coreâ€"Shell Particle Surfaces during Selfâ€Assembly. Small, 2013, 9, 511-517.	5.2	17
66	Investigating the translocation of Î»-DNA molecules through PDMS nanopores. Analytical and Bioanalytical Chemistry, 2009, 394, 437-446.	1.9	16
67	In-field determination of soil ion content using a handheld device and screen-printed solid-state ion-selective electrodes. PLoS ONE, 2018, 13, e0203862.	1.1	16
68	Selfâ€Sorting of Deformable Particles in an Asynchronous Logic Microfluidic Circuit. Small, 2013, 9, 375-381.	5.2	15
69	A Comprehensive Review on Biofuels from Oil Palm Empty Bunch (EFB): Current Status, Potential, Barriers and Way Forward. Sustainability, 2021, 13, 10210.	1.6	15
70	Engineering and characterization of gymnosperm sapwood toward enabling the design of water filtration devices. Nature Communications, 2021, 12, 1871.	5.8	14
71	Drug loading augmentation in polymeric nanoparticles using a coaxial turbulent jet mixer: Yong investigator perspective. Journal of Colloid and Interface Science, 2019, 538, 45-50.	5.0	12
72	Enhanced water transport and salt rejection through hydrophobic zeolite pores. Nanotechnology, 2017, 28, 505703.	1.3	11

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73	Molecular Selfâ€Assembly Enables Tuning of Nanopores in Atomically Thin Graphene Membranes for Highly Selective Transport. Advanced Materials, 2022, 34, e2108940.	11.1	11
74	Polymeric Nanoparticles Amenable to Simultaneous Installation of Exterior Targeting and Interior Therapeutic Proteins. Angewandte Chemie, 2016, 128, 3370-3373.	1.6	10
75	Thermodynamic analysis and material design to enhance chemo-mechanical coupling in hydrogels for energy harvesting from salinity gradients. Journal of Applied Physics, 2020, 128, .	1.1	8
76	Rapid screening of nanopore candidates in nanoporous single-layer graphene for selective separations using molecular visualization and interatomic potentials. Journal of Chemical Physics, 2021, 154, 184111.	1.2	8
77	Nonlinear ion transport mediated by induced charge in ultrathin nanoporous membranes. Physical Review E, 2021, 104, 044802.	0.8	6
78	MICROFLUIDICS: Synthesis of Size-Tunable Polymeric Nanoparticles Enabled by 3D Hydrodynamic Flow Focusing in Single-Layer Microchannels (Adv. Mater. 12/2011). Advanced Materials, 2011, 23, H78-H78.	11.1	5
79	Drug delivery: Closed-loop dynamic dosing. Nature Biomedical Engineering, 2017, 1, .	11.6	5
80	Microfluidic multiplexing of solid-state nanopores. Journal of Physics Condensed Matter, 2017, 29, 484001.	0.7	5
81	Role of electrostatic interactions in protein loading in PLGA-PEG nanoparticles. , 2014, , .		4
82	Time limitations and geometrical parameters in the design of microfluidic comparators. Microfluidics and Nanofluidics, 2014, 17, 359-373.	1.0	4
83	Antibody-modified conduits for highly selective cytokine elimination from blood. JCI Insight, 2018, 3, .	2.3	4
84	Fieldwork-based determination of design priorities for point-of-use drinking water quality sensors for use in resource-limited environments. PLoS ONE, 2020, 15, e0228140.	1.1	2
85	Iron oxide xerogels for improved water quality monitoring of arsenic(<scp>iii</scp>) in resource-limited environments<i>via</i>solid-phase extraction, preservation, storage, transportation, and analysis of trace contaminants (SEPSTAT). Analytical Methods, 2021, 13, 2165-2174.	1.3	2
86	Oscillations in light-triggered logic microfluidic circuit. Microsystem Technologies, 2014, 20, 437-444.	1.2	1
87	Nanoporous Graphene: Facile Fabrication of Large-Area Atomically Thin Membranes by Direct Synthesis of Graphene with Nanoscale Porosity (Adv. Mater. 49/2018). Advanced Materials, 2018, 30, 1870376.	11.1	1
88	Steering trajectories of rolling cells by 2D asymmetric receptor patterning. , 2010, , .		0
89	A Micro/Nano Engineering Laboratory Module on Superoleophobic Membranes for Oil-Water Separation. MRS Advances, 2017, 2, 1699-1706.	0.5	0
90	Title is missing!. , 2020, 15, e0228140.		0

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91	Title is missing!. , 2020, 15, e0228140.		0
92	Title is missing!. , 2020, 15, e0228140.		0
93	Title is missing!. , 2020, 15, e0228140.		0