

Sung-Chul Yi

List of Publications by Year in descending order

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133
papers

3,784
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147801
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docs citations

133
times ranked

4827
citing authors

#	ARTICLE	IF	CITATIONS
1	Preparation and antibacterial effects of Ag-SiO ₂ thin films by sol-gel method. <i>Biomaterials</i> , 2003, 24, 4921-4928.	11.4	444
2	The effect of filler particle size on the antibacterial properties of compounded polymer/silver fibers. <i>Journal of Materials Science</i> , 2005, 40, 5407-5411.	3.7	299
3	Strategies and Perspectives to Catch the Missing Pieces in Energy-Efficient Hydrogen Evolution Reaction in Alkaline Media. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 18981-19006.	13.8	239
4	Antibacterial properties of padded PP/PE nonwovens incorporating nano-sized silver colloids. <i>Journal of Materials Science</i> , 2005, 40, 5413-5418.	3.7	151
5	Corrosion and Alloy Engineering in Rational Design of High Current Density Electrodes for Efficient Water Splitting. <i>Advanced Energy Materials</i> , 2020, 10, 1904020.	19.5	109
6	Optimal catalyst layer structure of polymer electrolyte membrane fuel cell. <i>International Journal of Hydrogen Energy</i> , 2011, 36, 9876-9885.	7.1	98
7	Solvent effect on the Nafion agglomerate morphology in the catalyst layer of the proton exchange membrane fuel cells. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 478-485.	7.1	83
8	Assembling pore-rich FeP nanorods on the CNT backbone as an advanced electrocatalyst for oxygen evolution. <i>Journal of Materials Chemistry A</i> , 2016, 4, 13005-13010.	10.3	82
9	Harvesting Electronic Waste for the Development of Highly Efficient Eco-Design Electrodes for Electrocatalytic Water Splitting. <i>Advanced Energy Materials</i> , 2018, 8, 1802615.	19.5	80
10	Preparation of Eu-Doped Y ₂ O ₃ Luminescent Nanoparticles in Nonionic Reverse Microemulsions. <i>Journal of Colloid and Interface Science</i> , 2000, 226, 65-70.	9.4	76
11	Hydrogen adsorption on Li metal in boron-substituted graphene: An ab initio approach. <i>International Journal of Hydrogen Energy</i> , 2010, 35, 3583-3587.	7.1	70
12	Depolymerization of polyethyleneterephthalate in supercritical methanol. <i>Journal of Applied Polymer Science</i> , 2001, 81, 2102-2108.	2.6	68
13	Characterization of Eu-Doped Y ₂ O ₃ Nanoparticles Prepared in Nonionic Reverse Microemulsions in Relation to Their Application for Field Emission Display. <i>Journal of the Electrochemical Society</i> , 2000, 147, 3139.	2.9	57
14	Metal-organic framework derived NiMo polyhedron as an efficient hydrogen evolution reaction electrocatalyst. <i>Applied Surface Science</i> , 2019, 478, 916-923.	6.1	55
15	Numerical and experimental investigation on 25 cm ² and 100 cm ² PEMFC with novel sinuous flow field for effective water removal and enhanced performance. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 7848-7862.	7.1	53
16	Investigations of the temperature distribution in proton exchange membrane fuel cells. <i>Applied Energy</i> , 2012, 93, 733-741.	10.1	52
17	High performance multicomponent bifunctional catalysts for overall water splitting. <i>Journal of Materials Chemistry A</i> , 2020, 8, 13795-13805.	10.3	51
18	Co ₃ Se ₄ nanosheets embedded on N-CNT as an efficient electroactive material for hydrogen evolution and supercapacitor applications. <i>Journal of Industrial and Engineering Chemistry</i> , 2018, 65, 62-71.	5.8	47

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19	Highly efficient and durable dye-sensitized solar cells based on a wet-laid PET membrane electrolyte. <i>Journal of Materials Chemistry A</i> , 2016, 4, 458-465.	10.3	45
20	Synthesis and optical properties of push-pull type tetrapyrazinoporphyrazines. <i>Dyes and Pigments</i> , 2005, 65, 159-167.	3.7	44
21	Optimization of catalyst ink composition for the preparation of a membrane electrode assembly in a proton exchange membrane fuel cell using the decal transfer. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 18446-18454.	7.1	44
22	Reaction Pathway and Kinetics for Uncatalyzed Partial Oxidation of p-Xylene in Sub- and Supercritical Water. <i>Industrial & Engineering Chemistry Research</i> , 2002, 41, 5576-5583.	3.7	43
23	Adoption of novel porous inserts in the flow channel of pem fuel cell for the mitigation of cathodic flooding. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 7863-7872.	7.1	42
24	Pyrolysis of polystyrene in a batch-type stirred vessel. <i>Korean Journal of Chemical Engineering</i> , 1999, 16, 161-165.	2.7	41
25	Composite multi-functional over layer: A novel design to improve the photovoltaic performance of DSSC. <i>Solar Energy Materials and Solar Cells</i> , 2015, 140, 141-149.	6.2	38
26	Synergistic effect of boron/nitrogen co-doping into graphene and intercalation of carbon black for Pt-BCN-Gr/CB hybrid catalyst on cell performance of polymer electrolyte membrane fuel cell. <i>Energy</i> , 2016, 96, 314-324.	8.8	37
27	A graphene quantum dot/phthalocyanine conjugate: a synergistic catalyst for the oxygen reduction reaction. <i>RSC Advances</i> , 2017, 7, 26113-26119.	3.6	37
28	Molybdenum Sulphoselenophosphide Spheroids as an Effective Catalyst for Hydrogen Evolution Reaction. <i>Small</i> , 2018, 14, 1703862.	10.0	37
29	Mutual diffusivity, thermal conductivity, and heat of transport in binary liquid mixtures of alkanes in chloroform. <i>Journal of Chemical & Engineering Data</i> , 1988, 33, 362-366.	1.9	35
30	CO ₂ , N ₂ gas sorption and permeation behavior of chitosan membrane. <i>Korean Journal of Chemical Engineering</i> , 1998, 15, 223-226.	2.7	34
31	Electronic structure and half-metallic property of Mn-doped β -SiC diluted magnetic semiconductor. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2006, 126, 194-196.	3.5	34
32	A computational simulation of an alkaline fuel cell. <i>Journal of Power Sources</i> , 1999, 84, 87-106.	7.8	32
33	Incorporation of heteropoly acid, tungstophosphoric acid within MCM-41 via impregnation and direct synthesis methods for the fabrication of composite membrane of DMFC. <i>Journal of Membrane Science</i> , 2008, 325, 252-261.	8.2	31
34	Influence of the Nafion agglomerate morphology on the water-uptake behavior and fuel cell performance in the proton exchange membrane fuel cells. <i>Applied Surface Science</i> , 2019, 481, 777-784.	6.1	31
35	A PVdF-based electrolyte membrane for a carbon counter electrode in dye-sensitized solar cells. <i>RSC Advances</i> , 2017, 7, 20908-20918.	3.6	30
36	Self-humidifying Pt-C/Pt-TiO ₂ dual-catalyst electrode membrane assembly for proton-exchange membrane fuel cells. <i>Energy</i> , 2017, 120, 12-19.	8.8	30

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37	Comparative investigation of the molybdenum sulphide doped with cobalt and selenium towards hydrogen evolution reaction. <i>Electrochimica Acta</i> , 2018, 271, 211-219.	5.2	30
38	Preparation of Indium-Tin Oxide Particles in Shear-Induced Multilamellar Vesicles (Spherulites) as Chemical Reactors. <i>Chemistry of Materials</i> , 2000, 12, 996-1002.	6.7	28
39	A Highly Effective, Stable Oxygen Evolution Catalyst Derived from Transition Metal Selenides and Phosphides. <i>Particle and Particle Systems Characterization</i> , 2018, 35, 1800135.	2.3	28
40	Computational analysis of the zinc utilization in the primary zinc-air batteries. <i>Energy</i> , 2016, 102, 694-704.	8.8	27
41	Numerical analysis of catalyst agglomerates and liquid water transport in proton exchange membrane fuel cells. <i>International Journal of Hydrogen Energy</i> , 2010, 35, 8433-8445.	7.1	26
42	Synthesis of Pt/PEI-MWCNT composite materials on polyethyleneimine-functionalized MWNTs as supports. <i>Materials Research Bulletin</i> , 2011, 46, 2433-2440.	5.2	25
43	Mutual diffusivity, thermal conductivity, and heat of transport in binary liquid mixtures of alkanes in carbon tetrachloride. <i>Fluid Phase Equilibria</i> , 1987, 36, 219-233.	2.5	24
44	Continuous separation of copper ions from a mixture of heavy metal ions using a three-zone carousel process packed with metal ion-imprinted polymer. <i>Journal of Chromatography A</i> , 2010, 1217, 7100-7108.	3.7	23
45	Octahedral PtNi nanoparticles with controlled surface structure and composition for oxygen reduction reaction. <i>Science China Materials</i> , 2017, 60, 1109-1120.	6.3	23
46	Influence of the water uptake in the catalyst layer for the proton exchange membrane fuel cells. <i>Electrochemistry Communications</i> , 2013, 35, 34-37.	4.7	22
47	An ultralight-weight polymer electrolyte fuel cell based on woven carbon fiber-resin reinforced bipolar plate. <i>Journal of Power Sources</i> , 2021, 484, 229291.	7.8	22
48	Optimization of active sites by sulfurization of the core-shell ZIF 67@ZIF 8 for rapid oxygen reduction kinetics in acidic media. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 10739-10748.	7.1	22
49	Fabrication of highly effective self-humidifying membrane electrode assembly for proton exchange membrane fuel cells via electrostatic spray deposition. <i>Electrochemistry Communications</i> , 2018, 93, 76-80.	4.7	21
50	An efficient CoMoS ₂ nanosheets on nitrogen, sulfur dual doped reduced graphene oxide as an electrocatalyst for the hydrogen evolution reaction. <i>International Journal of Energy Research</i> , 2021, 45, 17397-17407.	4.5	21
51	A bifunctional hexa-filamentous microfibril multimetallic foam: an unconventional high-performance electrode for total water splitting under industrial operation conditions. <i>Journal of Materials Chemistry A</i> , 2021, 9, 4971-4983.	10.3	20
52	Degradation of high density polyethylene, polypropylene and their mixtures in supercritical acetone. <i>Korean Journal of Chemical Engineering</i> , 2001, 18, 396-401.	2.7	18
53	Modeling of the drying process in paper plants. <i>Korean Journal of Chemical Engineering</i> , 2004, 21, 761-766.	2.7	18
54	The prediction of the effects of tobacco type on smoke composition from the pyrolysis modeling of tobacco shreds. <i>Journal of Analytical and Applied Pyrolysis</i> , 2005, 74, 181-192.	5.5	18

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55	Electronic wastes: A near inexhaustible and an unimaginably wealthy resource for water splitting electrocatalysts. <i>Journal of Hazardous Materials</i> , 2022, 421, 126687.	12.4	18
56	Optimization of productivity in a four-zone simulated moving bed process for separation of succinic acid and lactic acid. <i>Chemical Engineering Journal</i> , 2011, 171, 92-103.	12.7	17
57	Enhanced Power Conversion Efficiency of Dye-Sensitized Solar Cells Using Nanoparticle/Nanotube Double Layered Film. <i>Journal of Nanoscience and Nanotechnology</i> , 2013, 13, 7938-7943.	0.9	17
58	Performance degradation of solid oxide fuel cells due to sulfur poisoning of the electrochemical reaction and internal reforming reaction. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 17275-17283.	7.1	17
59	Effect of Mobile Phase Composition on Henry's Constants of 2-Amino-3-phenyl-propanoic Acid, 2-Amino-3-(3-indolyl)-propanoic Acid, and 2-Amino-3-(4-hydroxyphenyl)-propanoic Acid in a Capcell Pak C ₁₈ Chromatography. <i>Journal of Chemical & Engineering Data</i> , 2008, 53, 2613-2621.	1.9	16
60	Shape-controlled synthesis of gold-nickel bimetallic nanoparticles and their electrocatalytic properties. <i>Materials Chemistry and Physics</i> , 2015, 156, 1-8.	4.0	16
61	Product distribution from the pyrolysis modeling of tobacco particles. <i>Journal of Analytical and Applied Pyrolysis</i> , 2003, 66, 217-234.	5.5	15
62	Enhanced Performance of Dye-Sensitized Solar Cells with Activated Carbons. <i>Journal of Nanoscience and Nanotechnology</i> , 2013, 13, 7875-7879.	0.9	15
63	Three-dimensional reconstruction of coarse-dense dual catalyst layer for proton exchange membrane fuel cells. <i>Electrochimica Acta</i> , 2016, 211, 142-147.	5.2	15
64	Computational analysis of transport phenomena in proton exchange membrane for polymer electrolyte fuel cells. <i>Journal of Membrane Science</i> , 2008, 309, 1-6.	8.2	14
65	On the role of the silica-containing catalyst layer for proton exchange membrane fuel cells. <i>Energy</i> , 2014, 68, 794-800.	8.8	14
66	Ultrahigh PEMFC Performance of a Thin Film, Dual Electrode Assembly with Tailored Electrode Morphology. <i>ChemSusChem</i> , 2014, 7, 466-473.	6.8	14
67	Stability of alkanoyl-6-O-ascorbates in various surfactant aggregates systems. <i>Colloids and Surfaces B: Biointerfaces</i> , 2002, 24, 33-44.	5.0	13
68	Surface Engineering of Perovskites for Rechargeable Zinc-Air Battery Application. <i>ACS Applied Energy Materials</i> , 2021, 4, 1876-1886.	5.1	13
69	Strategies and Perspectives to Catch the Missing Pieces in Energy-Efficient Hydrogen Evolution Reaction in Alkaline Media. <i>Angewandte Chemie</i> , 2021, 133, 19129-19154.	2.0	13
70	Mathematical Model of Smoldering Combustion in a Carbonaceous Porous Medium Part 1: Development of Pyrolysis and Combustion Models for a Cylindrical Geometry. <i>Journal of Fire Sciences</i> , 2001, 19, 429-448.	2.0	12
71	Uncatalyzed partial oxidation of p-xylene in sub- and supercritical water. <i>Reaction Kinetics and Catalysis Letters</i> , 2002, 77, 35-42.	0.6	12
72	Computational analysis of mixed potential effect in proton exchange membrane fuel cells. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 7654-7668.	7.1	12

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73	Cobalt encapsulated in the nitrogen and sulfur co-doped carbon nanotube supported platinum for the oxygen reduction reaction catalyst. Carbon, 2018, 139, 656-665.	10.3	12
74	Pinched Wave Design of a Four-Zone Simulated Moving Bed for Linear Adsorption Systems with Significant Mass-Transfer Effects. Industrial & Engineering Chemistry Research, 2006, 45, 7241-7250.	3.7	11
75	Synthesis of nano-sized Pt/C via zeolite-templating method and its application to the cathode catalyst in PEMFC. Microporous and Mesoporous Materials, 2010, 134, 1-7.	4.4	11
76	Effect of functionalization for carbon molecular sieve (CMS) synthesized using zeolite template on the incorporation of Pt nanoparticle and performance of the electrodes in PEMFC. Microporous and Mesoporous Materials, 2012, 152, 148-156.	4.4	11
77	Bacterial nanocellulose as a green and flexible electrode matrix for efficient hydrogen evolution reaction in alkaline conditions. Cellulose, 2020, 27, 8135-8146.	4.9	11
78	Alternating Current Techniques for a Better Understanding of Photoelectrocatalysts. ACS Catalysis, 2021, 11, 12763-12776.	11.2	11
79	Simulation of influences of layer thicknesses in an alkaline fuel cell. Journal of Applied Electrochemistry, 2000, 30, 1023-1031.	2.9	10
80	Electrochemical properties of hybrid typed electrocatalyst using Pt/carbon molecular sieve synthesized by zeolite template and Pt carbon black. Microporous and Mesoporous Materials, 2013, 172, 161-166.	4.4	10
81	Improved polarization of mesoporous electrodes of a proton exchange membrane fuel cell using N-methyl-2-pyrrolidinone. Electrochimica Acta, 2013, 113, 37-41.	5.2	10
82	Kinetics of the Nonisothermal Degradation of Styrene-Butadiene Rubber. Journal of Fire Sciences, 1999, 17, 362-377.	2.0	9
83	Synthesis of Ultrafine and Spherical Barium Titanate Powders Using a Titania Nano-Sol. Journal of the American Ceramic Society, 2006, 89, 3299-3301.	3.8	9
84	Electronic Structures and Atomic Surface Diffusion in Cr/Fe(001) and Fe/Cr(001) Systems: First-Principles Study. Japanese Journal of Applied Physics, 2008, 47, 5076-5078.	1.5	9
85	Three-dimensional simulation of humid-air dryer using computational fluid dynamics. Journal of Industrial and Engineering Chemistry, 2013, 19, 1092-1098.	5.8	9
86	Influence of Phosphidation on CoSe ₂ Catalyst for Hydrogen Evolution Reaction. ChemistrySelect, 2017, 2, 10661-10667.	1.5	9
87	Engineering ionomer homogeneously distributed onto the fuel cell electrode with superbly retrieved activity towards oxygen reduction reaction. Applied Catalysis B: Environmental, 2021, 298, 120609.	20.2	9
88	A Kinetic Analysis of the Thermal-Oxidative Decomposition of Polypropylene. Journal of Fire Sciences, 2000, 18, 245-264.	2.0	9
89	Mixed monolayer behaviors of vitamin derivatives and cholesterol. Synthetic Metals, 2001, 117, 181-182.	3.9	8
90	Numerical methodology for proton exchange membrane fuel cell simulation using computational fluid dynamics technique. Korean Journal of Chemical Engineering, 2004, 21, 1153-1160.	2.7	8

91	Dual-curable fluorinated poly(methacrylate) copolymers for optical adhesives. <i>Polymers for Advanced Technologies</i> , 2005, 16, 484-488.	3.2	8
92	Computational analysis of polarizations in membrane-electrode-assembly for proton exchange membrane fuel cells. <i>Journal of Membrane Science</i> , 2009, 341, 5-10.	8.2	8
93	Development of a four-zone carousel process packed with metal ion-imprinted polymer for continuous separation of copper ions from manganese ions, cobalt ions, and the constituent metal ions of the buffer solution used as eluent. <i>Journal of Chromatography A</i> , 2011, 1218, 5664-5674.	3.7	8

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109	Facile Nanostructured Composite Synthesis of Selenium and Molybdenum Chalcogenides/Carbon Nanotubes for Li-ion Batteries. Bulletin of the Korean Chemical Society, 2017, 38, 1347-1352.	1.9	4
110	Production of Hydrogen and Volatile Fatty Acid by Enterobacter sp. T4384 Using Organic Waste Materials. Journal of Microbiology and Biotechnology, 2013, 23, 189-194.	2.1	4
111	Thermal conductive thin, flexible composite sheet of boron nitride aggregates and alumina for enhanced through plane conductivity. Ceramics International, 2022, 48, 29183-29189.	4.8	4
112	The solid-phase synthesis of amino acid-derived diacetylene lipids. Macromolecular Research, 2005, 13, 253-256.	2.4	3
113	Dynamics of the wet-end section in paper mills. Korean Journal of Chemical Engineering, 2005, 22, 17-25.	2.7	3
114	Particle-Size Optimization for a Polymer Coated Silica Gel in SMB Chromatography for Amino Acid Separation. Journal of Liquid Chromatography and Related Technologies, 2009, 32, 2822-2838.	1.0	3
115	Studies of the factors effecting the preparation of heterogeneous platinum-based catalyst on silica supports. Materials Research Bulletin, 2010, 45, 1419-1425.	5.2	3
116	Synthesis of Pt-immobilized on silica and polystyrene-encapsulated silica and their applications as electrocatalysts in the proton exchange membrane fuel cell. Materials Research Bulletin, 2011, 46, 12-18.	5.2	3
117	Study on the Variation of Surface Morphology and Residual Stress Under Various Thermal Annealing Conditions with Bulk GaN Substrates Grown by HVPE. Electronic Materials Letters, 2021, 17, 43-53.	2.2	3
118	Optimization of the CMP Process with Colloidal Silica Performance for Bulk AlN Single Crystal Substrate. Journal of Korean Institute of Metals and Materials, 2019, 57, 582-588.	1.0	3
119	Heat Transfer of a Smoldering Flammable Substrate. Part 1. Development of a Theoretical Model for the Heat Transfer of a Smoldering Substrate. Journal of Fire Sciences, 1997, 15, 462-480.	2.0	2
120	Heat Transfer of a Smoldering Flammable Substrate. Part 2. A Theoretical Model and Its Application. Journal of Fire Sciences, 1998, 16, 32-45.	2.0	2
121	Modeling and simulation of evaporation-pyrolysis processes of a naturally smoldering cylindrical cellulosic materials rod: Effect of smoldering rate on product concentrations. Journal of Industrial and Engineering Chemistry, 2008, 14, 120-130.	5.8	2
122	Photoanode Using Hollow Spherical TiO ₂ for Dual Functions in Dye-Sensitized Solar Cell. Journal of Nanoscience and Nanotechnology, 2013, 13, 7906-7911.	0.9	2
123	Water Splitting: Corrosion and Alloy Engineering in Rational Design of High Current Density Electrodes for Efficient Water Splitting (Adv. Energy Mater. 24/2020). Advanced Energy Materials, 2020, 10, 2070107.	19.5	2
124	Effect of Dry Thermal Oxidation on Bulk GaN Substrates Grown by HVPE during CMP. ECS Journal of Solid State Science and Technology, 2019, 8, P811-P820.	1.8	2
125	Enhanced Electrochemical Oxygen Evolution Reaction on Hydrogen Embrittled CoSe Surface. Advanced Materials Interfaces, 0, , 2101209.	3.7	2
126	Reconstitute tobacco product drying model. Korean Journal of Chemical Engineering, 1997, 14, 141-145.	2.7	1

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127	Thermotropic liquid crystal polymer fabric reinforced polyimide composite materials. Polymer Composites, 2000, 21, 806-813.	4.6	1
128	Electrocatalysts: Molybdenum Sulphoselenophosphide Spheroids as an Effective Catalyst for Hydrogen Evolution Reaction (Small 8/2018). Small, 2018, 14, 1870034.	10.0	1
129	Recombination of Oxygen and Nitrogen Atoms on Silica and High-Temperature Coating Materials. ACS Symposium Series, 1997, , 71-80.	0.5	0
130	Mathematical Model of Smoldering Combustion in a Carbonaceous Porous Medium Part 2 “Sensitivity Analysis of Model Parameters. Journal of Fire Sciences, 2001, 19, 449-461.	2.0	0
131	Physico-chemical processes occurring inside a pyrolyzing two-dimensional tobacco particle. Korean Journal of Chemical Engineering, 2003, 20, 300-306.	2.7	0
132	Metal oxides-free anodes for lithium-ion batteries. , 2022, , 149-176.		0
133	Enhanced Electrochemical Oxygen Evolution Reaction on Hydrogen Embrittled CoSe Surface (Adv.) Tj ETQq1 1 0.784314 rgBJ /Overlock	3.7	0