Youngsik Kim

List of Publications by Year
in descending order

126 papers	16,014 citations	50276 46 h-index	16183 124 g-index
135 all docs	135 docs citations	135 times ranked	17146 citing authors

#	Article	IF	Citations
1	Carbothermal shock-induced bifunctional Pt-Co alloy electrocatalysts for high-performance seawater batteries. Energy Storage Materials, 2022, 45, 281-290.	18.0	11
2	Seawater battery desalination with a reverse osmosis membrane for simultaneous brine treatment and energy storage. Journal of Cleaner Production, 2022, 333, 130188.	9.3	7
3	Zero fire battery concept: water-in-battery. Journal of Materials Chemistry A, 2022, 10, 6481-6488.	10.3	4
4	Strong interfacial energetics between catalysts and current collectors in aqueous sodiumâ€“air batteries. Journal of Materials Chemistry A, 2022, 10, 4601-4610.	10.3	10
5	Development of Prismatic Cells for Rechargeable Seawater Batteries. Advanced Sustainable Systems, 2022, 6, .	5.3	6
6	Effect of Electrolytes on the Cathode-Electrolyte Interfacial Stability of Fe-Based Layered Cathodes for Sodium-Ion Batteries. Journal of the Electrochemical Society, 2022, 169, 030536.	2.9	10
7	Development of Rechargeable Seawater Battery Module. Journal of the Electrochemical Society, 2022, 169, 040508.	2.9	8
8	A Na+ ion-selective desalination system utilizing a NASICON ceramic membrane. Water Research, 2022, 215, 118250.	11.3	10
9	3D Ionâ€Conducting, Scalable, and Mechanically Reinforced Ceramic Film for High Voltage Solidâ€State Batteries. Advanced Functional Materials, 2021, 31, 2002008.	14.9	13
10	Design of Largeâ€Scale Rectangular Cells for Rechargeable Seawater Batteries. Advanced Sustainable Systems, 2021, 5, .	5.3	17
11	New Highâ€Performance Pbâ€Based Nanocomposite Anode Enabled by Wideâ€Range Pb Redox and Zintl Phase Transition. Advanced Functional Materials, 2021, 31, 2005362.	14.9	6
12	Using redox electrolytes to extend the charge storage capacity in an aqueous hybrid ion battery. Chemical Engineering Journal, 2021, 411, 128416.	12.7	10
13	Investigating the influence of catholyte salinity on seawater battery desalination. Desalination, 2021, 506, 115018.	8.2	13
14	Simultaneous Energy Storage and Seawater Desalination using Rechargeable Seawater Battery: Feasibility and Future Directions. Advanced Science, 2021, 8, e2101289.	11.2	26
15	Disinfection-Dechlorination Battery for Safe Water Production. ACS ES&T Water, 2021, 1, 2146-2154.	4.6	4
16	Redoxâ€Mediated Redâ€Phosphorous Semiâ€Liquid Anode Enabling Metalâ€Free Rechargeable Naâ€Seawater Batteries with High Energy Density. Advanced Energy Materials, 2021, 11, 2102061.	19.5	13
17	Characterization of hot-pressed von Alpen type NASICON ceramic electrolytes. Solid State Ionics, 2021, 369, 115712.	2.7	14
18	Ruthenium Coreâ€“Shell Engineering with Nickel Single Atoms for Selective Oxygen Evolution via Nondestructive Mechanism. Advanced Energy Materials, 2021, 11, 2003448.	19.5	124

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19	Seawater Battery-Based Wireless Marine Buoy System With Battery Degradation Prediction and Multiple Power Optimization Capabilities. IEEE Access, 2021, 9, 104104-104114.	4.2	9
20	Investigation on the Structure and Properties of Na_{3.1}Zr_{1.55}Si_{2.3}P_{0.7}O₁₁ as a Solid Electrolyte and Its Application in a Seawater Battery. ACS Applied Materials & Interfaces, 2021, 13, 52727-52735.	8.0	18
21	Chemical Stability and Degradation Mechanism of Solid Electrolytes/Aqueous Media at a Steady State for Long-Lasting Sodium Batteries. Chemistry of Materials, 2021, 33, 126-135.	6.7	14
22	Alkali-Metal-Mediated Reversible Chemical Hydrogen Storage Using Seawater. Jacs Au, 2021, 1, 2339-2348.	7.9	6
23	Hybridization of cathode electrochemistry in a rechargeable seawater battery: Toward performance enhancement. Journal of Power Sources, 2020, 450, 227600.	7.8	26
24	Hybrid photoelectrochemical-rechargeable seawater battery for efficient solar energy storage systems. Electrochimica Acta, 2020, 332, 135443.	5.2	19
25	An epoxy-reinforced ceramic sheet as a durable solid electrolyte for solid state Na-ion batteries. Journal of Materials Chemistry A, 2020, 8, 14528-14537.	10.3	23
26	Unveiling interfacial dynamics and structural degradation of solid electrolytes in a seawater battery system. Journal of Materials Chemistry A, 2020, 8, 21804-21811.	10.3	8
27	Compartmentalized desalination and salination by high energy density desalination seawater battery. Desalination, 2020, 495, 114666.	8.2	33
28	Binder-free organic cathode based on nitroxide radical polymer-functionalized carbon nanotubes and gel polymer electrolyte for high-performance sodium organic polymer batteries. Journal of Materials Chemistry A, 2020, 8, 17980-17986.	10.3	25
29	Tetraruthenium Polyoxometalate as an Atom-Efficient Bifunctional Oxygen Evolution Reaction/Oxygen Reduction Reaction Catalyst and Its Application in Seawater Batteries. ACS Applied Materials & Interfaces, 2020, 12, 32689-32697.	8.0	23
30	Redoxâ€Active Functional Electrolyte for Highâ€Performance Seawater Batteries. ChemSusChem, 2020, 13, 2220-2224.	6.8	17
31	Pyridinic-Nitrogen-Containing Carbon Cathode: Efficient Electrocatalyst for Seawater Batteries. ACS Applied Energy Materials, 2020, 3, 1602-1608.	5.1	21
32	Sodium Biphenyl as Anolyte for Sodiumâ€“Seawater Batteries. Advanced Functional Materials, 2020, 30, 2001249.	14.9	24
33	Identifying the mechanism and impact of parasitic reactions occurring in carbonaceous seawater battery cathodes. Journal of Materials Chemistry A, 2020, 8, 9185-9193.	10.3	20
34	Energy projection of the seawater battery desalination system using the reverse osmosis system analysis model. Chemical Engineering Journal, 2020, 395, 125082.	12.7	31
35	Seawater-Mediated Solar-to-Sodium Conversion by Bismuth Vanadate Photoanode- Photovoltaic Tandem Cell: Solar Rechargeable Seawater Battery. IScience, 2019, 19, 232-243.	4.1	16
36	Rechargeable Na/Ni batteries based on the Ni(OH)₂/NiOOH redox couple with high energy density and good cycling performance. Journal of Materials Chemistry A, 2019, 7, 1564-1573.	10.3	40

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37	Rechargeable Seawater Batteries: Rechargeable Seawater Batteriesâ€"From Concept to Applications (Adv. Mater. 20/2019). Advanced Materials, 2019, 31, 1970141.	21.0	3
38	Emergence of rechargeable seawater batteries. Journal of Materials Chemistry A, 2019, 7, 22803-22825.	10.3	71
39	Cobalt vanadate nanoparticles as bifunctional oxygen electrocatalysts for rechargeable seawater batteries. Journal of Industrial and Engineering Chemistry, 2019, 72, 250-254.	5.8	19
40	Rechargeable Seawater Batteriesâ€"From Concept to Applications. Advanced Materials, 2019, 31, e1804936.	21.0	73
41	Hybrid seawater desalination-carbon capture using modified seawater battery system. Journal of Power Sources, 2019, 410-411, 99-105.	7.8	29
42	Nanocrevasse-Rich Carbon Fibers for Stable Lithium and Sodium Metal Anodes. Nano Letters, 2019, 19, 1504-1511.	9.1	123
43	Feasibility of using hollow double walled Mn2O3 nanocubes for hybrid Na-air battery. Chemical Engineering Journal, 2019, 360, 415-422.	12.7	31
44	Large-scale stationary energy storage: Seawater batteries with high rate and reversible performance. Energy Storage Materials, 2019, 16, 56-64.	18.0	41
45	Enhancing Capacity Performance by Utilizing the Redox Chemistry of the Electrolyte in a Dual-Electrolyte Sodium-Ion Battery. Angewandte Chemie - International Edition, 2018, 57, 5335-5339.	13.8	23
46	LiCl-LiI molten salt electrolyte with bismuth-lead positive electrode for liquid metal battery. Journal of Power Sources, 2018, 377, 87-92.	7.8	50
47	Optimized hard carbon derived from starch for rechargeable seawater batteries. Carbon, 2018, 129, 564-571.	10.3	54
48	High energy density rechargeable metal-free seawater batteries: a phosphorus/carbon composite as a promising anode material. Journal of Materials Chemistry A, 2018, 6, 3046-3054.	10.3	40
49	A New Rechargeable Seawater Desalination Battery System. Batteries and Supercaps, 2018, 1, 6-10.	4.7	25
50	Enhancing Capacity Performance by Utilizing the Redox Chemistry of the Electrolyte in a Dualâ€Electrolyte Sodiumâ€Ion Battery. Angewandte Chemie, 2018, 130, 5433-5437.	2.0	9
51	Energy efficient Na-aqueous-catholyte redox flow battery. Energy Storage Materials, 2018, 12, 324-330.	18.0	23
52	Development of coin-type cell and engineering of its compartments for rechargeable seawater batteries. Journal of Power Sources, 2018, 374, 24-30.	7.8	37
53	BinaryÂN,S-doped carbon nanospheres from bio-inspired artificial melanosomes: A route to efficient air electrodes for seawater batteries. Journal of Materials Chemistry A, 2018, 6, 24459-24467.	10.3	52
54	Reliable seawater battery anode: controlled sodium nucleationviadeactivation of the current collector surface. Journal of Materials Chemistry A, 2018, 6, 19672-19680.	10.3	30

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55	Advanced perspective on the synchronized bifunctional activities of P2-type materials to implement an interconnected voltage profile for seawater batteries. Journal of Materials Chemistry A, 2018, 6, 11012-11021.	10.3	25
56	A novel rechargeable hybrid Na-seawater flow battery using bifunctional electrocatalytic carbon sponge as cathode current collector. Journal of Power Sources, 2018, 400, 478-484.	7.8	21
57	Binder-free hybrid Li4Ti5O12 anode for high performance lithium-ion batteries. Electrochimica Acta, 2018, 282, 270-275.	5.2	13
58	Hybrid Naâ€“air flow batteries using an acidic catholyte: effect of the catholyte pH on the cell performance. Journal of Materials Chemistry A, 2017, 5, 11592-11600.	10.3	24
59	Insights into the Dual-Electrode Characteristics of Layered Na_{0.5}Ni_{0.25}Mn_{0.75}O₂ Materials for Sodium-Ion Batteries. ACS Applied Materials & Interfaces, 2017, 9, 10618-10625.	8.0	38
60	Redoxâ€Additiveâ€Enhanced High Capacitance Supercapacitors Based on Co₂P₂O₇ Nanosheets. Advanced Materials Interfaces, 2017, 4, 1700059.	3.7	85
61	Nanocomposite quasi-solid-state electrolyte for high-safety lithium batteries. Nano Research, 2017, 10, 3092-3102.	10.4	41
62	Composite gel polymer electrolyte with ceramic particles for LiNi 1/3 Mn 1/3 Co 1/3 O 2 -Li 4 Ti 5 O 12 lithium ion batteries. Electrochimica Acta, 2017, 236, 394-398.	5.2	23
63	Carambola-shaped VO₂ nanostructures: a binder-free air electrode for an aqueous Naâ€“air battery. Journal of Materials Chemistry A, 2017, 5, 2037-2044.	10.3	120
64	Progressive Assessment on the Decomposition Reaction of Na Superionic Conducting Ceramics. ACS Applied Materials & Interfaces, 2017, 9, 304-310.	8.0	14
65	Sodium-ion hybrid electrolyte battery for sustainable energy storage applications. Journal of Power Sources, 2017, 341, 404-410.	7.8	49
66	Three-dimensional SnS2 nanopetals for hybrid sodium-air batteries. Electrochimica Acta, 2017, 257, 328-334.	5.2	53
67	Structural characterization of layered Na0.5Co0.5Mn0.5O2 material as a promising cathode for sodium-ion batteries. Journal of Power Sources, 2017, 363, 442-449.	7.8	31
68	Hierarchically structured graphene-carbon nanotube-cobalt hybrid electrocatalyst for seawater battery. Journal of Power Sources, 2017, 372, 31-37.	7.8	25
69	Seawater battery performance enhancement enabled by a defect/edge-rich, oxygen self-doped porous carbon electrocatalyst. Journal of Materials Chemistry A, 2017, 5, 14174-14181.	10.3	66
70	Saltwater as the energy source for low-cost, safe rechargeable batteries. Journal of Materials Chemistry A, 2016, 4, 7207-7213.	10.3	23
71	Electrochemical Lithium Recycling System toward Renewable and Sustainable Energy Technologies. Journal of the Electrochemical Society, 2016, 163, E199-E205.	2.9	21
72	Hybrid solid electrolyte with the combination of Li₇La₃Zr₂O₁₂ ceramic and ionic liquid for high voltage pseudo-solid-state Li-ion batteries. Journal of Materials Chemistry A, 2016, 4, 17025-17032.	10.3	77

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73	Hierarchical urchin-shaped Î±-MnO2 on graphene-coated carbon microfibers: a binder-free electrode for rechargeable aqueous Naâ€“air battery. NPG Asia Materials, 2016, 8, e294-e294.	7.9	87
74	Upcycling of nonporous coordination polymers: controllable-conversion toward porosity-tuned N-doped carbons and their electrocatalytic activity in seawater batteries. Journal of Materials Chemistry A, 2016, 4, 13468-13475.	10.3	29
75	A Metalâ€“Organic Framework Derived Porous Cobalt Manganese Oxide Bifunctional Electrocatalyst for Hybrid Naâ€“Air/Seawater Batteries. ACS Applied Materials & Interfaces, 2016, 8, 32778-32787.	8.0	88
76	Na-ion storage performance of amorphous Sb₂S₃nanoparticles: anode for Na-ion batteries and seawater flow batteries. Journal of Materials Chemistry A, 2016, 4, 17946-17951.	10.3	89
77	Ammonium Fluoride Mediated Synthesis of Anhydrous Metal Fluorideâ€“Mesoporous Carbon Nanocomposites for High-Performance Lithium Ion Battery Cathodes. ACS Applied Materials & Interfaces, 2016, 8, 35180-35190.	8.0	62
78	Effect of sol-gel process parameters on the properties of a Li1.3Ti1.7Al0.3(PO4)3 solid electrolyte for Li-ion batteries. Journal of the Korean Physical Society, 2016, 68, 28-34.	0.7	4
79	Electrochemical characterization of micro-rod Î²-Na0.33V2O5 for high performance lithium ion batteries. Electrochimica Acta, 2016, 193, 160-165.	5.2	13
80	Graphitic Nanoshell/Mesoporous Carbon Nanohybrids as Highly Efficient and Stable Bifunctional Oxygen Electrocatalysts for Rechargeable Aqueous Naâ€“Air Batteries. Advanced Energy Materials, 2016, 6, 1501794.	19.5	120
81	Cloud-like graphene nanoplatelets on Nd_{0.5}Sr_{0.5}CoO_{3â^Î´} nanorods as an efficient bifunctional electrocatalyst for hybrid Liâ€“air batteries. Journal of Materials Chemistry A, 2016, 4, 2122-2127.	10.3	54
82	Na ion- Conducting Ceramic as Solid Electrolyte for Rechargeable Seawater Batteries. Electrochimica Acta, 2016, 191, 1-7.	5.2	67
83	Encapsulation of organic active materials in carbon nanotubes for application to high-electrochemical-performance sodium batteries. Energy and Environmental Science, 2016, 9, 1264-1269.	30.8	148
84	Electrochemical properties of a ceramic-polymer-composite-solid electrolyte for Li-ion batteries. Solid State Ionics, 2016, 284, 20-24.	2.7	19
85	Eco-friendly Energy Storage System: Seawater and Ionic Liquid Electrolyte. ChemSusChem, 2016, 9, 2-2.	6.8	1
86	Ecoâ€friendly Energy Storage System: Seawater and Ionic Liquid Electrolyte. ChemSusChem, 2016, 9, 42-49.	6.8	42
87	Exploration of cobalt phosphate as a potential catalyst for rechargeable aqueous sodium-air battery. Journal of Power Sources, 2016, 311, 29-34.	7.8	74
88	Flexible and wearable fiber shaped high voltage supercapacitors based on copper hexacyanoferrate and porous carbon coated carbon fiber electrodes. Journal of Materials Chemistry A, 2016, 4, 4934-4940.	10.3	61
89	Highly improved voltage efficiency of seawater battery by use of chloride ion capturing electrode. Journal of Power Sources, 2016, 313, 46-50.	7.8	32
90	Ceramicâ€Based Composite Solid Electrolyte for Lithiumâ€Ion Batteries. ChemPlusChem, 2015, 80, 1100-1103.	2.8	36

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91	Commercial and research battery technologies for electrical energy storage applications. Progress in Energy and Combustion Science, 2015, 48, 84-101.	31.2	244
92	Highly porous graphitic carbon and Ni₂P₂O₇for a high performance aqueous hybrid supercapacitor. Journal of Materials Chemistry A, 2015, 3, 21553-21561.	10.3	153
93	Mesoporous Ge/GeO₂/Carbon Lithium-Ion Battery Anodes with High Capacity and High Reversibility. ACS Nano, 2015, 9, 5299-5309.	14.6	159
94	New Chemical Route for the Synthesis of Î²-Na_{0.33}V₂O₅ and Its Fully Reversible Li Intercalation. ACS Applied Materials & Interfaces, 2015, 7, 7025-7032.	8.0	41
95	Lithium ion dynamics in Li2S+GeS2+GeO2 glasses studied using 7Li NMR field-cycling relaxometry and line-shape analysis. Solid State Nuclear Magnetic Resonance, 2015, 70, 53-62.	2.3	24
96	Rechargeable aqueous Naâ€“air batteries: Highly improved voltage efficiency by use of catalysts. Electrochemistry Communications, 2015, 61, 53-56.	4.7	62
97	A hybrid solid electrolyte for flexible solid-state sodium batteries. Energy and Environmental Science, 2015, 8, 3589-3596.	30.8	204
98	Rechargeable Seawater Battery and Its Electrochemical Mechanism. ChemElectroChem, 2015, 2, 328-332.	3.4	85
99	Superior Ionâ€Conducting Hybrid Solid Electrolyte for Allâ€Solidâ€State Batteries. ChemSusChem, 2015, 8, 636-641.	6.8	70
100	Reversibility of Lithiumâ€Ionâ€“Air Batteries Using Lithium Intercalation Compounds as Anodes. ChemPlusChem, 2015, 80, 349-353.	2.8	5
101	Improving electrochemical properties of porous iron substituted lithium manganese phosphate in additive addition electrolyte. Journal of Power Sources, 2015, 275, 106-110.	7.8	17
102	Comparative electrochemical sodium insertion/extraction behavior in layered NaxVS2 and NaxTiS2. Electrochimica Acta, 2014, 143, 272-277.	5.2	32
103	Metal-free hybrid seawater fuel cell with an ether-based electrolyte. Journal of Materials Chemistry A, 2014, 2, 19584-19588.	10.3	59
104	Cathode Materials: A Novel Surface Treatment Method and New Insight into Discharge Voltage Deterioration for Highâ€Performance 0.4Li₂MnO_{3â€“}0.6LiNi_{1/3}Co_{1/3}Mn_{1/3}O₂ Cathode Materials (Adv. Energy Mater. 16/2014). Advanced Energy Materials, 2014, 4, .	19.5	5
105	Rechargeable-hybrid-seawater fuel cell. NPG Asia Materials, 2014, 6, e144-e144.	7.9	68
106	Nanostructured transition metal sulfides for lithium ion batteries: Progress and challenges. Nano Today, 2014, 9, 604-630.	11.9	545
107	Grapheneâ€“Co₃O₄nanocomposite as an efficient bifunctional catalyst for lithiumâ€“air batteries. Journal of Materials Chemistry A, 2014, 2, 7188-7196.	10.3	192
108	Li-Water Battery with Oxygen Dissolved in Water as a Cathode. Journal of the Electrochemical Society, 2014, 161, A285-A289.	2.9	20

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109	A Novel Surface Treatment Method and New Insight into Discharge Voltage Deterioration for Highâ€Performance 0.4Li₂MnO_{3â€“}0.6LiNi_{1/3}Co_{1/3}Mn_{1/3}O₂ Cathode Materials. Advanced Energy Materials, 2014, 4, 1400631.	19.5	196
110	Metal-Free Ketjenblack Incorporated Nitrogen-Doped Carbon Sheets Derived from Gelatin as Oxygen Reduction Catalysts. Nano Letters, 2014, 14, 1870-1876.	9.1	155
111	Corn protein-derived nitrogen-doped carbon materials with oxygen-rich functional groups: a highly efficient electrocatalyst for all-vanadium redox flow batteries. Energy and Environmental Science, 2014, 7, 3727-3735.	30.8	218
112	Sodiumâ€“Metal Halide and Sodiumâ€“Air Batteries. ChemPhysChem, 2014, 15, 1971-1982.	2.1	85
113	A New High Power LiNi_{0.81}Co_{0.1}Al_{0.09}O₂ Cathode Material for Lithiumâ€Ion Batteries. Advanced Energy Materials, 2014, 4, 1301583.	19.5	153
114	Block Copolymer Directed Ordered Mesostructured TiNb₂O₇ Multimetallic Oxide Constructed of Nanocrystals as High Power Li-Ion Battery Anodes. Chemistry of Materials, 2014, 26, 3508-3514.	6.7	154
115	A new chemical route for the synthesis of Î²â€²-Li V2O5 for use as a high performance cathode. Electrochimica Acta, 2013, 105, 403-411.	5.2	12
116	Using waste Li ion batteries as cathodes in rechargeable Liâ€“liquid batteries. Physical Chemistry Chemical Physics, 2013, 15, 7036.	2.8	9
117	Inorganic solid/organic liquid hybrid electrolyte for use in Li-ion battery. Electrochimica Acta, 2012, 79, 8-16.	5.2	50
118	Lithiumâ€“liquid battery: harvesting lithium from waste Li-ion batteries and discharging with water. RSC Advances, 2012, 2, 6094.	3.6	19
119	Perovskite Sr0.95Ce0.05CoO3â^'Î´ loaded with copper nanoparticles as a bifunctional catalyst for lithium-air batteries. Journal of Materials Chemistry, 2012, 22, 18902.	6.7	131
120	Aqueous Cathode for Next-Generation Alkali-Ion Batteries. Journal of the American Chemical Society, 2011, 133, 5756-5759.	13.7	253
121	Challenges for Rechargeable Li Batteries. Chemistry of Materials, 2010, 22, 587-603.	6.7	8,933
122	Reinvestigation of Li[sub 1â^'x]Ti[sub y]V[sub 1â^'y]S[sub 2] Electrodes in Suitable Electrolyte: Highly Improved Electrochemical Properties. Electrochemical and Solid-State Letters, 2009, 12, A73.	2.2	15
123	Access to M[sup 3+]/M[sup 2+] Redox Couples in Layered LiMS[sub 2] Sulfides (M=Ti,â€,V,â€,Cr) as Anodes for Li-Ion Battery. Journal of the Electrochemical Society, 2009, 156, A703.	2.9	46
124	Lithium Insertion into Transition-Metal Monosulfides: Tuning the Position of the Metal 4s Band. Journal of Physical Chemistry C, 2008, 112, 15060-15064.	3.1	120
125	Technologies of lithium recycling from waste lithium ion batteries: a review. Materials Advances, 0, , .	5.4	140
126	Monolithic Solar Seawater Battery: Seawater-Mediated Solar-to-Sodium Conversion with 8.0 % Efficiency by Bismuth Vanadate Photoanode - Photovoltaic Tandem Cell. SSRN Electronic Journal, 0, , .	0.4	0