Scott Calabrese Barton

List of Publications by Year
in descending order

69 papers	5,386 citations	159525 30 h-index	114418 63 g-index
70 all docs	70 docs citations	70 times ranked	5557 citing authors

#	Article	IF	Citations
1	Enzymatic Biofuel Cells for Implantable and Microscale Devices. Chemical Reviews, 2004, 104, 4867-4886.	23.0	1,322
2	Substrate channelling as an approach to cascade reactions. Nature Chemistry, 2016, 8, 299-309.	6.6	514
3	A Miniature Biofuel Cell. Journal of the American Chemical Society, 2001, 123, 8630-8631.	6.6	431
4	Transparent and Catalytic Carbon Nanotube Films. Nano Letters, 2008, 8, 982-987.	4.5	344
5	Spectroscopic insights into the nature of active sites in ironâ€“nitrogenâ€“carbon electrocatalysts for oxygen reduction in acid. Nano Energy, 2016, 29, 65-82.	8.2	269
6	The â€œWiredâ€•Laccase Cathode:Â High Current Density Electroreduction of O2to Water at +0.7 V (NHE) at pH 5. Journal of the American Chemical Society, 2001, 123, 5802-5803.	6.6	212
7	Electroreduction of O2to Water on the â€œWiredâ€•Laccase Cathodeâ€. Journal of Physical Chemistry B, 2001, 105, 11917-11921.	1.2	192
8	Kinetics of Redox Polymer-Mediated Enzyme Electrodes. Journal of the American Chemical Society, 2008, 130, 8527-8536.	6.6	163
9	Non-precious oxygen reduction catalysts prepared by high-pressure pyrolysis for low-temperature fuel cells. Applied Catalysis B: Environmental, 2009, 92, 209-216.	10.8	117
10	Electrodeposition of Redox Polymers and Co-Electrodeposition of Enzymes by Coordinative Crosslinking This research was supported by the Welch Foundation and by the US Army Research Laboratory.. Angewandte Chemie - International Edition, 2002, 41, 810.	7.2	111
11	Oxygen-reducing enzyme cathodes produced from SLAC, a small laccase from Streptomyces coelicolor. Biosensors and Bioelectronics, 2008, 23, 1229-1235.	5.3	109
12	Thermally activated long range electron transport in living biofilms. Physical Chemistry Chemical Physics, 2015, 17, 32564-32570.	1.3	108
13	Electroreduction of O2 to water at 0.6 V (SHE) at pH 7 on the â€˜wiredâ€™ Pleurotus ostreatus laccase cathode. Biosensors and Bioelectronics, 2002, 17, 1071-1074.	5.3	104
14	Measuring conductivity of living Geobacter sulfurreducens biofilms. Nature Nanotechnology, 2016, 11, 910-913.	15.6	99
15	Accelerated Corrosion and Embrittlement of High-Strength Bridge Wire. Journal of Materials in Civil Engineering, 2000, 12, 33-38.	1.3	86
16	Mixed-reactant, strip-cell direct methanol fuel cells. Journal of Power Sources, 2001, 96, 329-336.	4.0	75
17	Oxygen transport in composite mediated biocathodes. Electrochimica Acta, 2005, 50, 2145-2153.	2.6	73
18	Bioelectrocatalytic hydrogels from electron-conducting metallopolypeptides coassembled with bifunctional enzymatic building blocks. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 15275-15280.	3.3	66

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19	Mediated Enzyme Electrodes with Combined Micro- and Nanoscale Supports. Electrochemical and Solid-State Letters, 2007, 10, B96.	2.2	65
20	Bioactive Proteinaceous Hydrogels from Designed Bifunctional Building Blocks. Biomacromolecules, 2007, 8, 2990-2994.	2.6	62
21	Investigating the Nature of the Active Sites for the CO₂ Reduction Reaction on Carbon-Based Electrocatalysts. ACS Catalysis, 2019, 9, 7668-7678.	5.5	58
22	Nitrogen Precursor Effects in Iron-Nitrogen-Carbon Oxygen Reduction Catalysts. Electrochemical and Solid-State Letters, 2011, 14, B55.	2.2	56
23	Impact of transition metal on nitrogen retention and activity of ironâ€“nitrogenâ€“carbon oxygen reduction catalysts. Physical Chemistry Chemical Physics, 2014, 16, 4576.	1.3	54
24	Carbon fiber microelectrodes modified with carbon nanotubes as a new support for immobilization of glucose oxidase. Mikrochimica Acta, 2011, 175, 283-289.	2.5	48
25	Substrate Channeling in an Artificial Metabolon: A Molecular Dynamics Blueprint for an Experimental Peptide Bridge. ACS Catalysis, 2017, 7, 2486-2493.	5.5	43
26	Time-Resolved Local pH Measurements during CO₂ Reduction Using Scanning Electrochemical Microscopy: Buffering and Tip Effects. Jacs Au, 2021, 1, 1915-1924.	3.6	42
27	A Methanol Sensor for Portable Direct Methanol Fuel Cells. Journal of the Electrochemical Society, 1998, 145, 3783-3788.	1.3	41
28	Simulation of Multistep Enzyme-Catalyzed Methanol Oxidation in Biofuel Cells. Journal of the Electrochemical Society, 2011, 158, B580.	1.3	39
29	Mediated Biocatalytic Cathode for Direct Methanol Membrane-Electrode Assemblies. Journal of the Electrochemical Society, 2005, 152, A876.	1.3	38
30	Modeling of Low-Temperature Fuel Cell Electrodes Using Non-Precious Metal Catalysts. Journal of the Electrochemical Society, 2015, 162, F1253-F1261.	1.3	35
31	Methanol tolerance of a mediated, biocatalytic oxygen cathode. Journal of Electroanalytical Chemistry, 2006, 590, 57-65.	1.9	27
32	Carbon Supports for Non-Precious Metal Oxygen Reducing Catalysts. Journal of the Electrochemical Society, 2013, 160, F788-F792.	1.3	27
33	Effect of pyrolysis pressure on activity of Feâ€“Nâ€“C catalysts for oxygen reduction. Journal of Materials Chemistry A, 2015, 3, 21494-21500.	5.2	27
34	Mediated Biocatalytic Cathodes Operating on Gas-Phase Air and Oxygen in Fuel Cells. Journal of the Electrochemical Society, 2009, 156, B9.	1.3	24
35	NADH Oxidation Catalyzed by Electropolymerized Azines on Carbon Nanotube Modified Electrodes. Electroanalysis, 2012, 24, 398-406.	1.5	24
36	Quantitative Analysis of Bioactive NAD⁺ Regenerated by NADH Electro-oxidation. ACS Catalysis, 2012, 2, 2572-2576.	5.5	22

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37	Facilitation of High-Rate NADH Electrocatalysis Using Electrochemically Activated Carbon Materials. ACS Applied Materials & Interfaces, 2014, 6, 6687-6696.	4.0	22
38	Formation of mediated biocatalytic cathodes by electrodeposition of a redox polymer and laccase. Journal of Electroanalytical Chemistry, 2009, 629, 57-62.	1.9	21
39	Electrochemical studies of Pd-doped Cu and Pd-doped Cu-Al intermetallics for understanding corrosion behavior in wire-bonding packages. Microelectronics Reliability, 2017, 78, 355-361.	0.9	19
40	Carbon nanotube-modified biocatalytic microelectrodes with multiscale porosity. Journal of Applied Electrochemistry, 2012, 42, 145-151.	1.5	14
41	Analysis of Adsorption Effects on a Metal-Nitrogen-Carbon Catalyst Using a Rotating Ring-Disk Study. Journal of the Electrochemical Society, 2015, 161, H3100-H3105.	1.3	14
42	Simulation of intermediate transport in nanoscale scaffolds for multistep catalytic reactions. Physical Chemistry Chemical Physics, 2017, 19, 15463-15470.	1.3	13
43	Cascade Kinetics of an Artificial Metabolon by Molecular Dynamics and Kinetic Monte Carlo. ACS Catalysis, 2018, 8, 7719-7726.	5.5	13
44	Characterization of Enzyme-Redox Hydrogel Thin-Film Electrodes for Improved Utilization. Journal of the Electrochemical Society, 2014, 161, H3076-H3082.	1.3	12
45	Markov-State Transition Path Analysis of Electrostatic Channeling. Journal of Physical Chemistry C, 2019, 123, 15284-15292.	1.5	12
46	Galvanic corrosion behavior at the Cu-Al ball bond interface: Influence of Pd addition and chloride concentration. Microelectronics Reliability, 2019, 92, 79-86.	0.9	12
47	Electrodissolution of Zinc at the Limiting Current. Journal of the Electrochemical Society, 2001, 148, A490.	1.3	11
48	Methanol Anode Modified by Semipermeable Membrane for Mixed-Feed Direct Methanol Fuel Cells. Journal of the Electrochemical Society, 2008, 155, B865.	1.3	11
49	Electrohydrodynamic Impedance in the Presence of Nonuniform Transport Properties. Journal of the Electrochemical Society, 2001, 148, A381.	1.3	9
50	Simulation of Intermediate Channeling by Nanoscale Confinement. Journal of Physical Chemistry C, 2018, 122, 14474-14480.	1.5	9
51	Influence of Mediator Redox Potential on Fuel Sensitivity of Mediated Laccase Oxygen Reduction Electrodes. Journal of the Electrochemical Society, 2011, 158, B440.	1.3	8
52	Integration of Platinum Group Metalâ€Free Catalysts and Bilirubin Oxidase into a Hybrid Material for Oxygen Reduction: Interplay of Chemistry and Morphology. ChemSusChem, 2017, 10, 1534-1542.	3.6	8
53	Impact of Oxygen on Glucose Oxidation Kinetics in a Redox Polymer Mediated Glucose Oxidase Electrode. Journal of the Electrochemical Society, 2017, 164, H232-H240.	1.3	8
54	Characterizing Electron Transport through Living Biofilms. Journal of Visualized Experiments, 2018, , .	0.2	8

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55	Multiscale Carbon Materials as Supports for Bioelectrodes. ECS Transactions, 2008, 13, 67-76.	0.3	5
56	Electrospun Carbon Nanofibers as Supports for Bioelectrodes. Electrocatalysis, 2017, 8, 321-328.	1.5	5
57	Simulation of Multi-Step Enzyme Electrodes. ECS Transactions, 2008, 13, 99-109.	0.3	3
58	Confinement and Diffusion of Small Molecules in a Molecular-Scale Tunnel. Journal of the Electrochemical Society, 2020, 167, 023505.	1.3	3
59	Infrequent metadynamics study of rare-event electrostatic channeling. Physical Chemistry Chemical Physics, 2021, 23, 13381-13388.	1.3	3
60	Water Management and Mass Transport Studies in Free Convection Proton-Exchange Membrane Fuel Cells. ECS Transactions, 2006, 1, 419-428.	0.3	2
61	Numerical Correction of In Situ AFM-SECM Measurements. Analytical Chemistry, 2021, 93, 12495-12503.	3.2	2
62	Utilization and Transport in Mediated Enzyme Electrodes with Multiscale Supports. ECS Transactions, 2006, 3, 1341-1350.	0.3	1
63	Oxygen Transport in Composite Biocathodes. ECS Proceedings Volumes, 2002, 2002-31, 324-335.	0.1	0
64	Enzymatic Biofuel Cells for Implantable and Microscale Devices. ChemInform, 2004, 35, no.	0.1	0
65	High Performance Redox Polymer Films for Enzymatic Electrodes. ECS Meeting Abstracts, 2007, , .	0.0	0
66	Carbon Supports for Non-Precious Metal Proton Exchange Membrane Fuel Cells. ECS Meeting Abstracts, 2011, , .	0.0	0
67	Electrochemical Oxidation of Surface Oxides to Partially Recover the Performance of non-PGM Catalyst under Fuel Cell Operation. ECS Meeting Abstracts, 2011, , .	0.0	0
68	Prefaceâ€"JES Focus Issue on Biological Fuel Cells. Journal of the Electrochemical Society, 2017, 164, Y3-Y4.	1.3	0
69	Markov State Study of Electrostatic Channeling within the Tricarboxylic Acid Cycle Supercomplex. ACS Nanoscience Au, 2022, 2, 414-421.	2.0	0