

# Sung-Hyeon Baeck

## List of Publications by Year in descending order

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98  
papers

3,269  
citations

147801

31  
h-index

161849

54  
g-index

99  
all docs

99  
docs citations

99  
times ranked

4211  
citing authors

#	ARTICLE	IF	CITATIONS
1	Catalytic Activity of Supported Au Nanoparticles Deposited from Block Copolymer Micelles. <i>Journal of the American Chemical Society</i> , 2003, 125, 7148-7149.	13.7	397
2	Synthesis and Characterization of Pt <sup>0</sup> /WO <sub>3</sub> as Methanol Oxidation Catalysts for Fuel Cells. <i>Journal of Physical Chemistry B</i> , 2005, 109, 22958-22966.	2.6	201
3	Size- and Support-Dependent Electronic and Catalytic Properties of Au <sup>0</sup> /Au <sup>3+</sup> Nanoparticles Synthesized from Block Copolymer Micelles. <i>Journal of the American Chemical Society</i> , 2003, 125, 12928-12934.	13.7	197
4	Automated Electrochemical Synthesis and Photoelectrochemical Characterization of Zn <sub>1-x</sub> Co <sub>x</sub> O Thin Films for Solar Hydrogen Production. <i>ACS Combinatorial Science</i> , 2005, 7, 264-271.	3.3	147
5	Preparation of carbon aerogel in ambient conditions for electrical double-layer capacitor. <i>Current Applied Physics</i> , 2010, 10, 682-686.	2.4	124
6	Combinatorial Electrochemical Synthesis and Screening of Mesoporous ZnO for Photocatalysis. <i>Macromolecular Rapid Communications</i> , 2004, 25, 297-301.	3.9	98
7	Bimetallic NiFe alloys as highly efficient electrocatalysts for the oxygen evolution reaction. <i>Catalysis Today</i> , 2020, 352, 27-33.	4.4	72
8	Gas-Phase Catalysis by Micelle Derived Au Nanoparticles on Oxide Supports. <i>Catalysis Letters</i> , 2004, 95, 107-111.	2.6	67
9	Effect of acid–base properties of H <sub>3</sub> PW <sub>12</sub> O <sub>40</sub> /CexTi <sub>1-x</sub> O <sub>2</sub> catalysts on the direct synthesis of dimethyl carbonate from methanol and carbon dioxide: A TPD study of H <sub>3</sub> PW <sub>12</sub> O <sub>40</sub> /CexTi <sub>1-x</sub> O <sub>2</sub> catalysts. <i>Journal of Molecular Catalysis A</i> , 2007, 269, 41-45.	4.8	67
10	Spinel-type NiCo <sub>2</sub> O <sub>4</sub> with abundant oxygen vacancies as a high-performance catalyst for the oxygen reduction reaction. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 23775-23783.	7.1	63
11	Fe-doped Ni <sub>3</sub> S <sub>2</sub> nanoneedles directly grown on Ni foam as highly efficient bifunctional electrocatalysts for alkaline overall water splitting. <i>Electrochimica Acta</i> , 2020, 361, 137080.	5.2	60
12	Direct synthesis of hydrogen peroxide from hydrogen and oxygen over palladium-exchanged insoluble heteropolyacid catalysts. <i>Catalysis Communications</i> , 2009, 10, 391-394.	3.3	56
13	Defect-rich Fe-doped Co <sub>3</sub> O <sub>4</sub> derived from bimetallic-organic framework as an enhanced electrocatalyst for oxygen evolution reaction. <i>Chemical Engineering Journal</i> , 2021, 424, 130400.	12.7	56
14	Electrodeposition of mesoporous V <sub>2</sub> O <sub>5</sub> with enhanced lithium-ion intercalation property. <i>Electrochemistry Communications</i> , 2009, 11, 1571-1574.	4.7	55
15	Preparation and characterization of metal-doped carbon aerogel for supercapacitor. <i>Current Applied Physics</i> , 2010, 10, 947-951.	2.4	55
16	Oxygen-deficient NiFe <sub>2</sub> O <sub>4</sub> Spinel Nanoparticles as an Enhanced Electrocatalyst for the Oxygen Evolution Reaction. <i>ChemNanoMat</i> , 2019, 5, 1296-1302.	2.8	55
17	Strongly Coupled Ni/Ni(OH) <sub>2</sub> Hybrid Nanocomposites as Highly Active Bifunctional Electrocatalysts for Overall Water Splitting. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 4431-4439.	6.7	54
18	FeCo alloy nanoparticles embedded in N-doped carbon supported on highly defective ketjenblack as effective bifunctional electrocatalysts for rechargeable Zn–air batteries. <i>Applied Catalysis B: Environmental</i> , 2022, 315, 121501.	20.2	54

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19	Transfer hydrogenation of nitrobenzene to aniline in water using Pd nanoparticles immobilized on amine-functionalized UiO-66. <i>Catalysis Today</i> , 2018, 303, 227-234.	4.4	49
20	Influence of the Sb content in Ti/SnO <sub>2</sub> -Sb electrodes on the electrocatalytic behaviour for the degradation of organic matter. <i>Journal of Cleaner Production</i> , 2018, 197, 1268-1274.	9.3	48
21	Direct epoxidation of propylene with hydrogen peroxide over TS-1 catalysts: Effect of hydrophobicity of the catalysts. <i>Catalysis Communications</i> , 2008, 9, 2485-2488.	3.3	47
22	Effect of preparation method on electrochemical property of Mn-doped carbon aerogel for supercapacitor. <i>Current Applied Physics</i> , 2011, 11, 1-5.	2.4	46
23	Oxygen-vacancy-rich CoFe/CoFe <sub>2</sub> O <sub>4</sub> embedded in N-doped hollow carbon spheres as a highly efficient bifunctional electrocatalyst for Zn-air batteries. <i>Chemical Engineering Journal</i> , 2022, 448, 137665.	12.7	46
24	Preparation of H <sub>5</sub> PMo <sub>10</sub> V <sub>2</sub> O <sub>40</sub> (PMo <sub>10</sub> V <sub>2</sub> ) catalyst immobilized on nitrogen-containing mesoporous carbon (N-MC) and its application to the methacrolein oxidation. <i>Applied Catalysis A: General</i> , 2007, 320, 159-165.	4.3	43
25	Direct synthesis of hydrogen peroxide from hydrogen and oxygen over palladium catalyst supported on SO <sub>3</sub> H-functionalized mesoporous silica. <i>Journal of Molecular Catalysis A</i> , 2010, 319, 98-107.	4.8	41
26	A hierarchical Co <sub>3</sub> O <sub>4</sub> /CoS microbox heterostructure as a highly efficient bifunctional electrocatalyst for rechargeable Zn-air batteries. <i>Journal of Materials Chemistry A</i> , 2021, 9, 17344-17352.	10.3	40
27	N, S-doped nanocarbon derived from ZIF-8 as a highly efficient and durable electro-catalyst for oxygen reduction reaction. <i>Journal of Solid State Chemistry</i> , 2019, 274, 237-242.	2.9	39
28	Hexagonal $\gamma$ -Ni(OH) <sub>2</sub> nanoplates with oxygen vacancies as efficient catalysts for the oxygen evolution reaction. <i>Electrochimica Acta</i> , 2019, 324, 134868.	5.2	37
29	Production of middle distillate in a dual-bed reactor from synthesis gas through wax cracking: Effect of acid property of Pd-loaded solid acid catalysts on the wax conversion and middle distillate selectivity. <i>Applied Catalysis B: Environmental</i> , 2008, 83, 195-201.	20.2	35
30	RuO <sub>2</sub> nanoparticles decorated MnOOH/C as effective bifunctional electrocatalysts for lithium-air battery cathodes with long-cycling stability. <i>Journal of Power Sources</i> , 2016, 324, 687-693.	7.8	33
31	Roles of silica-coated layer on graphite for thermal conductivity, heat dissipation, thermal stability, and electrical resistivity of polymer composites. <i>Polymer</i> , 2018, 148, 295-302.	3.8	33
32	Suspension polymerization of thermally expandable microspheres using low-temperature initiators. <i>Colloid and Polymer Science</i> , 2017, 295, 171-180.	2.1	32
33	Facile synthesis of flower-like P-doped nickel-iron disulfide microspheres as advanced electrocatalysts for the oxygen evolution reaction. <i>Journal of Power Sources</i> , 2021, 490, 229552.	7.8	32
34	Bimetallic-metal organic framework-derived Ni <sub>3</sub> S <sub>2</sub> /MoS <sub>2</sub> hollow spheres as bifunctional electrocatalyst for highly efficient and stable overall water splitting. <i>International Journal of Hydrogen Energy</i> , 2022, 47, 8165-8176.	7.1	31
35	Enhancement of photocatalytic properties of Cr <sub>2</sub> O <sub>3</sub> -TiO <sub>2</sub> mixed oxides prepared by sol-gel method. <i>Current Applied Physics</i> , 2011, 11, 358-361.	2.4	29
36	Effect of proton irradiation on electrocatalytic properties of MnO <sub>2</sub> for oxygen reduction reaction. <i>Journal of Materials Chemistry A</i> , 2019, 7, 11659-11664.	10.3	28

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37	Hydrogenation of lactic acid to propylene glycol over a carbon-supported ruthenium catalyst. <i>Journal of Molecular Catalysis A</i> , 2013, 380, 57-60.	4.8	27
38	Synthesis of alumina-titania solid solution by sol-gel method. <i>Journal of Physics and Chemistry of Solids</i> , 2008, 69, 1464-1467.	4.0	26
39	3D in-situ hollow carbon fiber/carbon nanosheet/Fe <sub>3</sub> C@Fe <sub>3</sub> O <sub>4</sub> by solventless one-step synthesis and its superior supercapacitor performance. <i>Electrochimica Acta</i> , 2017, 252, 215-225.	5.2	26
40	Facile synthesis of P-doped NiCo <sub>2</sub> S <sub>4</sub> nanoneedles supported on Ni foam as highly efficient electrocatalysts for alkaline oxygen evolution reaction. <i>Electrochimica Acta</i> , 2021, 396, 139236.	5.2	25
41	Enhanced Photocatalytic Activity of TiO <sub>2</sub> Modified by e-Beam Irradiation. <i>Bulletin of the Korean Chemical Society</i> , 2013, 34, 1397-1400.	1.9	24
42	A comprehensive study of various amine-functionalized graphene oxides for room temperature formaldehyde gas detection: Experimental and theoretical approaches. <i>Applied Surface Science</i> , 2020, 529, 147189.	6.1	22
43	Valorization of fly ash as a harmless flame retardant via carbonation treatment for enhanced fire-proofing performance and mechanical properties of silicone composites. <i>Journal of Hazardous Materials</i> , 2021, 404, 124202.	12.4	22
44	Electrodeposition of mesoporous ruthenium oxide using an aqueous mixture of CTAB and SDS as a templating agent. <i>Current Applied Physics</i> , 2012, 12, 36-39.	2.4	21
45	Epoxidation of Propylene with Hydrogen Peroxide Over TS-1 Catalyst Synthesized in the Presence of Polystyrene. <i>Catalysis Letters</i> , 2008, 122, 349-353.	2.6	20
46	Synthesis and electrocatalytic properties of various metals supported on carbon for lithium-air battery. <i>Journal of Molecular Catalysis A</i> , 2013, 379, 9-14.	4.8	20
47	Synthesis of Tungsten Oxide on Copper Surfaces by Electroless Deposition. <i>Chemistry of Materials</i> , 2003, 15, 3411-3413.	6.7	19
48	Direct synthesis of hydrogen peroxide from hydrogen and oxygen over palladium catalysts supported on TiO <sub>2</sub> -ZrO <sub>2</sub> mixed metal oxides. <i>Catalysis Communications</i> , 2009, 10, 1762-1765.	3.3	19
49	Cascade Knoevenagel condensation-chemoselective transfer hydrogenation catalyzed by Pd nanoparticles stabilized on amine-functionalized aromatic porous polymer. <i>Catalysis Today</i> , 2020, 352, 298-307.	4.4	19
50	Enhanced performance as a lithium-ion battery cathode of electrodeposited V <sub>2</sub> O <sub>5</sub> thin films by e-beam irradiation. <i>Journal of Solid State Electrochemistry</i> , 2010, 14, 1801-1805.	2.5	18
51	Fabrication of Mesoporous Cobalt Oxide (Co <sub>3</sub> O <sub>4</sub> ) Film by Electrochemical Method for Electrochemical Capacitor. <i>Journal of Nanoscience and Nanotechnology</i> , 2010, 10, 3676-3679.	0.9	18
52	Synthesis of Au nanoclusters supported upon a TiO <sub>2</sub> nanotube array. <i>Journal of Materials Research</i> , 2005, 20, 1093-1096.	2.6	15
53	Electrosynthesis of mesoporous Pt-Au alloy electrode for direct methanol fuel cell. <i>Journal of Physics and Chemistry of Solids</i> , 2008, 69, 1284-1287.	4.0	15
54	Physical property and chemical composition distribution of ethylene-hexene copolymer produced by metallocene/Ziegler-Natta hybrid catalyst. <i>Journal of Molecular Catalysis A</i> , 2006, 255, 69-73.	4.8	14

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55	Synthesis of tungsten-vanadium mixed oxides for ethanol partial oxidation. <i>Journal of Physics and Chemistry of Solids</i> , 2008, 69, 1513-1517.	4.0	14
56	Preparation of H <sub>5</sub> PMo <sub>10</sub> V <sub>2</sub> O <sub>40</sub> catalyst immobilized on nitrogen-containing mesostructured cellular foam carbon (N-MCF-C) and its application to the vapor-phase oxidation of benzyl alcohol. <i>Catalysis Today</i> , 2008, 132, 58-62.	4.4	14
57	Selective hydrodealkylation of C <sub>9</sub> + aromatics to benzene, toluene, and xylenes (BTX) over a Pt/H-ZSM-5 catalyst. <i>Journal of Molecular Catalysis A</i> , 2015, 407, 147-151.	4.8	14
58	Hexagonal CoFe <sub>2</sub> O <sub>4</sub> /Ni(OH) <sub>2</sub> heterojunction composite as an advanced electrocatalyst for the oxygen evolution reaction. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 27874-27882.	7.1	14
59	Prussian blue analog-derived Co/CoTe microcube as a highly efficient and stable electrocatalyst toward oxygen evolution reaction. <i>Applied Surface Science</i> , 2022, 581, 152405.	6.1	14
60	Yolk-shell-structured SiO <sub>2</sub> @N, P co-doped carbon spheres as highly stable anode materials for lithium ion batteries. <i>Journal of Power Sources</i> , 2022, 543, 231849.	7.8	14
61	Synthesis and characterization of different MnO <sub>2</sub> morphologies for lithium-air batteries. <i>Electronic Materials Letters</i> , 2014, 10, 957-962.	2.2	13
62	Ti-MIL-125-NH <sub>2</sub> membrane grown on a TiO <sub>2</sub> disc by combined microwave/ultrasonic heating: facile synthesis for catalytic application. <i>RSC Advances</i> , 2016, 6, 63286-63290.	3.6	13
63	Interface engineering of Cu <sub>3</sub> P/FeP heterostructure as an enhanced electrocatalyst for oxygen evolution reaction. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 32364-32372.	7.1	13
64	Ni-doped Mn <sub>2</sub> O <sub>3</sub> microspheres as highly efficient electrocatalyst for oxygen reduction reaction and Zn-air battery. <i>International Journal of Hydrogen Energy</i> , 2022, 47, 2378-2388.	7.1	13
65	Catalytic conversion of lactic acid into propylene glycol over various metals supported on silica. <i>Research on Chemical Intermediates</i> , 2011, 37, 1275-1282.	2.7	12
66	Preparation and performance of cobalt-doped carbon aerogel for supercapacitor. <i>Korean Journal of Chemical Engineering</i> , 2011, 28, 492-496.	2.7	12
67	An investigation on the selective hydrodealkylation of C <sub>9</sub> + aromatics over alkali-treated Pt/H-ZSM-5 zeolites. <i>Catalysis Science and Technology</i> , 2016, 6, 5599-5607.	4.1	12
68	Development of a carbon foam supercapacitor electrode from resorcinol-formaldehyde using a double templating method. <i>Synthetic Metals</i> , 2015, 199, 121-127.	3.9	11
69	A one-step process employing various amphiphiles for an electrically insulating silica coating on graphite. <i>RSC Advances</i> , 2017, 7, 24242-24254.	3.6	11
70	The fabrication of a conversion film on AZ31 containing carbonate product and evaluation of its corrosion resistance. <i>Journal of Alloys and Compounds</i> , 2018, 737, 597-602.	5.5	11
71	Polymerization Kinetics and Physical Properties of Polyurethanes Synthesized by Bio-Based Monomers. <i>Macromolecular Research</i> , 2019, 27, 153-163.	2.4	11
72	Nano-Sized Ni-Doped Carbon Aerogel for Supercapacitor. <i>Journal of Nanoscience and Nanotechnology</i> , 2011, 11, 6528-6532.	0.9	10

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73	Synthesis of Au nanoparticles supported on metal oxides (H <sub>3</sub> PMo <sub>12</sub> O <sub>40</sub> and TiO <sub>2</sub> ) by PS-PVP block copolymer encapsulation method. <i>Macromolecular Research</i> , 2007, 15, 693-696.	2.4	9
74	Electrochemical Oxidation of Organic Matter in the Presence of Chloride Over Ti/SnO <sub>2</sub> /Sb <sub>2</sub> O <sub>5</sub> ; Prepared via Sol-Gel Methods. <i>Journal of Nanoscience and Nanotechnology</i> , 2016, 16, 10892-10897.	0.9	7
75	Pulse-reverse electroplating of chromium from Sargent baths: Influence of anodic time on physical and electrochemical properties of electroplated Cr. <i>International Journal of Refractory Metals and Hard Materials</i> , 2020, 89, 105213.	3.8	7
76	Facile synthesis of mesoporous and highly nitrogen/sulfur dual-doped graphene and its ultrahigh discharge capacity in non-aqueous lithium oxygen batteries. <i>Carbon Letters</i> , 2019, 29, 297-305.	5.9	6
77	A palladium complex confined in a thiadiazole-functionalized porous conjugated polymer for the Suzuki-Miyaura coupling reaction. <i>RSC Advances</i> , 2019, 9, 33563-33571.	3.6	6
78	Low-Voltage Electrodeposition of Fullerol Thin Films from Aqueous Solutions. <i>Journal of the Electrochemical Society</i> , 2006, 153, C483.	2.9	5
79	Acidity and acid catalysis of polyatom-substituted H <sub>n</sub> PW <sub>11</sub> M <sub>10</sub> O <sub>40</sub> (M=V, Nb, Ta, and W) Keggin heteropolyacid catalysts. <i>Korean Journal of Chemical Engineering</i> , 2010, 27, 465-468.	2.7	5
80	Preparation of MoO <sub>3</sub> /Pt electrodes by electrodeposition for a direct methanol fuel cell. <i>Research on Chemical Intermediates</i> , 2010, 36, 715-724.	2.7	5
81	Structure evolution of electrospun polyacrylonitrile nanofibers by electron beam irradiation. <i>Fibers and Polymers</i> , 2015, 16, 834-839.	2.1	5
82	Piezoresistive behavior of a stretchable carbon nanotube-interlayered poly(dimethylsiloxane) sheet with a wrinkled structure. <i>RSC Advances</i> , 2015, 5, 73162-73168.	3.6	5
83	Electro-Catalytic Activity of RuO <sub>2</sub> /IrO <sub>2</sub> /Ta <sub>2</sub> O <sub>5</sub> Mixed Metal Oxide Prepared by Spray Thermal Decomposition for Alkaline Water Electrolysis. <i>Journal of Nanoscience and Nanotechnology</i> , 2016, 16, 4405-4410.	0.9	5
84	Evaluation of Nitrogen-Based Polymeric Heterogeneous Catalysts for the Suzuki-Miyaura Cross-Coupling Reaction in Water. <i>ACS Applied Polymer Materials</i> , 2020, 2, 3122-3134.	4.4	5
85	Hollow hierarchical zinc cobalt sulfides derived from bimetallic-organic-framework as a non-precious electrocatalyst for oxygen reduction reaction. <i>Molecular Catalysis</i> , 2021, 509, 111614.	2.0	5
86	Deciphering van der Waals interaction between polypropylene and carbonated fly ash from experimental and molecular simulation. <i>Journal of Hazardous Materials</i> , 2022, 421, 126725.	12.4	5
87	Synthesis and Characterizations of MnO <sub>2</sub> /Multi-Wall Carbon Nanotubes Nanocomposites for Lithium-Air Battery. <i>Journal of Nanoscience and Nanotechnology</i> , 2013, 13, 1780-1783.	0.9	4
88	Novel Hierarchically Porous Melamine-Vanillin Polymer: Synthesis and Application for the Pb(II) Ion Removal in Wastewater. <i>Macromolecular Research</i> , 2019, 27, 882-887.	2.4	4
89	Filler size effect in graphite/paraffine wax composite on electromagnetic interference shielding performance. <i>Korean Journal of Chemical Engineering</i> , 2020, 37, 1623-1630.	2.7	4
90	Electrosynthesis of mesoporous Pt-Au alloy electrode for DMFC. <i>Fuel Cells Bulletin</i> , 2008, 2008, 12-14.	0.1	3

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91	One-step coating of silica onto multi-walled carbon nanotubes using polyethyleneimine for high electrical resistivity. <i>Macromolecular Research</i> , 2015, 23, 422-427.	2.4	3
92	Synthesis of Manganese Oxide for Supercapacitors: Effect of Precursor on Electrocatalytic Performance. <i>Journal of Nanoscience and Nanotechnology</i> , 2017, 17, 7947-7951.	0.9	3
93	Amine-functionalized graphene and its high discharge capacity for non-aqueous lithium-oxygen batteries. <i>Carbon Letters</i> , 2019, 29, 471-478.	5.9	2
94	Fabrication of macroporous carbon foam using glycol-derivatives as liquid templates. <i>Macromolecular Research</i> , 2016, 24, 240-248.	2.4	1
95	An Investigation of the Electrochemical Properties and Performance of Electrospun Carbon Nanofibers for Rechargeable Lithium-Air Batteries. <i>Journal of Nanoscience and Nanotechnology</i> , 2017, 17, 8175-8179.	0.9	1
96	Facile Analytical Methods to Determine the Purity of Titanium Tetrachloride. <i>International Journal of Analytical Chemistry</i> , 2018, 2018, 1-5.	1.0	1
97	Investigation of electrochemical properties of RuO <sub>2</sub> thin films modified by e-beam irradiation. <i>Thin Solid Films</i> , 2011, 519, 3086-3089.	1.8	0
98	Electrochemical Deposition of Mesoporous Manganese Oxide Films Using Mixed Surfactants as Templating Agents. <i>Journal of Nanoscience and Nanotechnology</i> , 2017, 17, 7906-7911.	0.9	0