

# Joaquin Rodriguez-Lopez

## List of Publications by Year in descending order

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90  
papers

3,619  
citations

117453

34  
h-index

143772

57  
g-index

92  
all docs

92  
docs citations

92  
times ranked

3971  
citing authors

#	ARTICLE	IF	CITATIONS
1	Evolutionary Design of Low Molecular Weight Organic Analyte Materials for Applications in Nonaqueous Redox Flow Batteries. <i>Journal of the American Chemical Society</i> , 2015, 137, 14465-14472.	6.6	191
2	Impact of Redox-Active Polymer Molecular Weight on the Electrochemical Properties and Transport Across Porous Separators in Nonaqueous Solvents. <i>Journal of the American Chemical Society</i> , 2014, 136, 16309-16316.	6.6	172
3	Multivalent Binding Motifs for the Noncovalent Functionalization of Graphene. <i>Journal of the American Chemical Society</i> , 2011, 133, 17614-17617.	6.6	149
4	Scanning Electrochemical Microscopy. 60. Quantitative Calibration of the SECM Substrate Generation/Tip Collection Mode and Its Use for the Study of the Oxygen Reduction Mechanism. <i>Analytical Chemistry</i> , 2008, 80, 3254-3260.	3.2	136
5	Interrogation of Surfaces for the Quantification of Adsorbed Species on Electrodes: Oxygen on Gold and Platinum in Neutral Media. <i>Journal of the American Chemical Society</i> , 2008, 130, 16985-16995.	6.6	135
6	Reactivity of Monolayer Chemical Vapor Deposited Graphene Imperfections Studied Using Scanning Electrochemical Microscopy. <i>ACS Nano</i> , 2012, 6, 3070-3079.	7.3	115
7	Redox Active Polymers as Soluble Nanomaterials for Energy Storage. <i>Accounts of Chemical Research</i> , 2016, 49, 2649-2657.	7.6	115
8	Redox Active Colloids as Discrete Energy Storage Carriers. <i>Journal of the American Chemical Society</i> , 2016, 138, 13230-13237.	6.6	111
9	Kinetics of Interfacial Electron Transfer at Single-Layer Graphene Electrodes in Aqueous and Nonaqueous Solutions. <i>Langmuir</i> , 2013, 29, 1683-1694.	1.6	106
10	Redox Active Polymers for Non-Aqueous Redox Flow Batteries: Validation of the Size-Exclusion Approach. <i>Journal of the Electrochemical Society</i> , 2017, 164, A1688-A1694.	1.3	93
11	Synthesis of polypeptides via bioinspired polymerization of in situ purified <i>N</i> -carboxyanhydrides. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 10658-10663.	3.3	87
12	Electrocatalytic Activity of Pd <sup>δ</sup> Co Bimetallic Mixtures for Formic Acid Oxidation Studied by Scanning Electrochemical Microscopy. <i>Analytical Chemistry</i> , 2009, 81, 7003-7008.	3.2	79
13	Quantification of photoelectrogenerated hydroxyl radical on TiO <sub>2</sub> by surface interrogation scanning electrochemical microscopy. <i>Physical Chemistry Chemical Physics</i> , 2012, 14, 12764.	1.3	78
14	Layer Number Dependence of Li <sup>+</sup> Intercalation on Few-Layer Graphene and Electrochemical Imaging of Its Solid-Electrolyte Interphase Evolution. <i>ACS Nano</i> , 2016, 10, 4248-4257.	7.3	78
15	Potential Dependence of the Local pH in a CO <sub>2</sub> Reduction Electrolyzer. <i>ACS Catalysis</i> , 2021, 11, 255-263.	5.5	77
16	Scanning Electrochemical Microscopy: Surface Interrogation of Adsorbed Hydrogen and the Open Circuit Catalytic Decomposition of Formic Acid at Platinum. <i>Journal of the American Chemical Society</i> , 2010, 132, 5121-5129.	6.6	67
17	Structure of the Photo-catalytically Active Surface of SrTiO <sub>3</sub> . <i>Journal of the American Chemical Society</i> , 2016, 138, 7816-7819.	6.6	64
18	Electrochemistry and Electrogenerated Chemiluminescence of Dithienylbenzothiadiazole Derivative. Differential Reactivity of Donor and Acceptor Groups and Simulations of Radical Cation-Anion and Dication-Radical Anion Annihilations. <i>Journal of the American Chemical Society</i> , 2010, 132, 13453-13461.	6.6	63

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19	Impact of Backbone Tether Length and Structure on the Electrochemical Performance of Viologen Redox Active Polymers. <i>Chemistry of Materials</i> , 2016, 28, 7362-7374.	3.2	60
20	Designing Redox-Active Oligomers for Crossover-Free, Nonaqueous Redox-Flow Batteries with High Volumetric Energy Density. <i>Chemistry of Materials</i> , 2018, 30, 3861-3866.	3.2	59
21	Quantification of the Surface Diffusion of Tripodal Binding Motifs on Graphene Using Scanning Electrochemical Microscopy. <i>Journal of the American Chemical Society</i> , 2012, 134, 6224-6236.	6.6	56
22	Achieving Fast and Efficient $K^{+}$ Intercalation on Ultrathin Graphene Electrodes Modified by a $Li^{+}$ Based Solid-Electrolyte Interphase. <i>Journal of the American Chemical Society</i> , 2018, 140, 13599-13603.	6.6	54
23	Kinetic Control in the Synthesis of a Möbius Tris((ethynyl)[5]helicene) Macrocycle Using Alkyne Metathesis. <i>Journal of the American Chemical Society</i> , 2020, 142, 6493-6498.	6.6	54
24	Reaction of Various Reductants with Oxide Films on Pt Electrodes As Studied by the Surface Interrogation Mode of Scanning Electrochemical Microscopy (SI-SECM): Possible Validity of a Marcus Relationship. <i>Journal of Physical Chemistry C</i> , 2010, 114, 18645-18655.	1.5	52
25	Lithium Ion Quantification Using Mercury Amalgams as <i>in Situ</i> Electrochemical Probes in Nonaqueous Media. <i>Analytical Chemistry</i> , 2014, 86, 10660-10667.	3.2	50
26	Quantum Chemistry-Informed Active Learning to Accelerate the Design and Discovery of Sustainable Energy Storage Materials. <i>Chemistry of Materials</i> , 2020, 32, 6338-6346.	3.2	50
27	Modulating Electrocatalysis on Graphene Heterostructures: Physically Impermeable Yet Electronically Transparent Electrodes. <i>ACS Nano</i> , 2018, 12, 2980-2990.	7.3	45
28	Effect of the Backbone Tether on the Electrochemical Properties of Soluble Cyclopropenium Redox-Active Polymers. <i>Macromolecules</i> , 2018, 51, 3539-3546.	2.2	43
29	A Solid-Solution Approach for Redox Active Metal-Organic Frameworks with Tunable Redox Conductivity. <i>Journal of the American Chemical Society</i> , 2019, 141, 19978-19982.	6.6	43
30	Unifying Concepts in Electro- and Thermocatalysis toward Hydrogen Peroxide Production. <i>Journal of the American Chemical Society</i> , 2021, 143, 7940-7957.	6.6	43
31	Interrogating Charge Storage on Redox Active Colloids via Combined Raman Spectroscopy and Scanning Electrochemical Microscopy. <i>Langmuir</i> , 2017, 33, 9455-9463.	1.6	42
32	Advanced Electrochemical Analysis for Energy Storage Interfaces. <i>Analytical Chemistry</i> , 2019, 91, 60-83.	3.2	42
33	Reaction of $Br_2$ with Adsorbed CO on Pt, Studied by the Surface Interrogation Mode of Scanning Electrochemical Microscopy. <i>Journal of the American Chemical Society</i> , 2009, 131, 17046-17047.	6.6	41
34	Scanning Electrochemical Microscopy and Hydrodynamic Voltammetry Investigation of Charge Transfer Mechanisms on Redox Active Polymers. <i>Journal of the Electrochemical Society</i> , 2016, 163, H3006-H3013.	1.3	37
35	Kinetic Modulation of Outer-Sphere Electron Transfer Reactions on Graphene Electrode with a Sub-surface Metal Substrate. <i>Electrochimica Acta</i> , 2016, 211, 1016-1023.	2.6	37
36	Probing Graphene Interfacial Reactivity via Simultaneous and Colocalized Raman-Scanning Electrochemical Microscopy Imaging and Interrogation. <i>Analytical Chemistry</i> , 2018, 90, 7848-7854.	3.2	34

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37	Scanning Electrochemical Microscopy Study of Ion Annihilation Electrogenerated Chemiluminescence of Rubrene and [Ru(bpy) <sub>3</sub> ] <sup>2+</sup> . Journal of the American Chemical Society, 2012, 134, 9240-9250.	6.6	33
38	Electrochemical Imaging of Photoanodic Water Oxidation Enhancements on TiO <sub>2</sub> Thin Films Modified by Subsurface Aluminum Nanodimers. ACS Nano, 2016, 10, 9346-9352.	7.3	32
39	Assessing the impact of electrolyte conductivity and viscosity on the reactor cost and pressure drop of redox-active polymer flow batteries. Journal of Power Sources, 2017, 361, 334-344.	4.0	31
40	Electrochemical Imaging and Redox Interrogation of Surface Defects on Operating SrTiO <sub>3</sub> Photoelectrodes. Journal of the American Chemical Society, 2015, 137, 14865-14868.	6.6	30
41	High-Throughput Preparation of Metal Oxide Nanocrystals by Cathodic Corrosion and Their Use as Active Photocatalysts. Langmuir, 2017, 33, 13295-13302.	1.6	30
42	Modulation of the Electrochemical Reactivity of Solubilized Redox Active Polymers via Polyelectrolyte Dynamics. Journal of the American Chemical Society, 2018, 140, 2093-2104.	6.6	30
43	Micropipet Delivery~Substrate Collection Mode of Scanning Electrochemical Microscopy for the Imaging of Electrochemical Reactions and the Screening of Methanol Oxidation Electrocatalysts. Analytical Chemistry, 2009, 81, 8868-8877.	3.2	29
44	Redox Titrations via Surface Interrogation Scanning Electrochemical Microscopy at an Extended Semiconducting Surface for the Quantification of Photogenerated Adsorbed Intermediates. Electrochimica Acta, 2015, 179, 74-83.	2.6	28
45	Probing the reversibility and kinetics of Li <sup>+</sup> during SEI formation and (de)intercalation on edge plane graphite using ion-sensitive scanning electrochemical microscopy. Chemical Science, 2019, 10, 10749-10754.	3.7	27
46	Impact of electrolyte composition on the reactivity of a redox active polymer studied through surface interrogation and ion-sensitive scanning electrochemical microscopy. Analyst, The, 2016, 141, 3842-3850.	1.7	26
47	In Situ Quantification of Surface Intermediates and Correlation to Discharge Products on Hematite Photoanodes Using a Combined Scanning Electrochemical Microscopy Approach. Analytical Chemistry, 2018, 90, 3050-3057.	3.2	25
48	Intrachain Charge Transport through Conjugated Donor~Acceptor Oligomers. ACS Applied Electronic Materials, 2019, 1, 7-12.	2.0	25
49	Characterization of Terminal Iron(III)~Oxo and Iron(III)~Hydroxo Complexes Derived from O <sub>2</sub> Activation. Inorganic Chemistry, 2019, 58, 15801-15811.	1.9	24
50	On-chip metal/polypyrrole quasi-reference electrodes for robust ISFET operation. Analyst, The, 2015, 140, 3630-3641.	1.7	23
51	Single-Layer Graphene as a Stable and Transparent Electrode for Nonaqueous Radical Annihilation Electrogenerated Chemiluminescence. Langmuir, 2015, 31, 3999-4007.	1.6	23
52	Quantitative Analysis of DNA-Mediated Formation of Metal Nanocrystals. Journal of the American Chemical Society, 2020, 142, 20368-20379.	6.6	22
53	Selective Insulation with Poly(tetrafluoroethylene) of Substrate Electrodes for Electrochemical Background Reduction in Scanning Electrochemical Microscopy. Analytical Chemistry, 2008, 80, 1813-1818.	3.2	21
54	Electrochemistry and Electrogenerated Chemiluminescence of a Novel Donor~Acceptor FPhSPFN Red Fluorophore. Journal of Physical Chemistry C, 2010, 114, 9772-9780.	1.5	21

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55	Printing 2D Conjugated Polymer Monolayers and Their Distinct Electronic Properties. <i>Advanced Functional Materials</i> , 2020, 30, 1909787.	7.8	20
56	Emerging scanning probe approaches to the measurement of ionic reactivity at energy storage materials. <i>Analytical and Bioanalytical Chemistry</i> , 2016, 408, 2707-2715.	1.9	19
57	Finding Harmony between Ions and Electrons: New Tools and Concepts for Emerging Energy Storage Materials. <i>Chemistry of Materials</i> , 2017, 29, 8918-8931.	3.2	19
58	Impact of Charge Transport Dynamics and Conditioning on Cycling Efficiency within Single Redox Active Colloids. <i>ChemElectroChem</i> , 2018, 5, 3006-3013.	1.7	18
59	Tracking Passivation and Cation Flux at Incipient Solid-Electrolyte Interphases on Multi-Layer Graphene using High Resolution Scanning Electrochemical Microscopy. <i>ChemElectroChem</i> , 2022, 9, .	1.7	18
60	A combined SECM and electrochemical AFM approach to probe interfacial processes affecting molecular reactivity at redox flow battery electrodes. <i>Journal of Materials Chemistry A</i> , 2020, 8, 15734-15745.	5.2	17
61	Rapid Characterization of Oxygen-Evolving Electrocatalyst Spot Arrays by the Substrate Generation/Tip Collection Mode of Scanning Electrochemical Microscopy with Decreased $O_2$ Diffusion Layer Overlap. <i>Journal of Physical Chemistry C</i> , 2015, 119, 2941-2947.	1.5	16
62	Detecting Potassium Ion Gradients at a Model Graphitic Interface. <i>Electrochimica Acta</i> , 2017, 241, 98-105.	2.6	16
63	Reactive and morphological trends on porous anodic TiO <sub>2</sub> substrates obtained at different annealing temperatures. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 4376-4389.	3.8	16
64	Impact of Surface Modification on the Lithium, Sodium, and Potassium Intercalation Efficiency and Capacity of Few-Layer Graphene Electrodes. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 19393-19401.	4.0	16
65	Impact of Plasmonic Photothermal Effects on the Reactivity of Au Nanoparticle Modified Graphene Electrodes Visualized Using Scanning Electrochemical Microscopy. <i>Analytical Chemistry</i> , 2020, 92, 3666-3673.	3.2	15
66	Reversible Switching of Molecular Conductance in Viologens is Controlled by the Electrochemical Environment. <i>Journal of Physical Chemistry C</i> , 2021, 125, 21862-21872.	1.5	14
67	Characterizing intermolecular interactions in redox-active pyridinium-based molecular junctions. <i>Journal of Electroanalytical Chemistry</i> , 2020, 875, 114070.	1.9	13
68	Surface-Enhanced Raman Spectroscopy-Scanning Electrochemical Microscopy: Observation of Real-Time Surface pH Perturbations. <i>Analytical Chemistry</i> , 2021, 93, 7792-7796.	3.2	12
69	Single layer graphene as an electrochemical platform. <i>Faraday Discussions</i> , 2014, 172, 27-45.	1.6	11
70	Fabrication and Demonstration of Mercury Disc-Well Probes for Stripping-Based Cyclic Voltammetry Scanning Electrochemical Microscopy. <i>Analytical Chemistry</i> , 2017, 89, 2716-2723.	3.2	11
71	Electrocatalysis on ultra-thin 2D electrodes: New concepts and prospects for tailoring reactivity. <i>Current Opinion in Electrochemistry</i> , 2019, 13, 100-106.	2.5	11
72	Synergy of DNA intercalation and catalytic activity of a copper complex towards improved polymerase inhibition and cancer cell cytotoxicity. <i>Dalton Transactions</i> , 2021, 50, 11931-11940.	1.6	11

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73	Cyclic Voltammetry Probe Approach Curves with Alkali Amalgams at Mercury Sphere-Cap Scanning Electrochemical Microscopy Probes. <i>Analytical Chemistry</i> , 2017, 89, 2708-2715.	3.2	10
74	Nernstian Li <sup>+</sup> intercalation into few-layer graphene and its use for the determination of K <sup>+</sup> co-intercalation processes. <i>Chemical Science</i> , 2021, 12, 559-568.	3.7	10
75	Coordinated mapping of Li <sup>+</sup> flux and electron transfer reactivity during solid-electrolyte interphase formation at a graphene electrode. <i>Analyst</i> , 2020, 145, 2631-2638.	1.7	9
76	Evaluation of the Chemical Reactions from Two Electrogenerated Species in Picoliter Volumes by Scanning Electrochemical Microscopy. <i>ChemPhysChem</i> , 2010, 11, 2969-2978.	1.0	8
77	Interrogating the Surface Intermediates and Water Oxidation Products of Boron-Doped Diamond Electrodes with Scanning Electrochemical Microscopy. <i>ChemElectroChem</i> , 2019, 6, 3507-3515.	1.7	8
78	Pt/Polypyrrole Quasi-References Revisited: Robustness and Application in Electrochemical Energy Storage Research. <i>Analytical Chemistry</i> , 2021, 93, 14048-14052.	3.2	8
79	Insight into the Activity and Selectivity of Nanostructured Copper Titanates during Electrochemical Conversion of CO <sub>2</sub> at Neutral pH via In Situ X-ray Absorption Spectroscopy. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 2742-2753.	4.0	8
80	Prospects for single-site interrogation using in situ multimodal electrochemical scanning probe techniques. <i>Current Opinion in Electrochemistry</i> , 2018, 8, 89-95.	2.5	7
81	Scanning electrochemical microscopy with conducting polymer probes: Validation and applications. <i>Analytica Chimica Acta</i> , 2019, 1069, 36-46.	2.6	7
82	Mesolytic cleavage of homobenzylic ethers for programmable end-of-life function in redoxmers. <i>Journal of Materials Chemistry A</i> , 2022, 10, 7739-7753.	5.2	6
83	NGenE 2021: Electrochemistry Is Everywhere. <i>ACS Energy Letters</i> , 2022, 7, 368-374.	8.8	6
84	Soft Surfaces for Fast Characterization and Positioning of Scanning Electrochemical Microscopy Nanoelectrode Tips. <i>Analytical Chemistry</i> , 2016, 88, 9897-9901.	3.2	5
85	Reconstruction of Lead Acid Battery Negative Electrodes after Hard Sulfation Using Controlled Chelation Chemistry. <i>Journal of the Electrochemical Society</i> , 2020, 167, 120537.	1.3	5
86	Electrochemical Synthesis of Nanostructured Metal-Doped Titanates and Investigation of Their Activity as Oxygen Evolution Photoanodes. <i>ACS Applied Energy Materials</i> , 2018, , .	2.5	4
87	Towards a Piezoelectric Electroanalytical Platform for Modulating Oxygen Reduction Reactivity on Platinum. <i>Journal of the Electrochemical Society</i> , 2019, 166, H677-H684.	1.3	4
88	Scanning electrochemical microscopy: a versatile tool for inspecting the reactivity of battery electrodes. , 0, , .		2
89	The Chalkboard: Picture Your Electrode: A Primer on Scanning Electrochemical Microscopy. <i>Electrochemical Society Interface</i> , 2020, 29, 30-32.	0.3	1
90	Versatile electrochemical approaches. <i>Analyst</i> , 2020, 145, 5696-5698.	1.7	0