Javier J Concepcion

List of Publications by Year
in descending order

96 papers	9,065 citations	34105 52 h-index	39675 94 g-index
99 all docs	99 docs citations	99 times ranked	6285 citing authors

#	Article	IF	Citations
1	Making Oxygen with Ruthenium Complexes. Accounts of Chemical Research, 2009, 42, 1954-1965.	15.6	788
2	One Site is Enough. Catalytic Water Oxidation by [Ru(tpy)(bpm)(OH₂)]²⁺ and [Ru(tpy)(bpz)(OH₂)]²⁺. Journal of the American Chemical Society, 2008, 130, 16462-16463.	13.7	628
3	Mechanism of Water Oxidation by Single-Site Ruthenium Complex Catalysts. Journal of the American Chemical Society, 2010, 132, 1545-1557.	13.7	443
4	Mechanisms of Water Oxidation from the Blue Dimer to Photosystem II. Inorganic Chemistry, 2008, 47, 1727-1752.	4.0	385
5	Chemical approaches to artificial photosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 15560-15564.	7.1	366
6	Catalytic Water Oxidation by Single-Site Ruthenium Catalysts. Inorganic Chemistry, 2010, 49, 1277-1279.	4.0	298
7	Concerted O atomâ€“proton transfer in the Oâ€”O bond forming step in water oxidation. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 7225-7229.	7.1	295
8	Dye-sensitized solar cells strike back. Chemical Society Reviews, 2021, 50, 12450-12550.	38.1	240
9	Single-Site, Catalytic Water Oxidation on Oxide Surfaces. Journal of the American Chemical Society, 2009, 131, 15580-15581.	13.7	234
10	Solar water splitting in a molecular photoelectrochemical cell. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 20008-20013.	7.1	203
11	Oâ€“O bond formation in ruthenium-catalyzed water oxidation: single-site nucleophilic attack vs. Oâ€“O radical coupling. Chemical Society Reviews, 2017, 46, 6170-6193.	38.1	202
12	The role of proton coupled electron transfer in water oxidation. Energy and Environmental Science, 2012, 5, 7704.	30.8	198
13	Splitting CO ₂ into CO and O ₂ by a single catalyst. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 15606-15611.	7.1	168
14	Photostability of Phosphonate-Derivatized, Ru^{II} Polypyridyl Complexes on Metal Oxide Surfaces. ACS Applied Materials & Interfaces, 2012, 4, 1462-1469.	8.0	157
15	Structureâ€“Property Relationships in Phosphonate-Derivatized, Ru^{II} Polypyridyl Dyes on Metal Oxide Surfaces in an Aqueous Environment. Journal of Physical Chemistry C, 2012, 116, 14837-14847.	3.1	156
16	Catalytic and Surfaceâ€Electrocatalytic Water Oxidation by Redox Mediatorâ€“Catalyst Assemblies. Angewandte Chemie - International Edition, 2009, 48, 9473-9476.	13.8	154
17	Nonaqueous Catalytic Water Oxidation. Journal of the American Chemical Society, 2010, 132, 17670-17673.	13.7	141
18	Base-enhanced catalytic water oxidation by a carboxylateâ€“bipyridine Ru(II) complex. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4935-4940.	7.1	124

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19	Making solar fuels by artificial photosynthesis. Pure and Applied Chemistry, 2011, 83, 749-768.	1.9	123
20	Crossing the divide between homogeneous and heterogeneous catalysis in water oxidation. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 20918-20922.	7.1	123
21	Selfâ€Assembled Bilayer Films of Ruthenium(II)/Polypyridyl Complexes through Layerâ€byâ€Layer Deposition on Nanostructured Metal Oxides. Angewandte Chemie - International Edition, 2012, 51, 12782-12785.	13.8	118
22	Photoinduced Electron Transfer in a Chromophoreâ€"Catalyst Assembly Anchored to TiO₂. Journal of the American Chemical Society, 2012, 134, 19189-19198.	13.7	116
23	Synthesis of Phosphonic Acid Derivatized Bipyridine Ligands and Their Ruthenium Complexes. Inorganic Chemistry, 2013, 52, 12492-12501.	4.0	114
24	Mediator-assisted water oxidation by the ruthenium â€œblue dimerâ€<i>cis</i>,<i>cis</i>-[(bpy)₂(H₂O)RuORu(OH₂)(bpy)₂]⁴⁺. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 17632-17635.	7.1	113
25	Excited-State Quenching by Proton-Coupled Electron Transfer. Journal of the American Chemical Society, 2007, 129, 6968-6969.	13.7	104
26	Concerted electron-proton transfer in the optical excitation of hydrogen-bonded dyes. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 8554-8558.	7.1	99
27	Water Oxidation and Oxygen Monitoring by Cobalt-Modified Fluorine-Doped Tin Oxide Electrodes. Journal of the American Chemical Society, 2013, 135, 8432-8435.	13.7	96
28	Photoinduced Stepwise Oxidative Activation of a Chromophoreâ€"Catalyst Assembly on TiO₂. Journal of Physical Chemistry Letters, 2011, 2, 1808-1813.	4.6	93
29	Catalytic water oxidation on derivatized nanoITO. Dalton Transactions, 2010, 39, 6950.	3.3	91
30	Visible Light Driven Benzyl Alcohol Dehydrogenation in a Dye-Sensitized Photoelectrosynthesis Cell. Journal of the American Chemical Society, 2014, 136, 9773-9779.	13.7	80
31	Water Oxidation Intermediates Applied to Catalysis: Benzyl Alcohol Oxidation. Journal of the American Chemical Society, 2012, 134, 3972-3975.	13.7	79
32	Experimental demonstration of radicaloid character in a Ru ^V =O intermediate in catalytic water oxidation. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 3765-3770.	7.1	77
33	Lability and Basicity of Bipyridine-Carboxylate-Phosphonate Ligand Accelerate Single-Site Water Oxidation by Ruthenium-Based Molecular Catalysts. Journal of the American Chemical Society, 2017, 139, 15347-15355.	13.7	76
34	Light-Driven Water Splitting by a Covalently Linked Ruthenium-Based Chromophoreâ€"Catalyst Assembly. ACS Energy Letters, 2017, 2, 124-128.	17.4	75
35	Lowâ€Overpotential Water Oxidation by a Surfaceâ€Bound Rutheniumâ€Chromophoreâ€"Rutheniumâ€Catalyst Assembly. Angewandte Chemie - International Edition, 2013, 52, 13580-13583.	13.8	72
36	Interfacial Electron Transfer Dynamics Following Laser Flash Photolysis of [Ru(bpy)₂((4,4â€²â€PO₃H₂)₂bpy)]²⁺ in TiO₂ Nanoparticle Films in Aqueous Environments. ChemSusChem, 2011, 4, 216-227.	6.8	71

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37	Redox Mediator Effect on Water Oxidation in a Ruthenium-Based Chromophoreâ€“Catalyst Assembly. Journal of the American Chemical Society, 2013, 135, 2080-2083.	13.7	70
38	Structure and Electronic Configurations of the Intermediates of Water Oxidation in Blue Ruthenium Dimer Catalysis. Journal of the American Chemical Society, 2012, 134, 4625-4636.	13.7	68
39	Accumulation of Multiple Oxidative Equivalents at a Single Site by Cross-Surface Electron Transfer on TiO₂. Journal of the American Chemical Society, 2013, 135, 11587-11594.	13.7	68
40	Mechanism of water oxidation by [Ru(bda)(L)₂]: the return of the â€œblue dimerâ€ Chemical Communications, 2015, 51, 4105-4108.	4.1	67
41	Water Oxidation by Ruthenium Complexes Incorporating Multifunctional Bipyridyl Diphosphonate Ligands. Angewandte Chemie - International Edition, 2016, 55, 8067-8071.	13.8	67
42	A Sensitized Nb₂O₅ Photoanode for Hydrogen Production in a Dye-Sensitized Photoelectrosynthesis Cell. Chemistry of Materials, 2013, 25, 122-131.	6.7	66
43	Proton-Coupled Electron Transfer in a Strongly Coupled Photosystem II-Inspired Chromophoreâ€“Imidazoleâ€“Phenol Complex: Stepwise Oxidation and Concerted Reduction. Journal of the American Chemical Society, 2016, 138, 11536-11549.	13.7	66
44	Rapid catalyticwateroxidation by a single site, Rucarbenecatalyst. Dalton Transactions, 2011, 40, 3789-3792.	3.3	63
45	Observation of Three Intervalenceâ€Transfer Bands for a Classâ€…IIâ€“III Mixedâ€Valence Complex of Ruthenium. Angewandte Chemie - International Edition, 2008, 47, 503-506.	13.8	60
46	Proton-coupled electron transfer at modified electrodes by multiple pathways. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, E1461-9.	7.1	60
47	An Amide-Linked Chromophoreâ€“Catalyst Assembly for Water Oxidation. Inorganic Chemistry, 2012, 51, 6428-6430.	4.0	60
48	Oâ€“O Radical Coupling: From Detailed Mechanistic Understanding to Enhanced Water Oxidation Catalysis. Inorganic Chemistry, 2018, 57, 10533-10542.	4.0	59
49	Interfacial Electron Transfer Dynamics for [Ru(bpy)₂((4,4â€²-PO₃H₂)₂bpy)]²⁺ Sensitized TiO₂ in a Dye-Sensitized Photoelectrosynthesis Cell: Factors Influencing Efficiency and Dynamics. Journal of Physical Chemistry C, 2011, 115, 7081-7091.	3.1	56
50	Synthesis and photophysical characterization of porphyrin and porphyrinâ€“Ru(ii) polypyridyl chromophoreâ€“catalyst assemblies on mesoporous metal oxides. Chemical Science, 2014, 5, 3115.	7.4	56
51	Varying the Electronic Structure of Surface-Bound Ruthenium(II) Polypyridyl Complexes. Inorganic Chemistry, 2015, 54, 460-469.	4.0	56
52	Manipulating the Rate-Limiting Step in Water Oxidation Catalysis by Ruthenium Bipyridineâ€“Dicarboxylate Complexes. Inorganic Chemistry, 2016, 55, 12024-12035.	4.0	55
53	Controlling Ground and Excited State Properties through Ligand Changes in Ruthenium Polypyridyl Complexes. Inorganic Chemistry, 2014, 53, 5637-5646.	4.0	53
54	Theoretical study of catalytic mechanism for single-site water oxidation process. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 15669-15672.	7.1	51

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55	Electronic Structure of the Water Oxidation Catalyst <i>cis</i>,<i>cis</i>-[(bpy)₂(H₂O)Ru^{III}ORu^{III}(OH₂)(bpy)<sub>2</su The Blue Dimer. Inorganic Chemistry, 2012, 51, 1345-1358.	4.0	51
56	Probing the localized-to-delocalized transition. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 163-175.	3.4	50
57	Understanding the Electronic Structure of 4d Metal Complexes: From Molecular Spinors to L-Edge Spectra of a di-Ru Catalyst. Journal of the American Chemical Society, 2011, 133, 15786-15794.	13.7	50
58	New Water Oxidation Chemistry of a Seven-Coordinate Ruthenium Complex with a Tetradentate Polypyridyl Ligand. Inorganic Chemistry, 2014, 53, 6904-6913.	4.0	48
59	Photophysical Characterization of a Chromophore/Water Oxidation Catalyst Containing a Layer-by-Layer Assembly on Nanocrystalline TiO₂ Using Ultrafast Spectroscopy. Journal of Physical Chemistry A, 2014, 118, 10301-10308.	2.5	45
60	Application of the Rotating Ring-Disc-Electrode Technique to Water Oxidation by Surface-Bound Molecular Catalysts. Inorganic Chemistry, 2013, 52, 10744-10746.	4.0	44
61	Spectroscopy and Dynamics of Phosphonate-Derivatized Ruthenium Complexes on TiO₂. Journal of Physical Chemistry C, 2013, 117, 812-824.	3.1	43
62	Interfacial Dynamics and Solar Fuel Formation in Dyeâ€Sensitized Photoelectrosynthesis Cells. ChemPhysChem, 2012, 13, 2882-2890.	2.1	41
63	Structural and pH Dependence of Excited State PCET Reactions Involving Reductive Quenching of the MLCT Excited State of [Ru^{II}(bpy)₂(bpz)]²⁺ by Hydroquinones. Journal of Physical Chemistry A, 2011, 115, 3346-3356.	2.5	37
64	Synthesis and Electrocatalytic Water Oxidation by Electrode-Bound Helical Peptide Chromophoreâ€“Catalyst Assemblies. Inorganic Chemistry, 2014, 53, 8120-8128.	4.0	35
65	Nonaqueous Electrocatalytic Oxidation of the Alkylaromatic Ethylbenzene by a Surface Bound Ru^V(O) Catalyst. ACS Catalysis, 2012, 2, 716-719.	11.2	34
66	Self-Assembled Bilayers on Indiumâ€“Tin Oxide (SAB-ITO) Electrodes: A Design for Chromophoreâ€“Catalyst Photoanodes. Inorganic Chemistry, 2012, 51, 8637-8639.	4.0	33
67	Self-Assembled Bilayers as an Anchoring Strategy: Catalysts, Chromophores, and Chromophore-Catalyst Assemblies. Journal of the American Chemical Society, 2019, 141, 8020-8024.	13.7	32
68	Influence of ligand structure and molecular geometry on the properties of d6 polypyridinic transition metal complexes. Chemical Physics, 2006, 326, 54-70.	1.9	31
69	Multiple Pathways for Benzyl Alcohol Oxidation by RuVâ•O3+and RuIVâ•O2+. Inorganic Chemistry, 2011, 50, 1167-1169.	4.0	30
70	Mechanism of Catalytic Water Oxidation by the Ruthenium Blue Dimer Catalyst: Comparative Study in D2O versus H2O. Materials, 2013, 6, 392-409.	2.9	30
71	Improved Stability and Performance of Visible Photoelectrochemical Water Splitting on Solution-Processed Organic Semiconductor Thin Films by Ultrathin Metal Oxide Passivation. Chemistry of Materials, 2018, 30, 324-335.	6.7	29
72	Inverse Kinetic Isotope Effect in the Excited-State Relaxation of a Ru(II)â€“Aquo Complex: Revealing the Impact of Hydrogen-Bond Dynamics on Nonradiative Decay. Journal of the American Chemical Society, 2013, 135, 12500-12503.	13.7	28

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73	ELECTRONIC EFFECTS OF DONOR AND ACCEPTOR SUBSTITUENTS ON DIPYRIDO(3,2-a:2â€²,3â€²-c)PHENAZINE (dppz). Journal of Coordination Chemistry, 2001, 54, 323-336.	2.2	27
74	Visualization of cation diffusion at the TiO2 interface in dye sensitized photoelectrosynthesis cells (DSPEC). Energy and Environmental Science, 2013, 6, 1240.	30.8	25
75	Vibrational and structural mapping of [Os(bpy)3]3+/2+ and [Os(phen)3]3+/2+. Inorganica Chimica Acta, 2007, 360, 1143-1153.	2.4	23
76	Water Oxidation by Ruthenium Complexes Incorporating Multifunctional Bipyridyl Diphosphonate Ligands. Angewandte Chemie, 2016, 128, 8199-8203.	2.0	22
77	Self-Assembled Chromophoreâ€"Catalyst Bilayer for Water Oxidation in a Dye-Sensitized Photoelectrosynthesis Cell. Journal of Physical Chemistry C, 2019, 123, 30039-30045.	3.1	22
78	Trans Ruthenium(II) Complexes with NH-Bridged Tetradentate Symmetric and Asymmetric Polypyridyl Ligands. Inorganic Chemistry, 2002, 41, 5937-5939.	4.0	16
79	Photodriven water oxidation initiated by a surface bound chromophore-donor-catalyst assembly. Chemical Science, 2021, 12, 14441-14450.	7.4	16
80	The preparation, characterization and X-ray structural analysis of tetrakis[1-methyl-3-(2-propyl)-2(3H)-imidazolethione]zinc(II) tetrafluoroborate and tetrakis[1-methyl-3-(1-butyl)-2(3H)- imidazolethione]zinc(II) tetrafluoroborate. Journal of Chemical Crystallography, 2006, 36, 453-457.	1.1	14
81	Electrocatalysis on Oxide-Stabilized, High-Surface Area Carbon Electrodes. ACS Catalysis, 2013, 3, 1850-1854.	11.2	14
82	Selective Electrocatalytic Oxidation of a Reâ€"Methyl Complex to Methanol by a Surface-Bound Ru^{II} Polypyridyl Catalyst. Journal of the American Chemical Society, 2014, 136, 15845-15848.	13.7	13
83	Oxygen Atom Transfer as an Alternative Pathway for Oxygenâ€"Oxygen Bond Formation. Inorganic Chemistry, 2020, 59, 5966-5974.	4.0	12
84	Rapid identification of homogeneous O2 evolution catalysts and comparative studies of Ru(II)-carboxamides vs. Ru(II)-carboxylates in water-oxidation. Journal of Catalysis, 2019, 369, 10-20.	6.2	11
85	High-Redox-Potential Chromophores for Visible-Light-Driven Water Oxidation at Low pH. ACS Catalysis, 2020, 10, 580-585.	11.2	11
86	Sensitized Photodecomposition of Organic Bisphosphonates By Singlet Oxygen. Journal of the American Chemical Society, 2012, 134, 16975-16978.	13.7	10
87	Pathways Following Electron Injection: Medium Effects and Cross-Surface Electron Transfer in a Ruthenium-Based, Chromophoreâ€"Catalyst Assembly on TiO₂. Journal of Physical Chemistry C, 2018, 122, 13017-13026.	3.1	10
88	Plasma-Initiated Graft Polymerization of Acrylic Acid onto Fluorine-Doped Tin Oxide as a Platform for Immobilization of Water-Oxidation Catalysts. ACS Applied Materials & Interfaces, 2021, 13, 14077-14090.	8.0	10
89	Coordination Chemistry of Single-Site Catalyst Precursors in Reductively Electropolymerized Vinylbipyridine Films. Inorganic Chemistry, 2013, 52, 4747-4749.	4.0	9
90	Accelerating slow excited state proton transfer. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 876-880.	7.1	9

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91	Proton-Coupled Group Transfer Enables Concerted Protonation Pathways Relevant to Small-Molecule Activation. Inorganic Chemistry, 2021, 60, 16953-16965.	4.0	8
92	Electronic Structure Assessment: Combined Density Functional Theory Calculations and Ru L2,3-Edge X-ray Absorption Near-Edge Spectroscopy of Water Oxidation Catalyst. Journal of Physical Chemistry C, 2013, 117, 18994-19001.	3.1	7
93	The Preparation, Characterization and X-ray Structural Analysis of Tetrakis[1-Methyl-3-(2-Propyl)-2(3H)-Imidazolethione]Cadmium(II) Hexafluorophosphate. Journal of Chemical Crystallography, 2009, 39, 581-584.	1.1	5
94	Water Electrolysis with a Homogeneous Catalyst in an Electrochemical Cell. Journal of the Electrochemical Society, 2013, 160, F1143-F1150.	2.9	5
95	Synthesis and reactivity of new methylallylpalladium(II) complexes with bidentate 2-(methylthio-N-benzylidene)anilines. Journal of Organometallic Chemistry, 2004, 689, 395-404.	1.8	4
96	Mechanistic Investigation of the Aerobic Oxidation of 2-pyridylacetate Coordinated to a Ru(II) Polypyridyl Complex. Dalton Transactions, 2021, 50, 15248-15259.	3.3	3