Kyoung-Shin Choi

List of Publications by Year
in descending order

88	13,390	46918 47	54797 84
papers	citations	h-index	g-index

90	90	90	11581
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Nanoporous BiVO ₄ Photoanodes with Dual-Layer Oxygen Evolution Catalysts for Solar Water Splitting. Science, 2014, 343, 990-994.	6.0	2,572
2	Progress in bismuth vanadate photoanodes for use in solar water oxidation. Chemical Society Reviews, 2013, 42, 2321-2337.	18.7	1,241
3	Efficient and Stable Photo-Oxidation of Water by a Bismuth Vanadate Photoanode Coupled with an Iron Oxyhydroxide Oxygen Evolution Catalyst. Journal of the American Chemical Society, 2012, 134, 2186-2192.	6.6	743
4	Combined biomass valorization and hydrogen production in a photoelectrochemical cell. Nature Chemistry, 2015, 7, 328-333.	6.6	564
5	Effect of a Cobalt-Based Oxygen Evolution Catalyst on the Stability and the Selectivity of Photo-Oxidation Reactions of a WO₃ Photoanode. Chemistry of Materials, 2011, 23, 1105-1112.	3.2	549
6	Enhancing long-term photostability of BiVO4 photoanodes for solar water splitting by tuning electrolyte composition. Nature Energy, 2018, 3, 53-60.	19.8	492
7	Electrochemical Synthesis of Photoelectrodes and Catalysts for Use in Solar Water Splitting. Chemical Reviews, 2015, 115, 12839-12887.	23.0	481
8	Simultaneous enhancements in photon absorption and charge transport of bismuth vanadate photoanodes for solar water splitting. Nature Communications, 2015, 6, 8769.	5.8	471
9	A new electrochemical synthesis route for a BiOI electrode and its conversion to a highly efficient porous BiVO4 photoanode for solar water oxidation. Energy and Environmental Science, 2012, 5, 8553.	15.6	334
10	Progress on ternary oxide-based photoanodes for use in photoelectrochemical cells for solar water splitting. Chemical Society Reviews, 2019, 48, 2126-2157.	18.7	296
11	Electrochemical Synthesis of Spinel Type ZnCo₂O₄Electrodes for Use as Oxygen Evolution Reaction Catalysts. Journal of Physical Chemistry Letters, 2014, 5, 2370-2374.	2.1	269
12	Effect of Electrolytes on the Selectivity and Stability of n-type WO₃ Photoelectrodes for Use in Solar Water Oxidation. Journal of Physical Chemistry C, 2012, 116, 7612-7620.	1.5	258
13	A Comparative Study of Nickel, Cobalt, and Iron Oxyhydroxide Anodes for the Electrochemical Oxidation of 5-Hydroxymethylfurfural to 2,5-Furandicarboxylic Acid. ACS Catalysis, 2019, 9, 660-670.	5.5	254
14	Synthesis and Photoelectrochemical Properties of Fe₂O₃/ZnFe₂O₄ Composite Photoanodes for Use in Solar Water Oxidation. Chemistry of Materials, 2011, 23, 4863-4869.	3.2	239
15	Copper-Based Catalytic Anodes To Produce 2,5-Furandicarboxylic Acid, a Biomass-Derived Alternative to Terephthalic Acid. ACS Catalysis, 2018, 8, 1197-1206.	5.5	218
16	Electrochemical Synthesis of p-Type CuFeO₂ Electrodes for Use in a Photoelectrochemical Cell. Journal of Physical Chemistry Letters, 2012, 3, 1872-1876.	2.1	214
17	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.	6.6	212
18	Photodeposition of Co-Based Oxygen Evolution Catalysts on Î±-Fe₂O₃ Photoanodes. Chemistry of Materials, 2011, 23, 1686-1693.	3.2	201

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19	Photoelectrochemical Properties and Photostabilities of High Surface Area CuBi₂O₄ and Ag-Doped CuBi₂O₄ Photocathodes. Chemistry of Materials, 2016, 28, 4331-4340.	3.2	179
20	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.	5.5	147
21	Photoactivity of Transparent Nanocrystalline Fe₂O₃ Electrodes Prepared via Anodic Electrodeposition. Chemistry of Materials, 2009, 21, 3701-3709.	3.2	142
22	Unraveling Two Pathways for Electrochemical Alcohol and Aldehyde Oxidation on NiOOH. Journal of the American Chemical Society, 2020, 142, 21538-21547.	6.6	142
23	Enhancing Photoresponse of Nanoparticulate Î±-Fe₂O₃ Electrodes by Surface Composition Tuning. Journal of Physical Chemistry C, 2011, 115, 3497-3506.	1.5	139
24	Electrochemical Oxidation of 5â€Hydroxymethylfurfural to 2,5â€Furandicarboxylic Acid (FDCA) in Acidic Media Enabling Spontaneous FDCA Separation. ChemSusChem, 2018, 11, 2138-2145.	3.6	131
25	In situ probe of photocarrier dynamics in water-splitting hematite (Î±-Fe2O3) electrodes. Energy and Environmental Science, 2012, 5, 8923.	15.6	121
26	Synthesis and characterization of high surface area CuWO4 and Bi2WO6 electrodes for use as photoanodes for solar water oxidation. Journal of Materials Chemistry A, 2013, 1, 5006.	5.2	121
27	Marked enhancement in electronâ€“hole separation achieved in the low bias region using electrochemically prepared Mo-doped BiVO₄photoanodes. Physical Chemistry Chemical Physics, 2014, 16, 1238-1246.	1.3	120
28	Effect of Junction Morphology on the Performance of Polycrystalline Cu₂O Homojunction Solar Cells. Journal of Physical Chemistry Letters, 2010, 1, 2666-2670.	2.1	119
29	Spectroelectrochemical study of water oxidation on nickel and iron oxyhydroxide electrocatalysts. Nature Communications, 2019, 10, 5208.	5.8	118
30	Methods for Electrochemical Synthesis and Photoelectrochemical Characterization for Photoelectrodes. Chemistry of Materials, 2017, 29, 355-370.	3.2	112
31	Improving Stability and Photoelectrochemical Performance of BiVO₄ Photoanodes in Basic Media by Adding a ZnFe₂O₄ Layer. Journal of Physical Chemistry Letters, 2016, 7, 447-451.	2.1	108
32	The Role of Surface Oxygen Vacancies in BiVO₄. Chemistry of Materials, 2020, 32, 2899-2909.	3.2	108
33	The impact of surface composition on the interfacial energetics and photoelectrochemical properties of BiVO4. Nature Energy, 2021, 6, 287-294.	19.8	108
34	Preparation of Bi-Based Ternary Oxide Photoanodes BiVO₄, Bi₂WO₆, and Bi₂Mo₃O₁₂ Using Dendritic Bi Metal Electrodes. Journal of Physical Chemistry Letters, 2014, 5, 2994-2999.	2.1	104
35	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.	4.6	94
36	Shape control of inorganic materials via electrodeposition. Dalton Transactions, 2008, , 5432.	1.6	88

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37	Photoelectrochemical Properties and Stability of Nanoporous p-Type LaFeO₃ Photoelectrodes Prepared by Electrodeposition. ACS Energy Letters, 2017, 2, 2378-2382.	8.8	85
38	Shape Effect and Shape Control of Polycrystalline Semiconductor Electrodes for Use in Photoelectrochemical Cells. Journal of Physical Chemistry Letters, 2010, 1, 2244-2250.	2.1	75
39	A Desalination Battery Combining Cu₃[Fe(CN)₆]₂ as a Na-Storage Electrode and Bi as a Cl-Storage Electrode Enabling Membrane-Free Desalination. Chemistry of Materials, 2019, 31, 1460-1468.	3.2	70
40	Electrochemical Valorization of Furfural to Maleic Acid. ACS Sustainable Chemistry and Engineering, 2018, 6, 9596-9600.	3.2	69
41	Perspectives on the Development of Oxide-Based Photocathodes for Solar Fuel Production. Journal of the American Chemical Society, 2019, 141, 18358-18369.	6.6	68
42	Alcohol oxidation as alternative anode reactions paired with (photo)electrochemical fuel production reactions. Nature Communications, 2020, 11, 4594.	5.8	67
43	Synthesis, photoelectrochemical properties, and first principles study of n-type CuW1âˆ’xMoxO4 electrodes showing enhanced visible light absorption. Energy and Environmental Science, 2013, 6, 2440.	15.6	65
44	Enabling Solar Water Oxidation by BiVO₄ Photoanodes in Basic Media. Chemistry of Materials, 2018, 30, 4704-4712.	3.2	65
45	Photoelectrochemical Nitrogen Reduction to Ammonia on Cupric and Cuprous Oxide Photocathodes. ACS Energy Letters, 2020, 5, 1834-1839.	8.8	64
46	Electrochemical Tailoring of Lamellar-Structured ZnO Films by Interfacial Surfactant Templating. Langmuir, 2005, 21, 9618-9624.	1.6	59
47	Stabilities, Regeneration Pathways, and Electrocatalytic Properties of Nitroxyl Radicals for the Electrochemical Oxidation of 5-Hydroxymethylfurfural. ACS Sustainable Chemistry and Engineering, 2019, 7, 11138-11149.	3.2	57
48	Electrochemical reductive amination of furfural-based biomass intermediates. Green Chemistry, 2016, 18, 5412-5417.	4.6	48
49	Electrochemical Growth of Copper Hydroxy Double Salt Films and Their Conversion to Nanostructured p-Type CuO Photocathodes. Langmuir, 2017, 33, 9262-9270.	1.6	47
50	Investigation of Pristine and (Mo, W)-Doped Cu₁₁V₆O₂₆ for Use as Photoanodes for Solar Water Splitting. Chemistry of Materials, 2017, 29, 9472-9479.	3.2	42
51	Experimental and Computational Investigation of Lanthanide Ion Doping on BiVO₄ Photoanodes for Solar Water Splitting. Journal of Physical Chemistry C, 2018, 122, 19416-19424.	1.5	42
52	Combined Theoretical and Experimental Investigations of Atomic Doping To Enhance Photon Absorption and Carrier Transport of LaFeO₃ Photocathodes. Chemistry of Materials, 2019, 31, 5890-5899.	3.2	42
53	Electrochemical Synthesis and Investigation of Stoichiometric, Phase-Pure CoSb₂O₆ and MnSb₂O₆ Electrodes for the Oxygen Evolution Reaction in Acidic Media. ACS Applied Energy Materials, 2020, 3, 5563-5571.	2.5	40
54	Electrochemical Desalination Using Bi/BiOCl Electrodialysis Cells. ACS Sustainable Chemistry and Engineering, 2018, 6, 15455-15462.	3.2	39

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55	Combined Experimental and Theoretical Investigations of n-Type BiFeO₃ for Use as a Photoanode in a Photoelectrochemical Cell. Chemistry of Materials, 2020, 32, 3262-3270.	3.2	39
56	Electrochemical Redox Cells Capable of Desalination and Energy Storage: Addressing Challenges of the Waterâ€"Energy Nexus. ACS Energy Letters, 2021, 6, 1034-1044.	8.8	37
57	Water oxidation kinetics of nanoporous BiVO₄ photoanodes functionalised with nickel/iron oxyhydroxide electrocatalysts. Chemical Science, 2021, 12, 7442-7452.	3.7	32
58	Elucidating Structureâ€"Compositionâ€"Property Relationships of Ni-Based Prussian Blue Analogues for Electrochemical Seawater Desalination. ACS Applied Materials & Interfaces, 2020, 12, 36014-36025.	4.0	27
59	Understanding Hydrogen Atom and Hydride Transfer Processes during Electrochemical Alcohol and Aldehyde Oxidation. ACS Catalysis, 2021, 11, 15110-15124.	5.5	26
60	Integrating a Semitransparent, Fullerene-Free Organic Solar Cell in Tandem with a BiVO₄ Photoanode for Unassisted Solar Water Splitting. ACS Applied Materials & Interfaces, 2017, 9, 22449-22455.	4.0	24
61	Electrochemical Oxidation of HMF via Hydrogen Atom Transfer and Hydride Transfer on NiOOH and the Impact of NiOOH Composition. ChemSusChem, 2022, 15, .	3.6	24
62	Investigation of p-type Ca₂Fe₂O₅ as a Photocathode for Use in a Water Splitting Photoelectrochemical Cell. ACS Applied Energy Materials, 2018, 1, 4917-4923.	2.5	23
63	Tandem Desalination/Salination Strategies Enabling the Use of Redox Couples for Efficient and Sustainable Electrochemical Desalination. ACS Applied Materials & Interfaces, 2019, 11, 38641-38647.	4.0	23
64	The Impact of 5â€Hydroxymethylfurfural (HMF)â€Metal Interactions on the Electrochemical Reduction Pathways of HMF on Various Metal Electrodes. ChemSusChem, 2021, 14, 4563-4572.	3.6	22
65	Chemistry of Materials for Water Splitting Reactions. Chemistry of Materials, 2018, 30, 7325-7327.	3.2	21
66	Electrochemical and photoelectrochemical approaches for the selective removal, recovery, and valorization of chloride ions. Chemical Engineering Journal, 2021, 404, 126378.	6.6	20
67	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.	1.6	19
68	Impacts of the Regeneration Pathways of the Oxoammonium Cation on Electrochemical Nitroxyl Radical-Mediated Alcohol Oxidation. ACS Catalysis, 2020, 10, 265-275.	5.5	19
69	Mechanistic insights of enhanced spin polaron conduction in CuO through atomic doping. Npj Computational Materials, 2018, 4, .	3.5	18
70	Mechanistic Differences between Electrochemical Hydrogenation and Hydrogenolysis of 5â€Hydroxymethylfurfural and Their pH Dependence. ChemSusChem, 2022, 15, .	3.6	18
71	Enabling electrochemical N2 reduction to NH3 in the low overpotential region using non-noble metal Bi electrodes via surface composition modification. Journal of Materials Chemistry A, 2020, 8, 13842-13851.	5.2	16
72	A comparative study of Bi, Sb, and BiSb for electrochemical nitrogen reduction leading to a new catalyst design strategy. Journal of Materials Chemistry A, 2021, 9, 20453-20465.	5.2	15

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73	Electrochemical Dehydrogenation Pathways of Amines to Nitriles on NiOOH. Jacs Au, 2022, 2, 1169-1180.	3.6	15
74	Conditions and Mechanism for the Anodic Deposition of Cupric Oxide Films in Slightly Acidic Aqueous Media. Journal of the Electrochemical Society, 2007, 154, D674.	1.3	14
75	Electrochemical Synthesis of Binary and Ternary Niobium-Containing Oxide Electrodes Using the <i>p</i>-Benzoquinone/Hydroquinone Redox Couple. Langmuir, 2015, 31, 9502-9510.	1.6	14
76	A seawater battery with desalination capabilities enabling a dual-purpose aqueous energy storage system. Energy Storage Materials, 2021, 37, 556-566.	9.5	14
77	Non-fullerene Acceptors for Harvesting Excitons from Semiconducting Carbon Nanotubes. Journal of Physical Chemistry C, 2019, 123, 21395-21402.	1.5	12
78	Preparation of polypyrrole-incorporated mesoporous carbon-based composites for confinement of Eu(iii) within mesopores. Journal of Materials Chemistry, 2010, 20, 4663.	6.7	11
79	Electrochemical Oxidation of Metalâ€“Catechol Complexes as a New Synthesis Route to the High-Quality Ternary Photoelectrodes: A Case Study of Fe₂TiO₅ Photoanodes. ACS Applied Materials & Interfaces, 2020, 12, 29275-29284.	4.0	11
80	Can a PbCrO4 Photoanode Perform as Well as Isoelectronic BiVO4?. ACS Applied Energy Materials, 2020, 3, 8658-8666.	2.5	10
81	Integrating Computation and Experiment to Investigate Photoelectrodes for Solar Water Splitting at the Microscopic Scale. Accounts of Chemical Research, 2021, 54, 3863-3872.	7.6	7
82	Modifying Optical Properties of ZnO Films by Forming Zn1-xCoxO Solid Solutions via Spray Pyrolysis. Journal of Chemical Education, 2007, 84, 1183.	1.1	4
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