

Lane A Baker

List of Publications by Year in descending order

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135
papers

6,376
citations

76326

40
h-index

69250

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. <i>Journal of the American Chemical Society</i> , 2005, 127, 5000-5001.	13.7	491
2	Nanopore Sensing. <i>Analytical Chemistry</i> , 2017, 89, 157-188.	6.5	344
3	Preparation and Characterization of Dendrimer ⁺ Gold Colloid Nanocomposites. <i>Analytical Chemistry</i> , 1999, 71, 256-258.	6.5	265
4	Detecting Single Porphyrin Molecules in a Conically Shaped Synthetic Nanopore. <i>Nano Letters</i> , 2005, 5, 1824-1829.	9.1	252
5	Preparation and Characterization of Dendrimer Monolayers and Dendrimer ⁺ Alkanethiol Mixed Monolayers Adsorbed to Gold. <i>Journal of the American Chemical Society</i> , 1998, 120, 4492-4501.	13.7	227
6	Resistive-Pulse Studies of Proteins and Protein/Antibody Complexes Using a Conical Nanotube Sensor. <i>Journal of the American Chemical Society</i> , 2007, 129, 13144-13152.	13.7	216
7	Fundamental Studies of Nanofluidics: Nanopores, Nanochannels, and Nanopipettes. <i>Analytical Chemistry</i> , 2015, 87, 172-187.	6.5	213
8	Structural Distortion of Dendrimers on Gold Surfaces: A Tapping-Mode AFM Investigation. <i>Journal of the American Chemical Society</i> , 1998, 120, 5323-5324.	13.7	205
9	Resistive-Pulse DNA Detection with a Conical Nanopore Sensor. <i>Langmuir</i> , 2006, 22, 10837-10843.	3.5	193
10	Scanning Ion Conductance Microscopy. <i>Annual Review of Analytical Chemistry</i> , 2012, 5, 207-228.	5.4	179
11	Perspective and Prospectus on Single-Entity Electrochemistry. <i>Journal of the American Chemical Society</i> , 2018, 140, 15549-15559.	13.7	179
12	z-scan measurement of the nonlinear absorption of a thin gold film. <i>Journal of Applied Physics</i> , 1999, 86, 6200-6205.	2.5	149
13	Rectification of Ion Current in Nanopipettes by External Substrates. <i>ACS Nano</i> , 2013, 7, 11272-11282.	14.6	111
14	Role of Chloride for a Simple, Non-Grignard Mg Electrolyte in Ether-Based Solvents. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 16002-16008.	8.0	108
15	Nanopore DNA sensors based on dendrimer-modified nanopipettes. <i>Chemical Communications</i> , 2009, , 4877.	4.1	105
16	Applications of nanopipettes in the analytical sciences. <i>Analyst, The</i> , 2010, 135, 2190.	3.5	104
17	Probing Single-Particle Electrocatalytic Activity at Facet-Controlled Gold Nanocrystals. <i>Nano Letters</i> , 2020, 20, 1233-1239.	9.1	103
18	Biosensing with conically shaped nanopores and nanotubes. <i>Physical Chemistry Chemical Physics</i> , 2006, 8, 4976.	2.8	102

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19	Mapping Microscale Chemical Heterogeneity in Nafion Membranes with X-ray Photoelectron Spectroscopy. <i>Journal of the Electrochemical Society</i> , 2018, 165, H733-H741.	2.9	90
20	Photophysical Properties of Pyrene-Functionalized Poly(propylene imine) Dendrimers. <i>Macromolecules</i> , 2000, 33, 9034-9039.	4.8	84
21	Solid polymer electrolytes which contain tricoordinate boron for enhanced conductivity and transference numbers. <i>Journal of Materials Chemistry A</i> , 2013, 1, 1108-1116.	10.3	84
22	Conical nanopore membranes: solvent shaping of nanopores. <i>Nanotechnology</i> , 2006, 17, 3951-3956.	2.6	81
23	Rectification of Nanopores at Surfaces. <i>Journal of the American Chemical Society</i> , 2011, 133, 10398-10401.	13.7	80
24	Electrospray Ionization from Nanopipette Emitters with Tip Diameters of Less than 100 nm. <i>Analytical Chemistry</i> , 2013, 85, 8498-8502.	6.5	75
25	Biomaterials and Biotechnologies Based on Nanotube Membranes. <i>Critical Reviews in Solid State and Materials Sciences</i> , 2005, 30, 183-205.	12.3	73
26	Scanning Ion Conductance Microscopy. <i>Chemical Reviews</i> , 2021, 121, 11726-11768.	47.7	67
27	Dendrimer-Mediated Adhesion between Vapor-Deposited Au and Glass or Si Wafers. <i>Analytical Chemistry</i> , 1999, 71, 4403-4406.	6.5	64
28	Electrochemical Rectification Using Mixed Monolayers of Redox-Active Ferrocenyl Dendrimers and n-Alkanethiols. <i>Langmuir</i> , 2002, 18, 6981-6987.	3.5	64
29	Alternating Current Impedance Imaging of Membrane Pores Using Scanning Electrochemical Microscopy. <i>Analytical Chemistry</i> , 2005, 77, 5564-5569.	6.5	64
30	A makeover for membranes. <i>Nature Nanotechnology</i> , 2008, 3, 73-74.	31.5	63
31	Transport of redox probes through single pores measured by scanning electrochemical-scanning ion conductance microscopy (SECM-SICM). <i>Analyst</i> , 2012, 137, 2933.	3.5	63
32	Reversible Cobalt Ion Binding to Imidazole-Modified Nanopipettes. <i>Analytical Chemistry</i> , 2010, 82, 9963-9966.	6.5	61
33	Scanning Ion Conductance Microscopy Measurement of Paracellular Channel Conductance in Tight Junctions. <i>Analytical Chemistry</i> , 2013, 85, 3621-3628.	6.5	59
34	Versatile Tools for Understanding Electrosynthetic Mechanisms. <i>Chemical Reviews</i> , 2022, 122, 3292-3335.	47.7	59
35	Biochemical and biophysical analyses of tight junction permeability made of claudin-16 and claudin-19 dimerization. <i>Molecular Biology of the Cell</i> , 2015, 26, 4333-4346.	2.1	57
36	Measurement of Ion Currents through Porous Membranes with Scanning Ion Conductance Microscopy. <i>Analytical Chemistry</i> , 2009, 81, 4742-4751.	6.5	56

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37	Nanopipettes: probes for local sample analysis. <i>Chemical Science</i> , 2015, 6, 3334-3341.	7.4	50
38	Ionic amplifying circuits inspired by electronics and biology. <i>Nature Communications</i> , 2020, 11, 1568.	12.8	45
39	Effect of Crown Ether on Ion Currents through Synthetic Membranes Containing a Single Conically Shaped Nanopore. <i>Journal of Physical Chemistry B</i> , 2005, 109, 18400-18407.	2.6	44
40	Effects of pipette modulation and imaging distances on ion currents measured with Scanning Ion Conductance Microscopy (SICM). <i>Analyst, The</i> , 2011, 136, 90-97.	3.5	43
41	Single-Nanopore Investigations with Ion Conductance Microscopy. <i>ACS Nano</i> , 2011, 5, 8404-8411.	14.6	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. <i>Analytical Chemistry</i> , 2006, 78, 6535-6541.	6.5	40
43	Rectification of nanopores in aprotic solvents – transport properties of nanopores with surface dipoles. <i>Nanoscale</i> , 2015, 7, 19080-19091.	5.6	40
44	Parylene Insulated Probes for Scanning Electrochemical-Atomic Force Microscopy. <i>Langmuir</i> , 2011, 27, 13925-13930.	3.5	39
45	Cottrell Scholars Collaborative New Faculty Workshop: Professional Development for New Chemistry Faculty and Initial Assessment of Its Efficacy. <i>Journal of Chemical Education</i> , 2014, 91, 1874-1881.	2.3	38
46	Dip-Pen Nanolithography of Chemical Templates on Silicon Oxide. <i>Advanced Materials</i> , 2004, 16, 1013-1016.	21.0	37
47	Nanopore Membranes for Biomaterials Synthesis, Biosensing and Bioseparations. <i>Current Nanoscience</i> , 2006, 2, 243-255.	1.2	37
48	Multifunctional carbon nanoelectrodes fabricated by focused ion beam milling. <i>Analyst, The</i> , 2013, 138, 5973.	3.5	36
49	Carbon Electrode Fabrication from Pyrolyzed Parylene C. <i>Analytical Chemistry</i> , 2011, 83, 5447-5452.	6.5	35
50	Experiment and Simulation of Ion Transport through Nanopipettes of Well-Defined Conical Geometry. <i>Journal of the Electrochemical Society</i> , 2013, 160, H376-H381.	2.9	35
51	Synthesis and Catalytic Properties of Imidazole-Functionalized Poly(propylene imine)Dendrimers. <i>Bulletin of the Korean Chemical Society</i> , 2002, 23, 647-654.	1.9	35
52	Heterogeneity of Multiple-Pore Membranes Investigated with Ion Conductance Microscopy. <i>Analytical Chemistry</i> , 2012, 84, 3003-3009.	6.5	34
53	Noise Properties of Rectifying Nanopores. <i>Journal of Physical Chemistry C</i> , 2011, 115, 8775-8783.	3.1	33
54	Local pH Measurement with Scanning Ion Conductance Microscopy. <i>Journal of the Electrochemical Society</i> , 2013, 160, H430-H435.	2.9	33

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55	Potentiometric-Scanning Ion Conductance Microscopy. <i>Langmuir</i> , 2014, 30, 5669-5675.	3.5	33
56	Nanopipette delivery: influence of surface charge. <i>Analyst, The</i> , 2015, 140, 4835-4842.	3.5	33
57	Self-Assembled Monolayers of Alkanethiols on InAs. <i>Langmuir</i> , 2009, 25, 12185-12194.	3.5	32
58	Imaging heterogeneity and transport of degraded Nafion membranes. <i>RSC Advances</i> , 2015, 5, 99284-99290.	3.6	30
59	Segmented flow sampling with push-pull theta pipettes. <i>Analyst, The</i> , 2016, 141, 1958-1965.	3.5	30
60	Electroceutical fabric lowers zeta potential and eradicates coronavirus infectivity upon contact. <i>Scientific Reports</i> , 2021, 11, 21723.	3.3	30
61	Quantitative Visualization of Nanoscale Ion Transport. <i>Analytical Chemistry</i> , 2017, 89, 13603-13609.	6.5	28
62	Mapping Surface Charge of Individual Microdomains with Scanning Ion Conductance Microscopy. <i>ChemElectroChem</i> , 2018, 5, 2986-2990.	3.4	28
63	Solvent-Extraction and Langmuir-Adsorption-Based Transport in Chemically Functionalized Nanopore Membranes. <i>Journal of Physical Chemistry B</i> , 2005, 109, 20887-20894.	2.6	26
64	Efficient Biosensor Interfaces Based on Space-Controlled Self-Assembled Monolayers. <i>Langmuir</i> , 2009, 25, 1633-1637.	3.5	26
65	Capturing Rare Conductance in Epithelia with Potentiometric-Scanning Ion Conductance Microscopy. <i>Analytical Chemistry</i> , 2016, 88, 9630-9637.	6.5	26
66	Experimental Studies of Resolution in Scanning Ion Conductance Microscopy. <i>Journal of the Electrochemical Society</i> , 2014, 161, H924-H929.	2.9	25
67	Ion Channel Probes for Scanning Ion Conductance Microscopy. <i>Langmuir</i> , 2014, 30, 15351-15355.	3.5	24
68	Characterization of Membrane Patch Ion Channel Probes for Scanning Ion Conductance Microscopy. <i>Small</i> , 2018, 14, e1702945.	10.0	23
69	MATERIALS SCIENCE: Expanding the Molecular Electronics Toolbox. <i>Science</i> , 2005, 309, 67-68.	12.6	22
70	Membrane patches as ion channel probes for scanning ion conductance microscopy. <i>Faraday Discussions</i> , 2016, 193, 81-97.	3.2	22
71	Single-Entity Electrochemistry: Fundamentals and Applications. <i>ChemElectroChem</i> , 2018, 5, 2918-2919.	3.4	21
72	Viral interactions with the blood-brain barrier: old dog, new tricks. <i>Tissue Barriers</i> , 2016, 4, e1142492.	3.2	20

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73	Atomic force microscopy-based bioanalysis for the study of disease. <i>Analytical Methods</i> , 2014, 6, 4932-4955.	2.7	18
74	Electron Propagation within Redox-Active Microdomains in Thin Films of Ferrocene-Containing Diblock Copolymers. <i>Langmuir</i> , 2015, 31, 12307-12314.	3.5	18
75	Monitoring dynamic spiculation in red blood cells with scanning ion conductance microscopy. <i>Analyst, The</i> , 2018, 143, 1087-1093.	3.5	18
76	Applications of microelectromagnetic traps. <i>Analytical and Bioanalytical Chemistry</i> , 2012, 403, 2077-2088.	3.7	17
77	Potentiometric-scanning ion conductance microscopy for measurement at tight junctions. <i>Tissue Barriers</i> , 2013, 1, e25585.	3.2	16
78	Local collection, reaction and analysis with theta pipette emitters. <i>Analyst, The</i> , 2017, 142, 1512-1518.	3.5	15
79	An ab initio molecular orbital study of the reaction $\text{NH}_2 + \text{NO} \rightarrow \text{H}_2 + \text{N}_2\text{O}$. <i>Chemical Physics</i> , 1998, 228, 9-16. 1.9		13
80	Scanning ElectroSpray Microscopy with Nanopipets. <i>Analytical Chemistry</i> , 2015, 87, 11182-11186.	6.5	13
81	On the intersection of electrochemistry and mass spectrometry. <i>Current Opinion in Electrochemistry</i> , 2019, 13, 140-146.	4.8	13
82	Single-Pore Membranes Gated by Microelectromagnetic Traps. <i>Advanced Materials</i> , 2010, 22, 2759-2763.	21.0	12
83	Imaging effects of hyperosmolality on individual tricellular junctions. <i>Chemical Science</i> , 2020, 11, 1307-1315.	7.4	12
84	Ion Mobility and Surface Collisions: Submicrometer Capillaries Can Produce Native-like Protein Complexes. <i>Analytical Chemistry</i> , 2020, 92, 2460-2467.	6.5	12
85	Ketoconazole resistant <i>Candida albicans</i> is sensitive to a wireless electroceutical wound care dressing. <i>Bioelectrochemistry</i> , 2021, 142, 107921.	4.6	12
86	Biologically modified hydrogels for chemical and biochemical analysis. <i>Analyst, The</i> , 2011, 136, 3410.	3.5	11
87	Electrochemical Aspects of Mass Spectrometry: Atmospheric Pressure Ionization and Ambient Ionization for Bioanalysis. <i>ChemElectroChem</i> , 2017, 4, 806-821.	3.4	11
88	Teaching Analytical Chemistry in the Time of COVID-19. <i>Analytical Chemistry</i> , 2020, 92, 10185-10186.	6.5	11
89	Rapid fabrication of nanoporous membrane arrays and single-pore membranes from parylene C. <i>Analytical Methods</i> , 2012, 4, 4353.	2.7	9
90	Magnetically gated microelectrodes. <i>Chemical Communications</i> , 2012, 48, 1009-1011.	4.1	9

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91	A Hybrid Nanofiber/Paper Cell Culture Platform for Building a 3D Blood-Brain Barrier Model. <i>Small Methods</i> , 2021, 5, 2100592.	8.6	9
92	Controlling Non-Native Cobalamin Reactivity and Catalysis in the Transcription Factor CarH. <i>ACS Catalysis</i> , 2022, 12, 935-942.	11.2	9
93	A proposed route to independent measurements of tight junction conductance at discrete cell junctions. <i>Tissue Barriers</i> , 2015, 3, e1105907.	3.2	8
94	Synthetic hydrogel mimics of the nuclear pore complex display selectivity dependent on FG-repeat concentration and electrostatics. <i>Soft Matter</i> , 2016, 12, 9477-9484.	2.7	8
95	Biphasic-Scanning Ion Conductance Microscopy. <i>Analytical Chemistry</i> , 2018, 90, 11797-11801.	6.5	8
96	Imaging with Ion Channels. <i>Analytical Chemistry</i> , 2021, 93, 5355-5359.	6.5	8
97	An Abiotic Analogue of the Nuclear Pore Complex Hydrogel. <i>Biomacromolecules</i> , 2011, 12, 3119-3123.	5.4	7
98	Alternating Current Potentiometric Scanning Ion Conductance Microscopy (AC-PSICM). <i>Journal of Physical Chemistry C</i> , 2015, 119, 14392-14399.	3.1	7
99	Array Microcell Method (AMCM) for Serial Electroanalysis. <i>ChemElectroChem</i> , 2020, 7, 1084-1091.	3.4	7
100	Direct Electrochemical Reduction of Acetochlor at Carbon and Silver Cathodes in Dimethylformamide. <i>Journal of the Electrochemical Society</i> , 2020, 167, 155517.	2.9	7
101	Electromagnetic Micropores: Fabrication and Operation. <i>Langmuir</i> , 2010, 26, 19239-19244.	3.5	6
102	Lithography-free production of stamps for microcontact printing of arrays. <i>Analytical Methods</i> , 2010, 2, 1180.	2.7	6
103	Surface Charge Measurements with Scanning Ion Conductance Microscopy Provide Insights into Nitrous Acid Speciation at the Kaolin Mineral-Air Interface. <i>Environmental Science & Technology</i> , 2021, 55, 12233-12242.	10.0	6
104	Single-Entity Electrocatalysis at Electrode Ensembles Prepared by Template Synthesis. <i>Journal of the Electrochemical Society</i> , 2021, 168, 126526.	2.9	6
105	Studies of Edge Effects with Shroud-Modified Electrodes. <i>Electroanalysis</i> , 2011, 23, 1543-1547.	2.9	5
106	Conductive Atomic Force Microscopy Probes from Pyrolyzed Parylene. <i>Journal of the Electrochemical Society</i> , 2012, 159, H662-H667.	2.9	5
107	Pyrolyzed Carbon Film Diodes. <i>ACS Applied Materials & Interfaces</i> , 2013, 5, 10673-10681.	8.0	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.	3.5	5

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109	Electrospray deposition for single nanoparticle studies. <i>Analytical Methods</i> , 2021, 13, 4105-4113.	2.7	5
110	From single cells to single molecules: general discussion. <i>Faraday Discussions</i> , 2016, 193, 141-170.	3.2	4
111	Probing ion current in solid-electrolytes at the meso- and nanoscale. <i>Faraday Discussions</i> , 2018, 210, 55-67.	3.2	4
112	Probe-Substrate Distance Control in Desorption Electrospray Ionization. <i>Journal of the American Society for Mass Spectrometry</i> , 2018, 29, 558-565.	2.8	4
113	Characterization of Ligand Adsorption at Individual Gold Nanocubes. <i>Langmuir</i> , 2021, 37, 7701-7711.	3.5	4
114	Probing Electron \rightarrow Transfer and Ion \rightarrow Transfer Coupling Processes at Liquid/Liquid Interfaces with Pipette Electrodes. <i>ChemElectroChem</i> , 2016, 3, 2153-2159.	3.4	3
115	Ion concentration in micro and nanoscale electrospray emitters. <i>Analytical and Bioanalytical Chemistry</i> , 2018, 410, 3639-3648.	3.7	3
116	Processes at nanopores and bio-nanointerfaces: general discussion. <i>Faraday Discussions</i> , 2018, 210, 145-171.	3.2	3
117	Synthetic hydrogel mimics of the nuclear pore complex for the study of nucleocytoplasmic transport defects in C9orf72 ALS/FTD. <i>Analytical and Bioanalytical Chemistry</i> , 2022, 414, 525-532.	3.7	3
118	Cobalamin-Mediated Electrocatalytic Reduction of Ethyl Chloroacetate in Dimethylformamide. <i>Journal of the Electrochemical Society</i> , 2022, 169, 055501.	2.9	3
119	Investigating Self-Assembly with Macaroni. <i>Journal of Chemical Education</i> , 2009, 86, 704A.	2.3	2
120	Waves in microscopy. <i>Nature Chemistry</i> , 2011, 3, 191-192.	13.6	2
121	Electrochemical Applications of Scanning Ion Conductance Microscopy. <i>Electroanalytical Chemistry, A Series of Advances</i> , 2015, , 73-114.	1.7	2
122	Emerging investigators 2015. <i>Analytical Methods</i> , 2015, 7, 6936-6936.	2.7	1
123	Nanopores: general discussion. <i>Faraday Discussions</i> , 2016, 193, 507-531.	3.2	1
124	Processes at nanoelectrodes: general discussion. <i>Faraday Discussions</i> , 2018, 210, 235-265.	3.2	1
125	Array Microcell Method (AMCM) for Serial Electroanalysis. <i>ChemElectroChem</i> , 2020, 7, 1061-1061.	3.4	1
126	Electroreduction of Acetochlor at Silver Cathodes in Aqueous Media. <i>Journal of the Electrochemical Society</i> , 2021, 168, 075502.	2.9	1

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127	Analytical Applications of Scanning Ion Conductance Microscopy: Measuring Ions and Electrons. Bioanalytical Reviews, 2021, , .	0.2	1
128	Nanotube Membranes for Biotechnology. , 2008, , 397-431.		0
129	Modulated fluorescence detection with microelectromagnetic traps. Analytical Methods, 2015, 7, 2273-2277.	2.7	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.	3.4	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