Stephen Maldonado

List of Publications by Year
in descending order

90 papers	4,673 citations	126907 33 h-index	98798 67 g-index
97 all docs	97 docs citations	97 times ranked	6772 citing authors

#	Article	IF	Citations
1	Influence of Nitrogen Doping on Oxygen Reduction Electrocatalysis at Carbon Nanofiber Electrodes. Journal of Physical Chemistry B, 2005, 109, 4707-4716.	2.6	814
2	Structure, composition, and chemical reactivity of carbon nanotubes by selective nitrogen doping. Carbon, 2006, 44, 1429-1437.	10.3	670
3	Synthesis and Characterization of Dendrimer Templated Supported Bimetallic Ptâ^'Au Nanoparticles. Journal of the American Chemical Society, 2004, 126, 12949-12956.	13.7	288
4	Direct Preparation of Carbon Nanofiber Electrodes via Pyrolysis of Iron(II) Phthalocyanine:â€‰ Electrocatalytic Aspects for Oxygen Reduction. Journal of Physical Chemistry B, 2004, 108, 11375-11383.	2.6	270
5	Flexible Polymerâ€Embedded Si Wire Arrays. Advanced Materials, 2009, 21, 325-328.	21.0	144
6	Surface Modification of Indium Tin Oxide via Electrochemical Reduction of Aryldiazonium Cations. Langmuir, 2006, 22, 2884-2891.	3.5	116
7	Synthesis and photophysics of a porphyrinâ€“fullerene dyad assembled through Watsonâ€“Crick hydrogen bonding. Chemical Communications, 2005, , 1892-1894.	4.1	114
8	Analysis of the operation of thin nanowire photoelectrodes for solar energy conversion. Energy and Environmental Science, 2012, 5, 5203-5220.	30.8	100
9	Selective Câ€“O Bond Cleavage of Lignin Systems and Polymers Enabled by Sequential Palladium-Catalyzed Aerobic Oxidation and Visible-Light Photoredox Catalysis. ACS Catalysis, 2019, 9, 2252-2260.	11.2	95
10	Electrical Properties of Junctions between Hg and Si(111) Surfaces Functionalized with Short-Chain Alkylsâ€. Journal of Physical Chemistry C, 2007, 111, 17690-17699.	3.1	78
11	Template-Free Preparation of Crystalline Ge Nanowire Film Electrodes via an Electrochemical Liquidâ€“Liquidâ€“Solid Process in Water at Ambient Pressure and Temperature for Energy Storage. Nano Letters, 2012, 12, 4617-4623.	9.1	78
12	Uniform Thin Films of CdSe and CdSe(ZnS) Core(Shell) Quantum Dots by Solâ€“Gel Assembly: Enabling Photoelectrochemical Characterization and Electronic Applications. ACS Nano, 2013, 7, 1215-1223.	14.6	73
13	Benchtop Electrochemical Liquidâ€“Liquidâ€“Solid Growth of Nanostructured Crystalline Germanium. Journal of the American Chemical Society, 2011, 133, 13292-13295.	13.7	64
14	Macroporous n-GaP in Nonaqueous Regenerative Photoelectrochemical Cells. Journal of Physical Chemistry C, 2009, 113, 11988-11994.	3.1	61
15	Direct Electrodeposition of Crystalline Silicon at Low Temperatures. Journal of the American Chemical Society, 2013, 135, 1684-1687.	13.7	60
16	Electrocatalytic Lignin Oxidation. ACS Catalysis, 2021, 11, 10104-10114.	11.2	60
17	Practical challenges in the development of photoelectrochemical solar fuels production. Sustainable Energy and Fuels, 2020, 4, 985-995.	4.9	58
18	Design Considerations for Nanowire Heterojunctions in Solar Energy Conversion/Storage Applications. Journal of Physical Chemistry C, 2010, 114, 12010-12017.	3.1	56

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19	Dye-Sensitized Photocathodes: Efficient Light-Stimulated Hole Injection into p-GaP Under Depletion Conditions. Journal of the American Chemical Society, 2012, 134, 10670-10681.	13.7	54
20	Room-Temperature Epitaxial Electrodeposition of Single-Crystalline Germanium Nanowires at the Wafer Scale from an Aqueous Solution. Nano Letters, 2014, 14, 847-852.	9.1	53
21	Voltammetric Characterization of Redoxâ€Inactive Guest Binding to Ln^{III}[15â€Metallacrownâ€5] Hosts Based on Competition with a Redox Probe. Chemistry - A European Journal, 2010, 16, 6786-6796.	3.3	52
22	Electrochemical oxidation of catecholamines and catechols at carbon nanotube electrodes. Analyst, The, 2006, 131, 262-267.	3.5	49
23	Near-Ideal Photodiodes from Sintered Gold Nanoparticle Films on Methyl-Terminated Si(111) Surfaces. Journal of the American Chemical Society, 2008, 130, 3300-3301.	13.7	49
24	Comparison of majority carrier charge transfer velocities at Si/polymer and Si/metal photovoltaic heterojunctions. Applied Physics Letters, 2010, 97, .	3.3	46
25	High Efficiency Thin Upgraded Metallurgical-Grade Silicon Solar Cells on Flexible Substrates. Nano Letters, 2012, 12, 5143-5147.	9.1	46
26	Electrochemical Measurements in In Situ TEM Experiments. Journal of the Electrochemical Society, 2017, 164, H358-H364.	2.9	44
27	Response versus Chain Length of Alkanethiol-Capped Au Nanoparticle Chemiresistive Chemical Vapor Sensors. Journal of Physical Chemistry C, 2010, 114, 21914-21920.	3.1	43
28	Mechanism of Electrochemical Generation and Decomposition of Phthalimide-N-oxyl. Journal of the American Chemical Society, 2021, 143, 10324-10332.	13.7	42
29	Electrochemical Liquidâ€“Liquidâ€“Solid (ec-LLS) Crystal Growth: A Low-Temperature Strategy for Covalent Semiconductor Crystal Growth. Accounts of Chemical Research, 2015, 48, 1881-1890.	15.6	41
30	Facile heterogenization of a cobalt catalyst via graphene adsorption: robust and versatile dihydrogen production systems. Chemical Communications, 2014, 50, 8065-8068.	4.1	40
31	Wet Chemical Functionalization of IIIâ^'V Semiconductor Surfaces: Alkylation of Gallium Phosphide Using a Grignard Reaction Sequence. Langmuir, 2010, 26, 10890-10896.	3.5	38
32	The Importance of New â€œSand-to-Siliconâ€•Processes for the Rapid Future Increase of Photovoltaics. ACS Energy Letters, 2020, 5, 3628-3632.	17.4	36
33	Wet Chemical Functionalization of IIIâ€“V Semiconductor Surfaces: Alkylation of Gallium Arsenide and Gallium Nitride by a Grignard Reaction Sequence. Langmuir, 2012, 28, 4672-4682.	3.5	35
34	Detection of organic vapors and NH3(g) using thin-film carbon blackâ€“metallophthalocyanine composite chemiresistors. Sensors and Actuators B: Chemical, 2008, 134, 521-531.	7.8	34
35	Extreme Light Absorption by Multiple Plasmonic Layers on Upgraded Metallurgical Grade Silicon Solar Cells. Nano Letters, 2014, 14, 1961-1967.	9.1	34
36	Control of the pH-Dependence of the Band Edges of Si(111) Surfaces Using Mixed Methyl/Allyl Monolayers. Journal of Physical Chemistry C, 2011, 115, 8594-8601.	3.1	33

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37	Electrodeposition of Crystalline GaAs on Liquid Gallium Electrodes in Aqueous Electrolytes. Journal of the American Chemical Society, 2013, 135, 330-339.	13.7	33
38	Photoresponse Characteristics of Archetypal Metalâ€“Organic Frameworks. Journal of Physical Chemistry C, 2012, 116, 3112-3121.	3.1	32
39	Sensitization of p-GaP with CdSe Quantum Dots: Light-Stimulated Hole Injection. Journal of the American Chemical Society, 2013, 135, 9275-9278.	13.7	32
40	High-Performance Polycrystalline Ge Microwire Film Anodes for Li Ion Batteries. ACS Energy Letters, 2017, 2, 238-243.	17.4	31
41	Metastable Group IV Allotropes and Solid Solutions: Nanoparticles and Nanowires. Chemistry of Materials, 2020, 32, 2703-2741.	6.7	26
42	Photoelectrochemical Properties of CH₃-Terminated p-Type GaP(111)A. Journal of Physical Chemistry C, 2014, 118, 11593-11600.	3.1	25
43	A Description of the Faradaic Current in Cyclic Voltammetry of Adsorbed Redox Species on Semiconductor Electrodes. Journal of the American Chemical Society, 2022, 144, 6410-6419.	13.7	24
44	In Situ Transmission Electron Microscopy Measurements of Ge Nanowire Synthesis with Liquid Metal Nanodroplets in Water. ACS Nano, 2020, 14, 2869-2879.	14.6	23
45	Electrochemical Liquidâ€“Liquidâ€“Solid Crystal Growth of Germanium Microwires on Hard and Soft Conductive Substrates at Low Temperature in Aqueous Solution. Chemistry of Materials, 2015, 27, 3389-3396.	6.7	22
46	Reduction of Graphene Oxide Thin Films by Cobaltocene and Decamethylcobaltocene. ACS Applied Materials & Interfaces, 2018, 10, 2004-2015.	8.0	22
47	Sensitization of p-GaP with Monocationic Dyes: The Effect of Dye Excited-State Lifetime on Hole Injection Efficiencies. Journal of Physical Chemistry C, 2016, 120, 3145-3155.	3.1	20
48	Physicochemical and Electrochemical Properties of Etched GaP(111)A and GaP(111)B Surfaces. Journal of the Electrochemical Society, 2010, 157, H487.	2.9	19
49	Controlling Nucleation and Crystal Growth of Ge in a Liquid Metal Solvent. Crystal Growth and Design, 2016, 16, 7130-7138.	3.0	19
50	Electrodeposition of Large Area, Angle-Insensitive Multilayered Structural Colors. ACS Applied Materials & Interfaces, 2019, 11, 29065-29071.	8.0	19
51	Electrochemical Liquid-Liquid-Solid Deposition of Crystalline Ge Nanowires as a Function of Ga Nanodroplet Size. Journal of the Electrochemical Society, 2014, 161, D3044-D3050.	2.9	18
52	Protection of GaInP₂ Photocathodes by Direct Photoelectrodeposition of MoS_x Thin Films. ACS Applied Materials & Interfaces, 2019, 11, 25115-25122.	8.0	18
53	Behavior of Electrodeposited Cd and Pb Schottky Junctions on CH[sub 3]-Terminated n-Si(111) Surfaces. Journal of the Electrochemical Society, 2009, 156, H123.	2.9	17
54	Secondary Functionalization of Allyl-Terminated GaP(111)A Surfaces via Heck Cross-Coupling Metathesis, Hydrosilylation, and Electrophilic Addition of Bromine. Langmuir, 2014, 30, 156-164.	3.5	16

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55	Analysis of the Electrodeposition and Surface Chemistry of CdTe, CdSe, and CdS Thin Films through Substrate-Overlayer Surface-Enhanced Raman Spectroscopy. Langmuir, 2014, 30, 10344-10353.	3.5	16
56	Electro-reductive Fragmentation of Oxidized Lignin Models. Journal of Organic Chemistry, 2021, 86, 15927-15934.	3.2	16
57	Electrochemical Liquid Phase Epitaxy (ec-LPE): A New Methodology for the Synthesis of Crystalline Group IV Semiconductor Epifilms. Journal of the American Chemical Society, 2017, 139, 6960-6968.	13.7	15
58	Critical Factors in the Growth of Hyperdoped Germanium Microwires by Electrochemical Liquidâ€“Liquidâ€“Solid Method. ACS Applied Nano Materials, 2018, 1, 5553-5561.	5.0	15
59	Structural and Photoelectrochemical Properties of GaP Nanowires Annealed in NH₃. Journal of Physical Chemistry C, 2011, 115, 22652-22661.	3.1	14
60	Direct electrochemical deposition of crystalline silicon nanowires at T â‰¥ 60 Â°C. RSC Advances, 2016, 6, 78818-78825.	3.6	14
61	Beyond the Laviron Method: A New Mathematical Treatment for Analyzing the Faradaic Current in Reversible, Quasi-Reversible, and Irreversible Cyclic Voltammetry of Adsorbed Redox Species. Analytical Chemistry, 2021, 93, 12672-12681.	6.5	14
62	Overlayer Surface-Enhanced Raman Spectroscopy for Studying the Electrodeposition and Interfacial Chemistry of Ultrathin Ge on a Nanostructured Support. ACS Nano, 2011, 5, 1818-1830.	14.6	12
63	Electrochemical Liquid-Liquid-Solid Deposition of Crystalline Gallium Antimonide. Electrochimica Acta, 2016, 197, 353-361.	5.2	12
64	Macroporous p-GaP Photocathodes Prepared by Anodic Etching and Atomic Layer Deposition Doping. ACS Applied Materials & Interfaces, 2016, 8, 16178-16185.	8.0	12
65	Preparation and Photoelectrochemical Activity of Macroporous p-GaP(100). Journal of the Electrochemical Society, 2010, 157, D588.	2.9	11
66	Preparation of photoactive ZnGeP2 nanowire films. Journal of Materials Chemistry, 2012, 22, 6613.	6.7	10
67	Wet Chemical Functionalization of GaP(111)B through a Williamson Ether-Type Reaction. Journal of Physical Chemistry C, 2015, 119, 1338-1345.	3.1	10
68	Electroreduction of Perchlorinated Silanes for Si Electrodeposition. Journal of the Electrochemical Society, 2021, 168, 022503.	2.9	10
69	Electrochemically Gated Alloy Formation of Crystalline InAs Thin Films at Room Temperature in Aqueous Electrolytes. Chemistry of Materials, 2014, 26, 4535-4543.	6.7	9
70	Chemically modified Si(111) surfaces simultaneously demonstrating hydrophilicity, resistance against oxidation, and low trap state densities. Surface Science, 2016, 645, 49-55.	1.9	9
71	Eutectic-Bismuth Indium as a Growth Solvent for the Electrochemical Liquid-Liquid-Solid Deposition of Germanium Microwires and Coiled Nanowires. Crystal Growth and Design, 2018, 18, 677-685.	3.0	9
72	Semiconductor Ultramicroelectrodes: Platforms for Studying Charge-Transfer Processes at Semiconductor/Liquid Interfaces. Analytical Chemistry, 2018, 90, 12261-12269.	6.5	9

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73	Chloride Oxidation as an Alternative to the Oxygen-Evolution Reaction on H_xWO₃ Photoelectrodes. Journal of Physical Chemistry C, 2021, 125, 8543-8550.	3.1	9
74	Electrochemical Liquid-Liquid-Solid Deposition of Ge at Hg Microdroplet Ultramicroelectrodes. Journal of the Electrochemical Society, 2016, 163, D500-D505.	2.9	8
75	Comparison of GaP nanowires grown from Au and Sn vapor-liquid-solid catalysts as photoelectrode materials. Journal of Crystal Growth, 2018, 482, 36-43.	1.5	8
76	Synthesis of photoactive ZnSnP₂ semiconductor nanowires. Journal of Materials Research, 2015, 30, 2170-2178.	2.6	6
77	Quantitative Analysis of Semiconductor Electrode Voltammetry: A Theoretical and Operational Framework for Semiconductor Ultramicroelectrodes. Journal of Physical Chemistry C, 2020, 124, 5021-5035.	3.1	5
78	Evidence for Facilitated Surface Transport during Ge Crystal Growth by Indium in Liquid Hgâ€“In Alloys at Room Temperature. Crystal Growth and Design, 2021, 21, 1645-1656.	3.0	5
79	Hybrid solar cells constructed of macroporous n-type GaP coated with PEDOT:PSS. Chinese Chemical Letters, 2015, 26, 469-473.	9.0	4
80	Concerted Electrodeposition and Alloying of Antimony on Indium Electrodes for Selective Formation of Crystalline Indium Antimonide. Langmuir, 2017, 33, 9280-9287.	3.5	4
81	Sensitization of p-GaP by Physisorbed Triarylmethane Dyes. Journal of Physical Chemistry C, 2018, 122, 20073-20082.	3.1	3
82	Discovery of Unusually Stable Reduced Viologen via Synergistic Folding and Encapsulation. Journal of the Electrochemical Society, 2019, 166, H825-H834.	2.9	3
83	SEMICONDUCTOR/LIQUID JUNCTION PHOTOELECTROCHEMICAL SOLAR CELLS. Series on Photoconversion of Solar Energy, 2008, , 537-589.	0.2	2
84	Dye-Sensitized Hole Injection at p-type III-V Electrode Interfaces. ECS Transactions, 2011, 35, 153-163.	0.5	2
85	Discrete-contact nanowire photovoltaics. Journal of Applied Physics, 2013, 114, 174503.	2.5	2
86	Effect of Covalent Surface Functionalization of Si on the Activity of Trifluoromethanesulfonic Anhydride for Suppressing Surface Recombination. ACS Applied Materials & Interfaces, 2020, 12, 57560-57568.	8.0	2
87	Detection of Ge-Containing Adlayers at the Liquid Hg/Water Interface by In Situ X-ray Reflectivity in Aqueous Borate Electrolytes Containing Dissolved GeO₂. Journal of Physical Chemistry C, 2022, 126, 8177-8189.	3.1	2
88	Electrochemical Measurements during In Situ Liquid-Electrochemical TEM Experiments. Microscopy and Microanalysis, 2017, 23, 938-939.	0.4	1
89	Electroreduction of Si(NCO)4 for Electrodeposition of Si. Journal of the Electrochemical Society, 0, , .	2.9	1
90	Nanostructured phosphides as photoelectrode materials for artificial photosynthesis. , 2011, , .		0