Zirui Li

List of Publications by Year
in descending order

40 papers	1,673 citations	393982 19 h-index	315357 38 g-index
42 all docs	42 docs citations	42 times ranked	2199 citing authors

#	Article	IF	Citations
1	Isolation and retrieval of circulating tumor cells using centrifugal forces. Scientific Reports, 2013, 3, 1259.	1.6	618
2	Spiral microchannel with rectangular and trapezoidal cross-sections for size based particle separation. Scientific Reports, 2013, 3, 1475.	1.6	230
3	Direct numerical simulation of electroconvective instability and hysteretic current-voltage response of a permselective membrane. Physical Review E, 2012, 86, 046310.	0.8	132
4	A node-based smoothed point interpolation method (NS-PIM) for three-dimensional heat transfer problems. International Journal of Thermal Sciences, 2009, 48, 1367-1376.	2.6	75
5	Deciphering ion concentration polarization-based electrokinetic molecular concentration at the micro-nanofluidic interface: theoretical limits and scaling laws. Nanoscale, 2018, 10, 15187-15194.	2.8	56
6	Direct numerical simulation of continuous lithium extraction from high Mg^{2+}/Li^+ ratio brines using microfluidic channels with ion concentration polarization. Journal of Membrane Science, 2018, 556, 34-41.	4.1	49
7	A STUDY ON SELF-INSERTION OF PEPTIDES INTO SINGLE-WALLED CARBON NANOTUBES BASED ON MOLECULAR DYNAMICS SIMULATION. International Journal of Modern Physics C, 2005, 16, 1239-1250.	0.8	39
8	Computational analysis of binding free energies between peptides and single-walled carbon nanotubes. Physica A: Statistical Mechanics and Its Applications, 2006, 367, 293-304.	1.2	38
9	Accurate Multi-Physics Numerical Analysis of Particle Preconcentration Based on Ion Concentration Polarization. International Journal of Applied Mechanics, 2017, 09, 1750107.	1.3	34
10	Virtual Reality Training In Interventional Radiology: The Johns Hopkins and Kent Ridge Digital Laboratory Experience. Seminars in Interventional Radiology, 2002, 19, 179-186.	0.3	32
11	A comparative study of different baffles on mitigating liquid sloshing in a rectangular tank due to a horizontal excitation. Engineering Computations, 2015, 32, 1172-1190.	0.7	32
12	Computer-Aided Design and Analysis of Rewritable Phase-Change Optical Disk. Japanese Journal of Applied Physics, 2000, 39, 3458-3462.	0.8	30
13	Pressure-Modulated Selective Electrokinetic Trapping for Direct Enrichment, Purification, and Detection of Nucleic Acids in Human Serum. Analytical Chemistry, 2018, 90, 11366-11375.	3.2	29
14	An evidence-theory model considering dependence among parameters and its application in structural reliability analysis. Engineering Structures, 2013, 57, 12-22.	2.6	26
15	Force fields of charged particles in micro-nanofluidic preconcentration systems. AIP Advances, 2017, 7, 125020.	0.6	25
16	The stress-strain relationship of liquid marbles under compression. Applied Physics Letters, 2019, 114, 043701.	1.5	24
17	Computer Environment for Interventional Neuroradiology Procedures. Simulation and Gaming, 2001, 32, 404-419.	1.2	21
18	Continuum transport model of Ogston sieving in patterned nanofilter arrays for separation of rodâ€‘like biomolecules. Electrophoresis, 2008, 29, 329-339.	1.3	21

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19	Thermodynamic analysis of protein sequence-structure relationships in monomer and dimer forms. Physica A: Statistical Mechanics and Its Applications, 2005, 354, 381-392.	1.2	19
20	Temperature-dependent structural properties of water molecules confined in TiO2 nanoslits: Insights from molecular dynamics simulations. Fluid Phase Equilibria, 2016, 430, 169-177.	1.4	19
21	Numerical simulation of continuous extraction of highly concentrated Li+ from high Mg2+/Li+ ratio brines in an ion concentration polarization-based microfluidic system. Separation and Purification Technology, 2019, 217, 174-182.	3.9	18
22	Numerical simulation of electrokinetic desalination using microporous permselective membranes. Desalination, 2020, 477, 114262.	4.0	15
23	Transport of biomolecules in asymmetric nanofilter arrays. Analytical and Bioanalytical Chemistry, 2009, 394, 427-435.	1.9	14
24	Electrokinetic flow in the U-shaped micro-nanochannels. Theoretical and Applied Mechanics Letters, 2019, 9, 36-42.	1.3	10
25	Analytical description of Ogston-regime biomolecule separation using nanofilters and nanopores. Physical Review E, 2009, 80, 041911.	0.8	7
26	On the validity of ion selective membrane simplification in concentration polarization. AIP Advances, 2021, 11, .	0.6	7
27	Relationships between the folding rate constant and the topological parameters of small two-state proteins based on general random walk model. Journal of Theoretical Biology, 2006, 241, 152-157.	0.8	6
28	Rapid Simulation of 3D Liquid Sloshing in the Lunar Soft-Landing Spacecraft. AIAA Journal, 2019, 57, 4504-4513.	1.5	6
29	Effect of Cooling Rate on the Microstructure Evolution and Mechanical Properties of Iron-Rich Al–Si Alloy. Materials, 2022, 15, 411.	1.3	6
30	A thermodynamic study of peptides binding to carbon nanotubes based on a hydrophobic-polar lattice model using Monte Carlo simulations. Journal Physics D: Applied Physics, 2008, 41, 055308.	1.3	5
31	Dispersive transport of biomolecules in periodic energy landscapes with application to nanofilter sieving arrays. Electrophoresis, 2011, 32, 506-517.	1.3	5
32	Numerical Simulation of Continuous Extraction of Li+ from High Mg2+/Li+ Ratio Brines Based on Free Flow Ion Concentration Polarization Microfluidic System. Membranes, 2021, 11, 697.	1.4	5
33	Modeling of the Human Orbit from MR Images. Lecture Notes in Computer Science, 2002, , 339-347.	1.0	4
34	Augmented electroosmotic flow and simultaneous desalination in microchannels embedded with permselective membranes. Zhongguo Kexue Jishu Kexue/Scientia Sinica Technologica, 2018, 48, 17-24.	0.3	4
35	Protein designability analysis in sequence principal component space using 2D lattice model. Computer Methods and Programs in Biomedicine, 2004, 76, 21-29.	2.6	3
36	Ion concentration polarization and its application in molecular preconcentration in micro-nanofluidic systems. Zhongguo Kexue Jishu Kexue/Scientia Sinica Technologica, 2018, 48, 1151-1166.	0.3	3

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37	Quantifying the parameters of Prusiner's heterodimer model for prion replication. Physica A: Statistical Mechanics and Its Applications, 2005, 346, 459-474.	1.2	2
38	Numerical Simulation of Seawater Desalination Effect in The Micro-Nanochannel. IOP Conference Series: Materials Science and Engineering, 2019, 612, 022056.	0.3	0
39	Macrotransport analysis of effective mobility of biomolecules in periodic nano-filter polar arrays. Wuli Xuebao/Acta Physica Sinica, 2013, 62, 218701.	0.2	0
40	10.1063/1.5079438.1. , 2019, , .		0