

Kyoung-Shin Choi

List of Publications by Year in descending order

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88
papers

13,390
citations

47006

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54911

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90
docs citations

90
times ranked

11581
citing authors

#	ARTICLE	IF	CITATIONS
1	Electrochemical Oxidation of HMF via Hydrogen Atom Transfer and Hydride Transfer on NiOOH and the Impact of NiOOH Composition. <i>ChemSusChem</i> , 2022, 15, .	6.8	24
2	Electrochemical Dehydrogenation Pathways of Amines to Nitriles on NiOOH. <i>Jacs Au</i> , 2022, 2, 1169-1180.	7.9	15
3	Mechanistic Differences between Electrochemical Hydrogenation and Hydrogenolysis of 5-Hydroxymethylfurfural and Their pH Dependence. <i>ChemSusChem</i> , 2022, 15, .	6.8	18
4	Electrochemical and photoelectrochemical approaches for the selective removal, recovery, and valorization of chloride ions. <i>Chemical Engineering Journal</i> , 2021, 404, 126378.	12.7	20
5	A comparative study of Bi, Sb, and BiSb for electrochemical nitrogen reduction leading to a new catalyst design strategy. <i>Journal of Materials Chemistry A</i> , 2021, 9, 20453-20465.	10.3	15
6	The impact of surface composition on the interfacial energetics and photoelectrochemical properties of BiVO ₄ . <i>Nature Energy</i> , 2021, 6, 287-294.	39.5	108
7	Electrochemical Redox Cells Capable of Desalination and Energy Storage: Addressing Challenges of the Water-Energy Nexus. <i>ACS Energy Letters</i> , 2021, 6, 1034-1044.	17.4	37
8	A seawater battery with desalination capabilities enabling a dual-purpose aqueous energy storage system. <i>Energy Storage Materials</i> , 2021, 37, 556-566.	18.0	14
9	The Impact of 5-Hydroxymethylfurfural (HMF)-Metal Interactions on the Electrochemical Reduction Pathways of HMF on Various Metal Electrodes. <i>ChemSusChem</i> , 2021, 14, 4563-4572.	6.8	22
10	Water oxidation kinetics of nanoporous BiVO ₄ photoanodes functionalised with nickel/iron oxyhydroxide electrocatalysts. <i>Chemical Science</i> , 2021, 12, 7442-7452.	7.4	32
11	Integrating Computation and Experiment to Investigate Photoelectrodes for Solar Water Splitting at the Microscopic Scale. <i>Accounts of Chemical Research</i> , 2021, 54, 3863-3872.	15.6	7
12	Understanding Hydrogen Atom and Hydride Transfer Processes during Electrochemical Alcohol and Aldehyde Oxidation. <i>ACS Catalysis</i> , 2021, 11, 15110-15124.	11.2	26
13	Impacts of the Regeneration Pathways of the Oxoammonium Cation on Electrochemical Nitroxyl Radical-Mediated Alcohol Oxidation. <i>ACS Catalysis</i> , 2020, 10, 265-275.	11.2	19
14	Elucidating Structure-Composition-Property Relationships of Ni-Based Prussian Blue Analogues for Electrochemical Seawater Desalination. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 36014-36025.	8.0	27
15	Can a PbCrO ₄ Photoanode Perform as Well as Isoelectronic BiVO ₄ ?. <i>ACS Applied Energy Materials</i> , 2020, 3, 8658-8666.	5.1	10
16	Alcohol oxidation as alternative anode reactions paired with (photo)electrochemical fuel production reactions. <i>Nature Communications</i> , 2020, 11, 4594.	12.8	67
17	Unraveling Two Pathways for Electrochemical Alcohol and Aldehyde Oxidation on NiOOH. <i>Journal of the American Chemical Society</i> , 2020, 142, 21538-21547.	13.7	142
18	Photoelectrochemical Nitrogen Reduction to Ammonia on Cupric and Cuprous Oxide Photocathodes. <i>ACS Energy Letters</i> , 2020, 5, 1834-1839.	17.4	64

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19	Electrochemical Synthesis and Investigation of Stoichiometric, Phase-Pure CoSb_2O_6 and MnSb_2O_6 Electrodes for the Oxygen Evolution Reaction in Acidic Media. <i>ACS Applied Energy Materials</i> , 2020, 3, 5563-5571.	5.1	40
20	Electrochemical Oxidation of Metal-Catechol Complexes as a New Synthesis Route to the High-Quality Ternary Photoelectrodes: A Case Study of Fe_2TiO_5 Photoanodes. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 29275-29284.	8.0	11
21	The Role of Surface Oxygen Vacancies in BiVO_4 . <i>Chemistry of Materials</i> , 2020, 32, 2899-2909.	6.7	108
22	Enabling electrochemical N_2 reduction to NH_3 in the low overpotential region using non-noble metal Bi electrodes via surface composition modification. <i>Journal of Materials Chemistry A</i> , 2020, 8, 13842-13851.	10.3	16
23	Combined Experimental and Theoretical Investigations of n-Type BiFeO_3 for Use as a Photoanode in a Photoelectrochemical Cell. <i>Chemistry of Materials</i> , 2020, 32, 3262-3270.	6.7	39
24	Non-fullerene Acceptors for Harvesting Excitons from Semiconducting Carbon Nanotubes. <i>Journal of Physical Chemistry C</i> , 2019, 123, 21395-21402.	3.1	12
25	Combined Theoretical and Experimental Investigations of Atomic Doping To Enhance Photon Absorption and Carrier Transport of LaFeO_3 Photocathodes. <i>Chemistry of Materials</i> , 2019, 31, 5890-5899.	6.7	42
26	Perspectives on the Development of Oxide-Based Photocathodes for Solar Fuel Production. <i>Journal of the American Chemical Society</i> , 2019, 141, 18358-18369.	13.7	68
27	Spectroelectrochemical study of water oxidation on nickel and iron oxyhydroxide electrocatalysts. <i>Nature Communications</i> , 2019, 10, 5208.	12.8	118
28	Tandem Desalination/Salination Strategies Enabling the Use of Redox Couples for Efficient and Sustainable Electrochemical Desalination. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 38641-38647.	8.0	23
29	Progress on ternary oxide-based photoanodes for use in photoelectrochemical cells for solar water splitting. <i>Chemical Society Reviews</i> , 2019, 48, 2126-2157.	38.1	296
30	A Desalination Battery Combining $\text{Cu}_3[\text{Fe}(\text{CN})_6]_2$ as a Na-Storage Electrode and Bi as a Cl-Storage Electrode Enabling Membrane-Free Desalination. <i>Chemistry of Materials</i> , 2019, 31, 1460-1468.	6.7	70
31	Stabilities, Regeneration Pathways, and Electrocatalytic Properties of Nitroxyl Radicals for the Electrochemical Oxidation of 5-Hydroxymethylfurfural. <i>ACS Sustainable Chemistry and Engineering</i> , 2019, 7, 11138-11149.	6.7	57
32	A Comparative Study of Nickel, Cobalt, and Iron Oxyhydroxide Anodes for the Electrochemical Oxidation of 5-Hydroxymethylfurfural to 2,5-Furandicarboxylic Acid. <i>ACS Catalysis</i> , 2019, 9, 660-670.	11.2	254
33	Copper-Based Catalytic Anodes To Produce 2,5-Furandicarboxylic Acid, a Biomass-Derived Alternative to Terephthalic Acid. <i>ACS Catalysis</i> , 2018, 8, 1197-1206.	11.2	218
34	Enhancing long-term photostability of BiVO_4 photoanodes for solar water splitting by tuning electrolyte composition. <i>Nature Energy</i> , 2018, 3, 53-60.	39.5	492
35	Chemistry of Materials for Water Splitting Reactions. <i>Chemistry of Materials</i> , 2018, 30, 7325-7327.	6.7	21
36	Mechanistic insights of enhanced spin polaron conduction in CuO through atomic doping. <i>Npj Computational Materials</i> , 2018, 4, .	8.7	18

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37	Electrochemical Desalination Using Bi/BiOCl Electrolysis Cells. ACS Sustainable Chemistry and Engineering, 2018, 6, 15455-15462.	6.7	39
38	Electrochemical Valorization of Furfural to Maleic Acid. ACS Sustainable Chemistry and Engineering, 2018, 6, 9596-9600.	6.7	69
39	Enabling Solar Water Oxidation by BiVO ₄ Photoanodes in Basic Media. Chemistry of Materials, 2018, 30, 4704-4712.	6.7	65
40	Investigation of p-type Ca ₂ Fe ₂ O ₅ as a Photocathode for Use in a Water Splitting Photoelectrochemical Cell. ACS Applied Energy Materials, 2018, 1, 4917-4923.	5.1	23
41	Experimental and Computational Investigation of Lanthanide Ion Doping on BiVO ₄ Photoanodes for Solar Water Splitting. Journal of Physical Chemistry C, 2018, 122, 19416-19424.	3.1	42
42	Electrochemical Oxidation of 5-Hydroxymethylfurfural to 2,5-Furandicarboxylic Acid (FDCA) in Acidic Media Enabling Spontaneous FDCA Separation. ChemSusChem, 2018, 11, 2138-2145.	6.8	131
43	Integrating a Semitransparent, Fullerene-Free Organic Solar Cell in Tandem with a BiVO ₄ Photoanode for Unassisted Solar Water Splitting. ACS Applied Materials & Interfaces, 2017, 9, 22449-22455.	8.0	24
44	Electrochemical Growth of Copper Hydroxy Double Salt Films and Their Conversion to Nanostructured p-Type CuO Photocathodes. Langmuir, 2017, 33, 9262-9270.	3.5	47
45	Photoelectrochemical Properties and Stability of Nanoporous p-Type LaFeO ₃ Photoelectrodes Prepared by Electrodeposition. ACS Energy Letters, 2017, 2, 2378-2382.	17.4	85
46	Bismuth as a New Chloride-Storage Electrode Enabling the Construction of a Practical High Capacity Desalination Battery. Journal of the American Chemical Society, 2017, 139, 11055-11063.	13.7	212
47	Investigation of Pristine and (Mo, W)-Doped Cu ₁₁ V ₆ O ₂₆ for Use as Photoanodes for Solar Water Splitting. Chemistry of Materials, 2017, 29, 9472-9479.	6.7	42
48	Methods for Electrochemical Synthesis and Photoelectrochemical Characterization for Photoelectrodes. Chemistry of Materials, 2017, 29, 355-370.	6.7	112
49	Electrochemical reductive biomass conversion: direct conversion of 5-hydroxymethylfurfural (HMF) to 2,5-hexanedione (HD) via reductive ring-opening. Green Chemistry, 2016, 18, 2956-2960.	9.0	94
50	Electrochemical reductive amination of furfural-based biomass intermediates. Green Chemistry, 2016, 18, 5412-5417.	9.0	48
51	Electrochemical Synthesis of Highly Oriented, Transparent, and Pinhole-Free ZnO and Al-Doped ZnO Films and Their Use in Heterojunction Solar Cells. Langmuir, 2016, 32, 10459-10466.	3.5	19
52	Photoelectrochemical Properties and Photostabilities of High Surface Area CuBi ₂ O ₄ and Ag-Doped CuBi ₂ O ₄ Photocathodes. Chemistry of Materials, 2016, 28, 4331-4340.	6.7	179
53	Efficient and Selective Electrochemical and Photoelectrochemical Reduction of 5-Hydroxymethylfurfural to 2,5-Bis(hydroxymethyl)furan using Water as the Hydrogen Source. ACS Catalysis, 2016, 6, 1840-1847.	11.2	147
54	Improving Stability and Photoelectrochemical Performance of BiVO ₄ Photoanodes in Basic Media by Adding a ZnFe ₂ O ₄ Layer. Journal of Physical Chemistry Letters, 2016, 7, 447-451.	4.6	108

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55	Combined biomass valorization and hydrogen production in a photoelectrochemical cell. <i>Nature Chemistry</i> , 2015, 7, 328-333.	13.6	564
56	Electrochemical Synthesis of Photoelectrodes and Catalysts for Use in Solar Water Splitting. <i>Chemical Reviews</i> , 2015, 115, 12839-12887.	47.7	481
57	Simultaneous enhancements in photon absorption and charge transport of bismuth vanadate photoanodes for solar water splitting. <i>Nature Communications</i> , 2015, 6, 8769.	12.8	471
58	Electrochemical Synthesis of Binary and Ternary Niobium-Containing Oxide Electrodes Using the <i>p</i> -Benzoquinone/Hydroquinone Redox Couple. <i>Langmuir</i> , 2015, 31, 9502-9510.	3.5	14
59	Nanoporous BiVO ₄ Photoanodes with Dual-Layer Oxygen Evolution Catalysts for Solar Water Splitting. <i>Science</i> , 2014, 343, 990-994.	12.6	2,572
60	Marked enhancement in electron-hole separation achieved in the low bias region using electrochemically prepared Mo-doped BiVO ₄ photoanodes. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 1238-1246.	2.8	120
61	Preparation of Bi-Based Ternary Oxide Photoanodes BiVO ₄ , Bi ₂ WO ₆ , and Bi ₂ Mo ₃ O ₁₂ Using Dendritic Bi Metal Electrodes. <i>Journal of Physical Chemistry Letters</i> , 2014, 5, 2994-2999.	4.6	104
62	Electrochemical Synthesis of Spinel Type ZnCo ₂ O ₄ Electrodes for Use as Oxygen Evolution Reaction Catalysts. <i>Journal of Physical Chemistry Letters</i> , 2014, 5, 2370-2374.	4.6	269
63	Synthesis, photoelectrochemical properties, and first principles study of n-type CuW _{1-x} Mo _x O ₄ electrodes showing enhanced visible light absorption. <i>Energy and Environmental Science</i> , 2013, 6, 2440.	30.8	65
64	Synthesis and characterization of high surface area CuWO ₄ and Bi ₂ WO ₆ electrodes for use as photoanodes for solar water oxidation. <i>Journal of Materials Chemistry A</i> , 2013, 1, 5006.	10.3	121
65	Progress in bismuth vanadate photoanodes for use in solar water oxidation. <i>Chemical Society Reviews</i> , 2013, 42, 2321-2337.	38.1	1,241
66	Effect of Electrolytes on the Selectivity and Stability of n-type WO ₃ Photoelectrodes for Use in Solar Water Oxidation. <i>Journal of Physical Chemistry C</i> , 2012, 116, 7612-7620.	3.1	258
67	Electrochemical Synthesis of p-Type CuFeO ₂ Electrodes for Use in a Photoelectrochemical Cell. <i>Journal of Physical Chemistry Letters</i> , 2012, 3, 1872-1876.	4.6	214
68	A new electrochemical synthesis route for a BiOI electrode and its conversion to a highly efficient porous BiVO ₄ photoanode for solar water oxidation. <i>Energy and Environmental Science</i> , 2012, 5, 8553.	30.8	334
69	In situ probe of photocarrier dynamics in water-splitting hematite (±-Fe ₂ O ₃) electrodes. <i>Energy and Environmental Science</i> , 2012, 5, 8923.	30.8	121
70	Efficient and Stable Photo-Oxidation of Water by a Bismuth Vanadate Photoanode Coupled with an Iron Oxyhydroxide Oxygen Evolution Catalyst. <i>Journal of the American Chemical Society</i> , 2012, 134, 2186-2192.	13.7	743
71	Synthesis and Photoelectrochemical Properties of Fe ₂ O ₃ /ZnFe ₂ O ₄ Composite Photoanodes for Use in Solar Water Oxidation. <i>Chemistry of Materials</i> , 2011, 23, 4863-4869.	6.7	239
72	Effect of a Cobalt-Based Oxygen Evolution Catalyst on the Stability and the Selectivity of Photo-Oxidation Reactions of a WO ₃ Photoanode. <i>Chemistry of Materials</i> , 2011, 23, 1105-1112.	6.7	549

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73	Enhancing Photoresponse of Nanoparticulate Fe_2O_3 Electrodes by Surface Composition Tuning. <i>Journal of Physical Chemistry C</i> , 2011, 115, 3497-3506.	3.1	139
74	Photodeposition of Co-Based Oxygen Evolution Catalysts on Fe_2O_3 Photoanodes. <i>Chemistry of Materials</i> , 2011, 23, 1686-1693.	6.7	201
75	Preparation of polypyrrole-incorporated mesoporous carbon-based composites for confinement of Eu(III) within mesopores. <i>Journal of Materials Chemistry</i> , 2010, 20, 4663.	6.7	11
76	Effect of Junction Morphology on the Performance of Polycrystalline Cu_2O Homojunction Solar Cells. <i>Journal of Physical Chemistry Letters</i> , 2010, 1, 2666-2670.	4.6	119
77	Shape Effect and Shape Control of Polycrystalline Semiconductor Electrodes for Use in Photoelectrochemical Cells. <i>Journal of Physical Chemistry Letters</i> , 2010, 1, 2244-2250.	4.6	75
78	Photoactivity of Transparent Nanocrystalline Fe_2O_3 Electrodes Prepared via Anodic Electrodeposition. <i>Chemistry of Materials</i> , 2009, 21, 3701-3709.	6.7	142
79	Shape control of inorganic materials via electrodeposition. <i>Dalton Transactions</i> , 2008, , 5432.	3.3	88
80	Conditions and Mechanism for the Anodic Deposition of Cupric Oxide Films in Slightly Acidic Aqueous Media. <i>Journal of the Electrochemical Society</i> , 2007, 154, D674.	2.9	14
81	Modifying Optical Properties of ZnO Films by Forming $\text{Zn}_{1-x}\text{Co}_x\text{O}$ Solid Solutions via Spray Pyrolysis. <i>Journal of Chemical Education</i> , 2007, 84, 1183.	2.3	4
82	Electrochemical Tailoring of Lamellar-Structured ZnO Films by Interfacial Surfactant Templating. <i>Langmuir</i> , 2005, 21, 9618-9624.	3.5	59
83	Investigating the Influence of Nanostructuring on Photoanode Performance. , 0, , .		0
84	Using Transient Spectroscopic Techniques to Investigate the Effect of Catalyst Overlayers and Morphology on the Water Oxidation Performance of Bismuth Vanadate. , 0, , .		0
85	Spectroscopic Analysis of NiOx Catalysts for Water Oxidation. , 0, , .		0
86	Using Transient Spectroscopic Techniques to Investigate the Effect of Catalyst Overlayers and Morphology on the Water Oxidation Performance of Bismuth Vanadate. , 0, , .		0
87	Spectroscopic Analysis of NiOx Catalysts for Water Oxidation. , 0, , .		0
88	Investigating the Influence of Nanostructuring on Photoanode Performance. , 0, , .		0