Hirofumi Daiguji

List of Publications by Year
in descending order

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95	3,516	279798	138484
papers	citations	23 h-index	58 g-index

95	95	95	3387
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Rectification of Ionic Current in a Nanofluidic Diode. Nano Letters, 2007, 7, 547-551.	9.1	484
2	Ion Transport in Nanofluidic Channels. Nano Letters, 2004, 4, 137-142.	9.1	454
3	Ion transport in nanofluidic channels. Chemical Society Reviews, 2010, 39, 901-911.	38.1	446
4	Nanofluidic Diode and Bipolar Transistor. Nano Letters, 2005, 5, 2274-2280.	9.1	372
5	Electrochemomechanical Energy Conversion in Nanofluidic Channels. Nano Letters, 2004, 4, 2315-2321.	9.1	304
6	Thermal dependence of nanofluidic energy conversion by reverse electrodialysis. Nanoscale, 2017, 9, 12068-12076.	5.6	84
7	Narrowband Thermal Emission Realized through the Coupling of Cavity and Tamm Plasmon Resonances. ACS Photonics, 2018, 5, 2446-2452.	6.6	74
8	Molecular Simulation of the Phase Behavior of Water Confined in Silica Nanopores. Journal of Physical Chemistry C, 2007, 111, 7938-7946.	3.1	68
9	Enhanced energy harvesting by concentration gradient-driven ion transport in SBA-15 mesoporous silica thin films. Lab on A Chip, 2016, 16, 3824-3832.	6.0	67
10	Stable and Reproducible 2D/3D Formamidiniumâ€“Leadâ€“Iodide Perovskite Solar Cells. ACS Applied Energy Materials, 2019, 2, 2486-2493.	5.1	64
11	Electroosmotic flow: From microfluidics to nanofluidics. Electrophoresis, 2021, 42, 834-868.	2.4	50
12	Ultranarrow and Wavelength-Tunable Thermal Emission in a Hybrid Metalâ€“Optical Tamm State Structure. ACS Photonics, 2020, 7, 1569-1576.	6.6	47
13	Crystallization and Melting Behavior of Erythritol In and Around Two-Dimensional Hexagonal Mesoporous Silica. Journal of Physical Chemistry C, 2015, 119, 4769-4777.	3.1	46
14	A review of solid desiccant dehumidifiers: Current status and near-term development goals in the context of net zero energy buildings. Renewable and Sustainable Energy Reviews, 2021, 137, 110456.	16.4	46
15	Fabrication of Hollow Melamineâ^'Formaldehyde Microcapsules from Microbubble Templates. Journal of Physical Chemistry B, 2007, 111, 8879-8884.	2.6	40
16	Electrokinetics of the silica and aqueous electrolyte solution interface: Viscoelectric effects. Advances in Colloid and Interface Science, 2016, 234, 108-131.	14.7	38
17	Adsorptionâ€“Desorption and Transport of Water in Two-Dimensional Hexagonal Mesoporous Silica. Journal of Physical Chemistry C, 2013, 117, 21795-21802.	3.1	37
18	Kinetics of Water Vapor Adsorption and Desorption in MIL-101 Metalâ€“Organic Frameworks. Journal of Physical Chemistry C, 2019, 123, 387-398.	3.1	35

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19	Molecular Simulations of Water Adsorbed on Mesoporous Silica Thin Films. Journal of Physical Chemistry C, 2013, 117, 2084-2095.	3.1	34
20	Molecular Dynamics Simulations of Water Uptake into a Silica Nanopore. Journal of Physical Chemistry C, 2015, 119, 3012-3023.	3.1	33
21	Manipulation of Protein Translocation through Nanopores by Flow Field Control and Application to Nanopore Sensors. Analytical Chemistry, 2016, 88, 9251-9258.	6.5	33
22	Viscoelectric Effects in Nanochannel Electrokinetics. Journal of Physical Chemistry C, 2017, 121, 20517-20523.	3.1	28
23	Design and performance evaluation of a multilayer fixed-bed binder-free desiccant dehumidifier for hybrid air-conditioning systems: Part I â€“ experimental. International Journal of Heat and Mass Transfer, 2018, 116, 1361-1369.	4.8	26
24	Li@C₆₀ endohedral fullerene as a supraatomic dopant for C₆₀ electron-transporting layers promoting the efficiency of perovskite solar cells. Chemical Communications, 2019, 55, 11837-11839.	4.1	26
25	Ion Transport in Mesoporous Silica SBA-16 Thin Films with 3D Cubic Structures. Langmuir, 2012, 28, 3671-3677.	3.5	23
26	Effect of Withdrawal Speed on Film Thickness and Hexagonal Pore-Array Dimensions of SBA-15 Mesoporous Silica Thin Film. Langmuir, 2014, 30, 15550-15559.	3.5	23
27	Fabrication of Hollow Poly(lactic acid) Microcapsules from Microbubble Templates. Journal of Physical Chemistry B, 2009, 113, 15002-15009.	2.6	22
28	Water adsorptionâ€“desorption isotherms of two-dimensional hexagonal mesoporous silica around freezing point. Journal of Colloid and Interface Science, 2012, 367, 409-414.	9.4	22
29	Bouncing behavior of a water droplet on a super-hydrophobic surface near freezing temperatures. International Journal of Heat and Mass Transfer, 2021, 174, 121304.	4.8	22
30	Fabrication of hollow poly-allylamine hydrochloride/poly-sodium styrene sulfonate microcapsules from microbubble templates. Soft Matter, 2010, 6, 1892.	2.7	20
31	Narrowband thermal emission from Tamm plasmons of a modified distributed Bragg reflector. Applied Physics Letters, 2018, 113, .	3.3	20
32	Nanoconfined Electrochemical Sensing of Single Silver Nanoparticles with a Wireless Nanopore Electrode. ACS Sensors, 2021, 6, 335-339.	7.8	18
33	Analysis of the Water Adsorption Mechanism in Metalâ€“Organic Framework MIL-101(Cr) by Molecular Simulations. Journal of Physical Chemistry C, 2021, 125, 26755-26769.	3.1	18
34	Molecular dynamics study of n-alcohols adsorbed on an aqueous electrolyte solution. Journal of Chemical Physics, 2001, 115, 1538-1549.	3.0	17
35	Two-pair multilayer Bloch surface wave platform in the near- and mid-infrared regions. Applied Physics Letters, 2019, 115, 091102.	3.3	17
36	Simple fabrication of hollow poly-lactic acid microspheres using uniform microbubbles as templates. Materials Letters, 2009, 63, 703-705.	2.6	16

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37	One-Dimensional Alignment of SBA-15 Films in Microtrenches. Langmuir, 2009, 25, 11221-11224.	3.5	16
38	Adsorption and Desorption of Water in Two-Dimensional Hexagonal Mesoporous Silica with Different Pore Dimensions. Journal of Physical Chemistry C, 2015, 119, 26171-26182.	3.1	16
39	Design and performance evaluation of a multilayer fixed-bed binder-free desiccant dehumidifier for hybrid air-conditioning systems: Part II â€“ Theoretical analysis. International Journal of Heat and Mass Transfer, 2018, 116, 1370-1378.	4.8	16
40	High-Working-Pressure Sputtering of ZnO for Stable and Efficient Perovskite Solar Cells. ACS Applied Electronic Materials, 2019, 1, 389-396.	4.3	16
41	Optimization of parameters for air dehumidification systems including multilayer fixed-bed binder-free desiccant dehumidifier. International Journal of Heat and Mass Transfer, 2021, 172, 121102.	4.8	16
42	Water Adsorptionâ€“Desorption Behavior of Two-Dimensional Hexagonal Mesoporous Silica around Freezing Point. Journal of Physical Chemistry C, 2013, 117, 2096-2105.	3.1	15
43	Water Confined in MIL-101(Cr): Unique Sorptionâ€“Desorption Behaviors Revealed by Diffuse Reflectance Infrared Spectroscopy and Molecular Dynamics Simulation. Journal of Physical Chemistry C, 2021, 125, 17786-17795.	3.1	15
44	Ion transport through a T-intersection of nanofluidic channels. Physical Review E, 2008, 78, 026301.	2.1	14
45	Size control of hollow poly-allylamine hydrochloride/poly-sodium styrene sulfonate microcapsules using the bubble template method. Soft Matter, 2011, 7, 1897.	2.7	14
46	Hollow polylactic acid microcapsules fabricated by gas/oil/water and bubble template methods. Journal of Materials Chemistry A, 2013, 1, 14562.	10.3	13
47	Molecular dynamics study of water confined in MIL-101 metalâ€“organic frameworks. Journal of Chemical Physics, 2021, 154, 144503.	3.0	13
48	The Structure of Catalyst Layers and Cell Performance in Proton Exchange Membrane Fuel Cells. JSME International Journal Series B, 2004, 47, 228-234.	0.3	12
49	Grand canonical Monte Carlo and molecular dynamics simulations of capillary condensation and evaporation of water in hydrophilic mesopores. Molecular Physics, 2017, 115, 328-342.	1.7	12
50	High mobility in tight spaces. Nature Nanotechnology, 2010, 5, 831-832.	31.5	10
51	Factors Affecting the Size and Uniformity of Hollow Poly(lactic acid) Microcapsules Fabricated from Microbubble Templates. Journal of Physical Chemistry B, 2011, 115, 13828-13834.	2.6	10
52	Theory of Transport-Induced-Charge Electroosmotic Pumping toward Alternating Current Resistive Pulse Sensing. ACS Sensors, 2018, 3, 2320-2326.	7.8	9
53	Single-bubble dynamics in nanopores: Transition between homogeneous and heterogeneous nucleation. Physical Review Research, 2020, 2, .	3.6	9
54	Theoretical analysis of transient heat and mass transfer during regeneration in multilayer fixed-bed binder-free desiccant dehumidifier: Model validation and parametric study. International Journal of Heat and Mass Transfer, 2019, 134, 1024-1040.	4.8	8

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55	Multi-Walled Carbon Nanotube-Assisted Encapsulation Approach for Stable Perovskite Solar Cells. Molecules, 2021, 26, 5060.	3.8	8
56	Temperature-regulated surface charge manipulates ionic current rectification in tapered nanofluidic channel. International Journal of Mechanical Sciences, 2021, 210, 106754.	6.7	8
57	Coarse-grained molecular dynamics simulations of capillary evaporation of water confined in hydrophilic mesopores. Molecular Physics, 2016, 114, 884-894.	1.7	7
58	Efficient Phosphorus Doping into the Surface Oxide Layers on TiN to Enhance Oxygen Reduction Reaction Activity in Acidic Media. ACS Applied Energy Materials, 2020, 3, 9866-9876.	5.1	7
59	Joule Heating Effects on Transport-Induced-Charge Phenomena in an Ultrathin Nanopore. Micromachines, 2020, 11, 1041.	2.9	7
60	Augmenting the Carbon Dioxide Uptake and Selectivity of Metalâ€“Organic Frameworks by Metal Substitution: Molecular Simulations of LMOF-202. ACS Omega, 2020, 5, 17193-17198.	3.5	7
61	Molecular simulations of water adsorption and transport in mesopores with varying hydrophilicity arrangements. Nanoscale, 2018, 10, 11657-11669.	5.6	6
62	Molecular simulation study on the flexibility in the interpenetrated metalâ€“organic framework LMOF-201 using reactive force field. Journal of Materials Chemistry A, 2020, 8, 16385-16391.	10.3	6
63	Review of component designs for post-COVID-19 HVAC systems: possibilities and challenges. Heliyon, 2022, 8, e09001.	3.2	6
64	Experimental evaluation of transient heat and mass transfer during regeneration in multilayer fixed-bed binder-free desiccant dehumidifier. International Journal of Heat and Mass Transfer, 2019, 128, 623-633.	4.8	5
65	Aluminum-black silicon plasmonic nano-eggs structure for deep-UV surface-enhanced resonance Raman spectroscopy. Applied Physics Letters, 2022, 120, 051102.	3.3	5
66	Analysis and control of vapor bubble growth inside solid-state nanopores. Journal of Thermal Science and Technology, 2021, 16, JTST0007-JTST0007.	1.1	4
67	Real-Time Monitoring of Frost/Defrost Processes Using a Tapered Optical Fiber. IEEE Sensors Journal, 2021, 21, 6188-6194.	4.7	4
68	Ion Transport in Subâ€10â€…nm Nanofluidic Channels: Synthesis, Measurement, and Modeling. Israel Journal of Chemistry, 2014, 54, 1509-1518.	2.3	3
69	Effect of Dissolved Poly(lactic acid) on the Solubility of CO₂, N₂, and He Gases in Dichloromethane. Journal of Chemical & Engineering Data, 2016, 61, 94-101.	1.9	3
70	Pore network modeling of a solid desiccant for dehumidification applications. International Journal of Heat and Mass Transfer, 2022, 186, 122456.	4.8	3
71	Sound Absorption Properties of Porous Metals Under Grazing Flow Conditions. AIAA Journal, 2022, 60, 2501-2521.	2.6	3
72	617 Boiling heat transfer of carbon dioxide in horizontal tubes. The Proceedings of Conference of Kanto Branch, 2001, 2001.7, 207-208.	0.0	2

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73	Sound Absorption of Sintered Stainless Steel Fiber Blocks. , 2018, , .		2
74	Water Filling and Emptying Kinetics in Two-Dimensional Hexagonal Mesoporous Silica of the Same Pore Diameter but Different Pore Lengths. Langmuir, 2019, 35, 10762-10771.	3.5	2
75	Thermodynamic Stability Analysis of Microbubbles Confined in a Liquid Droplet. Journal of Physical Chemistry B, 2019, 123, 542-550.	2.6	2
76	Title is missing!. Hyomen Gijutsu/Journal of the Surface Finishing Society of Japan, 2005, 56, 913-918.	0.2	2
77	Evaluation of gas permeability in porous separators for polymer electrolyte fuel cells: Computational fluid dynamics simulation based on micro-x-ray computed tomography images. Physical Review E, 2021, 104, 045105.	2.1	2
78	Twofold Effects of Zirconium Doping into TiN on Durability and Oxygen Reduction Reactivity in an Acidic Environment. Energy & Fuels, 2022, 36, 539-547.	5.1	2
79	An EXAFS (extend X-ray absorption fine structure) study of aqueous lithium bromide solutions using molecular dynamics simulation. Heat Transfer - Asian Research, 1999, 28, 513-527.	2.8	1
80	Report on the Eighth USâ€“Japan Joint Seminar on Nanoscale Transport Phenomenaâ€”Science and Engineering. Nanoscale and Microscale Thermophysical Engineering, 2015, 19, 95-97.	2.6	1
81	Investigation of entrance effects on particle electrophoretic behavior near a nanopore for resistive pulse sensing. Electrophoresis, 2021, 42, 2206-2214.	2.4	0
82	Post COVID-19 HVAC System for Sustainable Virus Free Clean Air. SSRN Electronic Journal, 0, , .	0.4	0
83	Adsorption of Water in the Zeolites NaX and NaY. The Proceedings of the JSME Annual Meeting, 2002, 2002.4, 59-60.	0.0	0
84	Molecular Dynamics Study of n-Alcohols on Water. Hyomen Kagaku, 2004, 25, 152-156.	0.0	0
85	Molecular simulation study of hydrated FAU type zeolite. The Proceedings of the JSME Annual Meeting, 2004, 2004.7, 23-24.	0.0	0
86	B133 Ion transport in SBA-16 thin films. The Proceedings of the Thermal Engineering Conference, 2010, 2010, 51-52.	0.0	0
87	B142 Proton Transport in Mesoporous Silica SBA-16 Thin Films with 3D Cubic Structures. The Proceedings of the Thermal Engineering Conference, 2012, 2012, 61-62.	0.0	0
88	B134 Adsorption-Desorption Rates of Water on 2D-Hexagonal Mesoporous Silica. The Proceedings of the Thermal Engineering Conference, 2012, 2012, 57-58.	0.0	0
89	B133 Structure Control of Mesoporous Silica SBA- 15 Thin Films by Dip-Coating Rates. The Proceedings of the Thermal Engineering Conference, 2012, 2012, 55-56.	0.0	0
90	G132 Structure Control of Mesoporous Silica SBA-15 Thin Films. The Proceedings of the Thermal Engineering Conference, 2013, 2013, 217-218.	0.0	0

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91	G133 Melting and freezing of erythritol in two-dimensional hexagonal mesoporous silica. The Proceedings of the Thermal Engineering Conference, 2013, 2013, 219-220.	0.0	0
92	Highly Stable and Efficient 2D/3D Formamidinium-Lead-Iodide Inverted-Type Perovskite Solar Cells. , 0, , .		0
93	Inverse of Nanopore Ion Selectivity Due to Transport-Induced-Charge Phenomena. , 2022, , .		0
94	Transport-Induced-Charge Distribution Near the Entrance of an Ultrathin Nanopore. , 2022, , .		0
95	Data Analysis Platform for Nanobubble Characterization of Solid-state Nanopores. , 2022, , .		0