Lane A Baker

List of Publications by Year
in descending order

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135 papers	6,376 citations	76294 40 h-index	69214 77 g-index
138 all docs	138 docs citations	138 times ranked	5744 citing authors

#	Article	IF	Citations
1	Protein Biosensors Based on Biofunctionalized Conical Gold Nanotubes. Journal of the American Chemical Society, 2005, 127, 5000-5001.	6.6	491
2	Nanopore Sensing. Analytical Chemistry, 2017, 89, 157-188.	3.2	344
3	Preparation and Characterization of Dendrimerâ^'Gold Colloid Nanocomposites. Analytical Chemistry, 1999, 71, 256-258.	3.2	265
4	Detecting Single Porphyrin Molecules in a Conically Shaped Synthetic Nanopore. Nano Letters, 2005, 5, 1824-1829.	4.5	252
5	Preparation and Characterization of Dendrimer Monolayers and Dendrimerâ^'Alkanethiol Mixed Monolayers Adsorbed to Gold. Journal of the American Chemical Society, 1998, 120, 4492-4501.	6.6	227
6	Resistive-Pulse Studies of Proteins and Protein/Antibody Complexes Using a Conical Nanotube Sensor. Journal of the American Chemical Society, 2007, 129, 13144-13152.	6.6	216
7	Fundamental Studies of Nanofluidics: Nanopores, Nanochannels, and Nanopipets. Analytical Chemistry, 2015, 87, 172-187.	3.2	213
8	Structural Distortion of Dendrimers on Gold Surfaces:Â A Tapping-Mode AFM Investigation. Journal of the American Chemical Society, 1998, 120, 5323-5324.	6.6	205
9	Resistive-Pulse DNA Detection with a Conical Nanopore Sensor. Langmuir, 2006, 22, 10837-10843.	1.6	193
10	Scanning Ion Conductance Microscopy. Annual Review of Analytical Chemistry, 2012, 5, 207-228.	2.8	179
11	Perspective and Prospectus on Single-Entity Electrochemistry. Journal of the American Chemical Society, 2018, 140, 15549-15559.	6.6	179
12	z-scan measurement of the nonlinear absorption of a thin gold film. Journal of Applied Physics, 1999, 86, 6200-6205.	1.1	149
13	Rectification of Ion Current in Nanopipettes by External Substrates. ACS Nano, 2013, 7, 11272-11282.	7.3	111
14	Role of Chloride for a Simple, Non-Grignard Mg Electrolyte in Ether-Based Solvents. ACS Applied Materials & Interfaces, 2016, 8, 16002-16008.	4.0	108
15	Nanopore DNA sensors based on dendrimer-modified nanopipettes. Chemical Communications, 2009, , 4877.	2.2	105
16	Applications of nanopipettes in the analytical sciences. Analyst, The, 2010, 135, 2190.	1.7	104
17	Probing Single-Particle Electrocatalytic Activity at Facet-Controlled Gold Nanocrystals. Nano Letters, 2020, 20, 1233-1239.	4.5	103
18	Biosensing with conically shaped nanopores and nanotubes. Physical Chemistry Chemical Physics, 2006, 8, 4976.	1.3	102

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19	Mapping Microscale Chemical Heterogeneity in Nafion Membranes with X-ray Photoelectron Spectroscopy. Journal of the Electrochemical Society, 2018, 165, H733-H741.	1.3	90
20	Photophysical Properties of Pyrene-Functionalized Poly(propylene imine) Dendrimers. Macromolecules, 2000, 33, 9034-9039.	2.2	84
21	Solid polymer electrolytes which contain tricoordinate boron for enhanced conductivity and transference numbers. Journal of Materials Chemistry A, 2013, 1, 1108-1116.	5.2	84
22	Conical nanopore membranes: solvent shaping of nanopores. Nanotechnology, 2006, 17, 3951-3956.	1.3	81
23	Rectification of Nanopores at Surfaces. Journal of the American Chemical Society, 2011, 133, 10398-10401.	6.6	80
24	Electrospray Ionization from Nanopipette Emitters with Tip Diameters of Less than 100 nm. Analytical Chemistry, 2013, 85, 8498-8502.	3.2	75
25	Biomaterials and Biotechnologies Based on Nanotube Membranes. Critical Reviews in Solid State and Materials Sciences, 2005, 30, 183-205.	6.8	73
26	Scanning Ion Conductance Microscopy. Chemical Reviews, 2021, 121, 11726-11768.	23.0	67
27	Dendrimer-Mediated Adhesion between Vapor-Deposited Au and Glass or Si Wafers. Analytical Chemistry, 1999, 71, 4403-4406.	3.2	64
28	Electrochemical Rectification Using Mixed Monolayers of Redox-Active Ferrocenyl Dendrimers andn-Alkanethiols. Langmuir, 2002, 18, 6981-6987.	1.6	64
29	Alternating Current Impedance Imaging of Membrane Pores Using Scanning Electrochemical Microscopy. Analytical Chemistry, 2005, 77, 5564-5569.	3.2	64
30	A makeover for membranes. Nature Nanotechnology, 2008, 3, 73-74.	15.6	63
31	Transport of redox probes through single pores measured by scanning electrochemical-scanning ion conductance microscopy (SECM-SICM). Analyst, The, 2012, 137, 2933.	1.7	63
32	Reversible Cobalt Ion Binding to Imidazole-Modified Nanopipettes. Analytical Chemistry, 2010, 82, 9963-9966.	3.2	61
33	Scanning Ion Conductance Microscopy Measurement of Paracellular Channel Conductance in Tight Junctions. Analytical Chemistry, 2013, 85, 3621-3628.	3.2	59
34	Versatile Tools for Understanding Electrosynthetic Mechanisms. Chemical Reviews, 2022, 122, 3292-3335.	23.0	59
35	Biochemical and biophysical analyses of tight junction permeability made of claudin-16 and claudin-19 dimerization. Molecular Biology of the Cell, 2015, 26, 4333-4346.	0.9	57
36	Measurement of Ion Currents through Porous Membranes with Scanning Ion Conductance Microscopy. Analytical Chemistry, 2009, 81, 4742-4751.	3.2	56

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37	Nanopipettes: probes for local sample analysis. Chemical Science, 2015, 6, 3334-3341.	3.7	50
38	Ionic amplifying circuits inspired by electronics and biology. Nature Communications, 2020, 11, 1568.	5.8	45
39	Effect of Crown Ether on Ion Currents through Synthetic Membranes Containing a Single Conically Shaped Nanopore. Journal of Physical Chemistry B, 2005, 109, 18400-18407.	1.2	44
40	Effects of pipette modulation and imaging distances on ion currents measured with Scanning Ion Conductance Microscopy (SICM). Analyst, The, 2011, 136, 90-97.	1.7	43
41	Single-Nanopore Investigations with Ion Conductance Microscopy. ACS Nano, 2011, 5, 8404-8411.	7.3	43
42	Alternating Current Impedance Imaging of High-Resistance Membrane Pores Using a Scanning Electrochemical Microscope. Application of Membrane Electrical Shunts To Increase Measurement Sensitivity and Image Contrast. Analytical Chemistry, 2006, 78, 6535-6541.	3.2	40
43	Rectification of nanopores in aprotic solvents â€“ transport properties of nanopores with surface dipoles. Nanoscale, 2015, 7, 19080-19091.	2.8	40
44	Parylene Insulated Probes for Scanning Electrochemical-Atomic Force Microscopy. Langmuir, 2011, 27, 13925-13930.	1.6	39
45	Cottrell Scholars Collaborative New Faculty Workshop: Professional Development for New Chemistry Faculty and Initial Assessment of Its Efficacy. Journal of Chemical Education, 2014, 91, 1874-1881.	1.1	38
46	Dip-Pen Nanolithography of Chemical Templates on Silicon Oxide. Advanced Materials, 2004, 16, 1013-1016.	11.1	37
47	Nanopore Membranes for Biomaterials Synthesis, Biosensing and Bioseparations. Current Nanoscience, 2006, 2, 243-255.	0.7	37
48	Multifunctional carbon nanoelectrodes fabricated by focused ion beam milling. Analyst, The, 2013, 138, 5973.	1.7	36
49	Carbon Electrode Fabrication from Pyrolyzed Parylene C. Analytical Chemistry, 2011, 83, 5447-5452.	3.2	35
50	Experiment and Simulation of Ion Transport through Nanopipettes of Well-Defined Conical Geometry. Journal of the Electrochemical Society, 2013, 160, H376-H381.	1.3	35
51	Synthesis and Catalytic Properties of Imidazole-Functionalized Poly(propylene imine)Dendrimers. Bulletin of the Korean Chemical Society, 2002, 23, 647-654.	1.0	35
52	Heterogeneity of Multiple-Pore Membranes Investigated with Ion Conductance Microscopy. Analytical Chemistry, 2012, 84, 3003-3009.	3.2	34
53	Noise Properties of Rectifying Nanopores. Journal of Physical Chemistry C, 2011, 115, 8775-8783.	1.5	33
54	Local pH Measurement with Scanning Ion Conductance Microscopy. Journal of the Electrochemical Society, 2013, 160, H430-H435.	1.3	33

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55	Potentiometric-Scanning Ion Conductance Microscopy. Langmuir, 2014, 30, 5669-5675.	1.6	33
56	Nanopipette delivery: influence of surface charge. Analyst, The, 2015, 140, 4835-4842.	1.7	33
57	Self-Assembled Monolayers of Alkanethiols on InAs. Langmuir, 2009, 25, 12185-12194.	1.6	32
58	Imaging heterogeneity and transport of degraded Nafion membranes. RSC Advances, 2015, 5, 99284-99290.	1.7	30
59	Segmented flow sampling with pushâ€“pull theta pipettes. Analyst, The, 2016, 141, 1958-1965.	1.7	30
60	Electroceutical fabric lowers zeta potential and eradicates coronavirus infectivity upon contact. Scientific Reports, 2021, 11, 21723.	1.6	30
61	Quantitative Visualization of Nanoscale Ion Transport. Analytical Chemistry, 2017, 89, 13603-13609.	3.2	28
62	Mapping Surface Charge of Individual Microdomains with Scanning Ion Conductance Microscopy. ChemElectroChem, 2018, 5, 2986-2990.	1.7	28
63	Solvent-Extraction and Langmuir-Adsorption-Based Transport in Chemically Functionalized Nanopore Membranes. Journal of Physical Chemistry B, 2005, 109, 20887-20894.	1.2	26
64	Efficient Biosensor Interfaces Based on Space-Controlled Self-Assembled Monolayers. Langmuir, 2009, 25, 1633-1637.	1.6	26
65	Capturing Rare Conductance in Epithelia with Potentiometric-Scanning Ion Conductance Microscopy. Analytical Chemistry, 2016, 88, 9630-9637.	3.2	26
66	Experimental Studies of Resolution in Scanning Ion Conductance Microscopy. Journal of the Electrochemical Society, 2014, 161, H924-H929.	1.3	25
67	Ion Channel Probes for Scanning Ion Conductance Microscopy. Langmuir, 2014, 30, 15351-15355.	1.6	24
68	Characterization of Membrane Patchâ€Ion Channel Probes for Scanning Ion Conductance Microscopy. Small, 2018, 14, e1702945.	5.2	23
69	MATERIALS SCIENCE: Expanding the Molecular Electronics Toolbox. Science, 2005, 309, 67-68.	6.0	22
70	Membrane patches as ion channel probes for scanning ion conductance microscopy. Faraday Discussions, 2016, 193, 81-97.	1.6	22
71	Singleâ€Entity Electrochemistry: Fundamentals and Applications. ChemElectroChem, 2018, 5, 2918-2919.	1.7	21
72	Viral interactions with the blood-brain barrier: old dog, new tricks. Tissue Barriers, 2016, 4, e1142492.	1.6	20

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73	Atomic force microscopy-based bioanalysis for the study of disease. Analytical Methods, 2014, 6, 4932-4955.	1.3	18
74	Electron Propagation within Redox-Active Microdomains in Thin Films of Ferrocene-Containing Diblock Copolymers. Langmuir, 2015, 31, 12307-12314.	1.6	18
75	Monitoring dynamic spiculation in red blood cells with scanning ion conductance microscopy. Analyst, The, 2018, 143, 1087-1093.	1.7	18
76	Applications of microelectromagnetic traps. Analytical and Bioanalytical Chemistry, 2012, 403, 2077-2088.	1.9	17
77	Potentiometric-scanning ion conductance microscopy for measurement at tight junctions. Tissue Barriers, 2013, 1, e25585.	1.6	16
78	Local collection, reaction and analysis with theta pipette emitters. Analyst, The, 2017, 142, 1512-1518.	1.7	15
79	An ab initio molecular orbital study of the reaction NH2+NOâ€ˆâ†’â€ˆH2+N2O. Chemical Physics, 1998, 228, 9-16.	0.9	13
80	Scanning Electrospray Microscopy with Nanopipets. Analytical Chemistry, 2015, 87, 11182-11186.	3.2	13
81	On the intersection of electrochemistry and mass spectrometry. Current Opinion in Electrochemistry, 2019, 13, 140-146.	2.5	13
82	Singleâ€Pore Membranes Gated by Microelectromagnetic Traps. Advanced Materials, 2010, 22, 2759-2763.	11.1	12
83	Imaging effects of hyperosmolality on individual tricellular junctions. Chemical Science, 2020, 11, 1307-1315.	3.7	12
84	Ion Mobility and Surface Collisions: Submicrometer Capillaries Can Produce Native-like Protein Complexes. Analytical Chemistry, 2020, 92, 2460-2467.	3.2	12
85	Ketoconazole resistant Candida albicans is sensitive to a wireless electroceutical wound care dressing. Bioelectrochemistry, 2021, 142, 107921.	2.4	12
86	Biologically modified hydrogels for chemical and biochemical analysis. Analyst, The, 2011, 136, 3410.	1.7	11
87	Electrochemical Aspects of Mass Spectrometry: Atmospheric Pressure Ionization and Ambient Ionization for Bioanalysis. ChemElectroChem, 2017, 4, 806-821.	1.7	11
88	Teaching Analytical Chemistry in the Time of COVID-19. Analytical Chemistry, 2020, 92, 10185-10186.	3.2	11
89	Rapid fabrication of nanoporous membrane arrays and single-pore membranes from parylene C. Analytical Methods, 2012, 4, 4353.	1.3	9
90	Magnetically gated microelectrodes. Chemical Communications, 2012, 48, 1009-1011.	2.2	9

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91	A Hybrid Nanofiber/Paper Cell Culture Platform for Building a 3D Bloodâ€“Brain Barrier Model. Small Methods, 2021, 5, 2100592.	4.6	9
92	Controlling Non-Native Cobalamin Reactivity and Catalysis in the Transcription Factor CarH. ACS Catalysis, 2022, 12, 935-942.	5.5	9
93	A proposed route to independent measurements of tight junction conductance at discrete cell junctions. Tissue Barriers, 2015, 3, e1105907.	1.6	8
94	Synthetic hydrogel mimics of the nuclear pore complex display selectivity dependent on FG-repeat concentration and electrostatics. Soft Matter, 2016, 12, 9477-9484.	1.2	8
95	Biphasic-Scanning Ion Conductance Microscopy. Analytical Chemistry, 2018, 90, 11797-11801.	3.2	8
96	Imaging with Ion Channels. Analytical Chemistry, 2021, 93, 5355-5359.	3.2	8
97	An Abiotic Analogue of the Nuclear Pore Complex Hydrogel. Biomacromolecules, 2011, 12, 3119-3123.	2.6	7
98	Alternating Current Potentiometric Scanning Ion Conductance Microscopy (AC-PSICM). Journal of Physical Chemistry C, 2015, 119, 14392-14399.	1.5	7
99	Array Microcell Method (AMCM) for Serial Electroanalysis. ChemElectroChem, 2020, 7, 1084-1091.	1.7	7
100	Direct Electrochemical Reduction of Acetochlor at Carbon and Silver Cathodes in Dimethylformamide. Journal of the Electrochemical Society, 2020, 167, 155517.	1.3	7
101	Electromagnetic Micropores: Fabrication and Operation. Langmuir, 2010, 26, 19239-19244.	1.6	6
102	Lithography-free production of stamps for microcontact printing of arrays. Analytical Methods, 2010, 2, 1180.	1.3	6
103	Surface Charge Measurements with Scanning Ion Conductance Microscopy Provide Insights into Nitrous Acid Speciation at the Kaolin Mineralâ€“Air Interface. Environmental Science & Technology, 2021, 55, 12233-12242.	4.6	6
104	Single-Entity Electrocatalysis at Electrode Ensembles Prepared by Template Synthesis. Journal of the Electrochemical Society, 2021, 168, 126526.	1.3	6
105	Studies of Edge Effects with Shroudâ€Modified Electrodes. Electroanalysis, 2011, 23, 1543-1547.	1.5	5
106	Conductive Atomic Force Microscopy Probes from Pyrolyzed Parylene. Journal of the Electrochemical Society, 2012, 159, H662-H667.	1.3	5
107	Pyrolyzed Carbon Film Diodes. ACS Applied Materials & Interfaces, 2013, 5, 10673-10681.	4.0	5
108	Longitudinally Controlled Modification of Cylindrical and Conical Track-Etched Poly(ethylene) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 67 T 11998-12006.	1.6	5

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109	Electrospray deposition for single nanoparticle studies. Analytical Methods, 2021, 13, 4105-4113.	1.3	5
110	From single cells to single molecules: general discussion. Faraday Discussions, 2016, 193, 141-170.	1.6	4
111	Probing ion current in solid-electrolytes at the meso- and nanoscale. Faraday Discussions, 2018, 210, 55-67.	1.6	4
112	Probe-Substrate Distance Control in Desorption Electrospray Ionization. Journal of the American Society for Mass Spectrometry, 2018, 29, 558-565.	1.2	4
113	Characterization of Ligand Adsorption at Individual Gold Nanocubes. Langmuir, 2021, 37, 7701-7711.	1.6	4
114	Probing Electronâ€transfer and Ionâ€transfer Coupling Processes at Liquid/Liquid Interfaces with Pipette Electrodes. ChemElectroChem, 2016, 3, 2153-2159.	1.7	3
115	Ion concentration in micro and nanoscale electrospray emitters. Analytical and Bioanalytical Chemistry, 2018, 410, 3639-3648.	1.9	3
116	Processes at nanopores and bio-nanointerfaces: general discussion. Faraday Discussions, 2018, 210, 145-171.	1.6	3
117	Synthetic hydrogel mimics of the nuclear pore complex for the study of nucleocytoplasmic transport defects in C9orf72 ALS/FTD. Analytical and Bioanalytical Chemistry, 2022, 414, 525-532.	1.9	3
118	Cobalamin-Mediated Electrocatalytic Reduction of Ethyl Chloroacetate in Dimethylformamide. Journal of the Electrochemical Society, 2022, 169, 055501.	1.3	3
119	Investigating Self-Assembly with Macaroni. Journal of Chemical Education, 2009, 86, 704A.	1.1	2
120	Waves in microscopy. Nature Chemistry, 2011, 3, 191-192.	6.6	2
121	Electrochemical Applications of Scanning Ion Conductance Microscopy. Electroanalytical Chemistry, A Series of Advances, 2015, , 73-114.	1.7	2
122	Emerging investigators 2015. Analytical Methods, 2015, 7, 6936-6936.	1.3	1
123	Nanopores: general discussion. Faraday Discussions, 2016, 193, 507-531.	1.6	1
124	Processes at nanoelectrodes: general discussion. Faraday Discussions, 2018, 210, 235-265.	1.6	1
125	Array Microcell Method (AMCM) for Serial Electroanalysis. ChemElectroChem, 2020, 7, 1061-1061.	1.7	1
126	Electroreduction of Acetochlor at Silver Cathodes in Aqueous Media. Journal of the Electrochemical Society, 2021, 168, 075502.	1.3	1

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127	Analytical Applications of Scanning Ion Conductance Microscopy: Measuring Ions and Electrons. Bioanalytical Reviews, 2021, , .	0.1	1
128	Nanotube Membranes for Biotechnology. , 2008, , 397-431.		0
129	Modulated fluorescence detection with microelectromagnetic traps. Analytical Methods, 2015, 7, 2273-2277.	1.3	0
130	Development of Pipettes as Mobile Nanofluidic Devices for Mass Spectrometric Analysis. , 2018, , 273-293.		0
131	A Tribute to Richardâ€...M. Crooks on the Occasion of His 65th Birthday. ChemElectroChem, 2020, 7, 1062-1066.	1.7	0
132	Nanotube-Based Membrane Systems. , 2007, , .		0
133	Ion Conductance Microscopy of Nanometer Pores. , 2009, , .		0
134	Nanotube-Based Membrane Systems. , 2017, , 97-126.		0
135	(Invited) Sensing, Measuring and Imaging Surface Charge with Nanoscale Pipettes. ECS Meeting Abstracts, 2019, , .	0.0	0