Won-Hee Ryu

List of Publications by Year
in descending order

80 papers	4,051 citations	116194 36 h-index	129628 63 g-index
85 all docs	85 docs citations	85 times ranked	7412 citing authors

#	Article	IF	Citations
1	Autoâ€Oxygenated Porphyrinâ€Derived Redox Mediators for Highâ€Performance Lithium Airâ€Breathing Batteries. Advanced Energy Materials, 2022, 12, 2103527.	10.2	15
2	Self-Oxygenated Blood Protein-Embedded Nanotube Catalysts for Longer Cyclable Lithium Oxygen-Breathing Batteries. ACS Sustainable Chemistry and Engineering, 2022, 10, 4198-4205.	3.2	8
3	Highly conductive ZrO2â€“x spheres as bifunctional framework stabilizers and gas evolution relievers in nickel-rich layered cathodes for lithium-ion batteries. Composites Part B: Engineering, 2022, 238, 109911.	5.9	11
4	Rhenium oxide/sulfide binary phase flakes decorated on nanofiber support for enhanced activation of electrochemical conversion reactions. Chemical Engineering Journal, 2022, 446, 136951.	6.6	8
5	Atomically miniaturized bi-phase IrO_x/Ir catalysts loaded on N-doped carbon nanotubes for high-performance Liâ€“CO₂ batteries. Journal of Materials Chemistry A, 2022, 10, 19710-19721.	5.2	21
6	Group VI metallic pillars for assembly of expanded graphite anodes for high-capacity Na-ion batteries. Carbon, 2021, 175, 585-593.	5.4	14
7	Zirconium disulfides as an electrode material alternative for Li-ion batteries. Applied Surface Science, 2021, 547, 149029.	3.1	12
8	Controllable Insertion Mechanism of Expanded Graphite Anodes Employing Conversion Reaction Pillars for Sodium-Ion Batteries. ACS Applied Materials & Interfaces, 2021, 13, 24070-24080.	4.0	24
9	Capillary-Driven Formation of Iron Nanoparticles Embedded in Nanotubes for Catalyzed Lithiumâ€“Carbon Dioxide Reaction. , 2021, 3, 815-825.		19
10	Rational design and in-situ formation of nickelâ€“cobalt nitride multi-core/hollow N-doped carbon shell anode for Li-ion batteries. Chemical Engineering Journal, 2021, 420, 129630.	6.6	27
11	Selective Anionic Redox and Suppressed Structural Disordering Enabling Highâ€Energy and Longâ€Life Liâ€Rich Layeredâ€Oxide Cathode. Advanced Energy Materials, 2021, 11, 2102311.	10.2	25
12	Black Tungsten Oxide Nanofiber as a Robust Support for Metal Catalysts: High Catalyst Loading for Electrochemical Oxygen Reduction. Small, 2021, 17, e2103755.	5.2	20
13	Low-temperature synthesis of tetragonal phase of hafnium oxide using polymer-blended nanofiber precursor. Applied Surface Science, 2020, 533, 147496.	3.1	15
14	Lithiumâ€“Air Batteries: Air-Breathing Challenges and Perspective. ACS Nano, 2020, 14, 14549-14578.	7.3	126
15	Super-Expansion of Assembled Reduced Graphene Oxide Interlayers by Segregation of Al Nanoparticle Pillars for High-Capacity Na-Ion Battery Anodes. ACS Applied Materials & Interfaces, 2020, 12, 23781-23788.	4.0	16
16	Super-Expanded Graphite Anodes Achieved By Employing Metallic Pillars for High Capacity Sodium-Ion Batteries. ECS Meeting Abstracts, 2020, MA2020-02, 296-296.	0.0	0
17	Iron Nanoparticles Embedded in Carbon Nanotubes for Reversible Li-CO₂ Batteries. ECS Meeting Abstracts, 2020, MA2020-02, 293-293.	0.0	0
18	Highly Durable and Conductive Tungsten Oxide Nanofiber Supports for Improved Oxygen Reduction Reactions. ECS Meeting Abstracts, 2020, MA2020-02, 2335-2335.	0.0	0

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19	Active MoSx Nanoparticle Pillars Embedded in Reduced Graphene Oxide As Anode Materials for High Performance Na-Ion Batteries. ECS Meeting Abstracts, 2020, MA2020-02, 297-297.	0.0	0
20	Blood Protein as a Sustainable Bifunctional Catalyst for Reversible Li-CO₂ Batteries. ACS Sustainable Chemistry and Engineering, 2019, 7, 16151-16159.	3.2	15
21	Highly Conductive Off-Stoichiometric Zirconium Oxide Nanofibers with Controllable Crystalline Structures and Bandgaps and Improved Electrochemical Activities. ACS Applied Energy Materials, 2019, 2, 3513-3522.	2.5	28
22	Iron/carbon composite microfiber catalyst derived from hemoglobin blood protein for lithium-oxygen batteries. Applied Surface Science, 2019, 466, 562-567.	3.1	17
23	Facile and fast Na-ion intercalation employing amorphous black TiO2-x/C composite nanofiber anodes. Electrochimica Acta, 2018, 263, 417-425.	2.6	27
24	Polyoxometalate as a Nature-Inspired Bifunctional Catalyst for Lithiumâ€“Oxygen Batteries. ACS Catalysis, 2018, 8, 7213-7221.	5.5	35
25	Alloy design employing high Cr concentrations for Mo-free stainless steels with enhanced corrosion resistance. Corrosion Science, 2018, 140, 61-72.	3.0	38
26	A Nature-Inspired Molecular Catalyst for Sustainable and Efficient Lithium-Oxygen Batteries. ECS Meeting Abstracts, 2018, , .	0.0	0
27	A New Design Strategy for Observing Lithium Oxide Growth-Evolution Interactions Using Geometric Catalyst Positioning. Nano Letters, 2016, 16, 4799-4806.	4.5	25
28	Pt and Pd catalyzed oxidation of Li₂O₂and DMSO during Liâ€“O₂battery charging. Chemical Communications, 2016, 52, 6605-6608.	2.2	45
29	Development of Omniphobic Desalination Membranes Using a Charged Electrospun Nanofiber Scaffold. ACS Applied Materials & Interfaces, 2016, 8, 11154-11161.	4.0	218
30	Titanum Carbide MXene Flakes as Novel 2D Metallic Solution-Processed Films. ECS Transactions, 2016, 75, 37-41.	0.3	2
31	Dimensional Effects of MoS₂ Nanoplates Embedded in Carbon Nanofibers for Bifunctional Li and Na Insertion and Conversion Reactions. ACS Applied Materials & Interfaces, 2016, 8, 26758-26768.	4.0	62
32	Tailored Combination of Low Dimensional Catalysts for Efficient Oxygen Reduction and Evolution in Li-O2 Batteries. ChemSusChem, 2016, 9, 2007-2007.	3.6	2
33	Solution-processed titanium carbide MXene films examined as highly transparent conductors. Nanoscale, 2016, 8, 16371-16378.	2.8	227
34	Tailored Combination of Low Dimensional Catalysts for Efficient Oxygen Reduction and Evolution in Liâ€“O₂ Batteries. ChemSusChem, 2016, 9, 2080-2088.	3.6	39
35	Heme biomolecule as redox mediator and oxygen shuttle for efficient charging of lithium-oxygen batteries. Nature Communications, 2016, 7, 12925.	5.8	122
36	Guided Evolution of Bulk Metallic Glass Nanostructures: A Platform for Designing 3D Electrocatalytic Surfaces. Advanced Materials, 2016, 28, 1940-1949.	11.1	71

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37	Multi-stacked electrodes employing aluminum coated tissue papers and non-oxidized graphene nanoflakes for high performance lithiumâ€“sulfur batteries. RSC Advances, 2016, 6, 60537-60545.	1.7	8
38	Heterogeneous WS_x/WO₃ Thorn-Bush Nanofiber Electrodes for Sodium-Ion Batteries. ACS Nano, 2016, 10, 3257-3266.	7.3	121
39	Electrocatalysts: Guided Evolution of Bulk Metallic Glass Nanostructures: A Platform for Designing 3D Electrocatalytic Surfaces (Adv. Mater. 10/2016). Advanced Materials, 2016, 28, 1902-1902.	11.1	0
40	Toward Microcapsule-Embedded Self-Healing Membranes. Environmental Science and Technology Letters, 2016, 3, 216-221.	3.9	47
41	Titanum Carbide MXene Flakes as Novel 2D Metallic Solution-Processed Films. ECS Meeting Abstracts, 2016, MA2016-02, 2311-2311.	0.0	3
42	Metal Sulfide Nanofiber Anodes for High Capacity Sodium Rechargeable Batteries. ECS Meeting Abstracts, 2016, , .	0.0	0
43	A New Architecture Design for Observing Lithium Oxide Growth-Evolution Employing Geometric Catalyst Positioning. ECS Meeting Abstracts, 2016, , .	0.0	0
44	Simple synthesis of highly catalytic carbon-free MnCo2O4@Ni as an oxygen electrode for rechargeable Liâ€“O2 batteries with long-term stability. Scientific Reports, 2015, 5, 13266.	1.6	44
45	Raman Spectroscopy in Lithiumâ€“Oxygen Battery Systems. ChemElectroChem, 2015, 2, 1446-1457.	1.7	123
46	Black titanium oxide nanoarray electrodes for high rate Li-ion microbatteries. Journal of Materials Chemistry A, 2015, 3, 11183-11188.	5.2	77
47	Glassy Metal Alloy Nanofiber Anodes Employing Graphene Wrapping Layer: Toward Ultralong-Cycle-Life Lithium-Ion Batteries. ACS Nano, 2015, 9, 6717-6727.	7.3	55
48	A Mesoporous Catalytic Membrane Architecture for Lithiumâ€“Oxygen Battery Systems. Nano Letters, 2015, 15, 434-441.	4.5	78
49	Enhanced durability of gold-coated current collectors for high power electrochemical devices. RSC Advances, 2015, 5, 43956-43960.	1.7	1
50	Ultrathin Nanotube/Nanowire Electrodes by Spinâ€“Spray Layer-by-Layer Assembly: A Concept for Transparent Energy Storage. ACS Nano, 2015, 9, 10005-10017.	7.3	55
51	Effects of Cl doping on the structural and electrochemical properties of high voltage LiMn1.5Ni0.5O4 cathode materials for Li-ion batteries. Journal of Alloys and Compounds, 2014, 592, 48-52.	2.8	62
52	Electrospun Functional Nanofibers and Their Applications in Chemical Sensors and Li-Ion Batteries. , 2014, , 793-838.		4
53	3-D dumbbell-like LiNi1/3Mn1/3Co1/3O2 cathode materials assembled with nano-building blocks for lithium-ion batteries. Journal of Power Sources, 2014, 257, 186-191.	4.0	102
54	Structural enhancement of Na₃V₂(PO₄)₃/C composite cathode materials by pillar ion doping for high power and long cycle life sodium-ion batteries. Journal of Materials Chemistry A, 2014, 2, 19623-19632.	5.2	156

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55	Graphene wrapping as a protective clamping layer anchored to carbon nanofibers encapsulating Si nanoparticles for a Li-ion battery anode. Nanoscale, 2014, 6, 12718-12726.	2.8	47
56	Crystalline IrO2-decorated TiO2 nanofiber scaffolds for robust and sustainable solar water oxidation. Journal of Materials Chemistry A, 2014, 2, 5610.	5.2	34
57	Bi-functional co-sensitization of graphene oxide sheets and Ir nanoparticles on p-type Co₃O₄ nanofibers for selective acetone detection. Journal of Materials Chemistry B, 2014, 2, 7160-7167.	2.9	70
58	Operando Observation of the Goldâ€“Electrolyte Interface in Liâ€“O₂ Batteries. ACS Applied Materials & Interfaces, 2014, 6, 19017-19025.	4.0	70
59	Conceptual Design of Superconducting Linear Synchronous Motor for 600-km/h Wheel-Type Railway. IEEE Transactions on Applied Superconductivity, 2014, 24, 1-4.	1.1	45
60	Vine-like MoS₂anode materials self-assembled from 1-D nanofibers for high capacity sodium rechargeable batteries. Nanoscale, 2014, 6, 10975-10981.	2.8	144
61	Fabrication of Graphene Embedded LiFePO₄ Using a Catalyst Assisted Self Assembly Method as a Cathode Material for High Power Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2014, 6, 4731-4736.	4.0	70
62	LaNi_xCo_{1-x}O_{3-Î´}Perovskites as Catalyst Material for Non-Aqueous Lithium-Oxygen Batteries. Journal of the Electrochemical Society, 2014, 161, A880-A889.	1.3	53
63	Multi-layer electrode with nano-Li4Ti5O12 aggregates sandwiched between carbon nanotube and graphene networks for high power Li-ion batteries. Scientific Reports, 2014, 4, 7334.	1.6	49
64	Bifunctional Composite Catalysts Using Co₃O₄ Nanofibers Immobilized on Nonoxidized Graphene Nanoflakes for High-Capacity and Long-Cycle Liâ€“O₂ Batteries. Nano Letters, 2013, 13, 4190-4197.	4.5	329
65	Bi-functional RuO2â€“Co3O4 coreâ€“shell nanofibers as a multi-component one-dimensional water oxidation catalyst. Chemical Communications, 2013, 49, 9725.	2.2	33
66	Simple, robust metal fluoride coating on layered Li1.23Ni0.13Co0.14Mn0.56O2 and its effects on enhanced electrochemical properties. Electrochimica Acta, 2013, 100, 10-17.	2.6	23
67	Cobalt(ii) monoxide nanoparticles embedded in porous carbon nanofibers as a highly reversible conversion reaction anode for Li-ion batteries. Journal of Materials Chemistry A, 2013, 1, 3239.	5.2	68
68	Electrochemical properties of nanosized Li-rich layered oxide as positive electrode materials for Li-Ion batteries. RSC Advances, 2013, 3, 8527.	1.7	27
69	Selective Diagnosis of Diabetes Using Pt-Functionalized WO₃ Hemitube Networks As a Sensing Layer of Acetone in Exhaled Breath. Analytical Chemistry, 2013, 85, 1792-1796.	3.2	276
70	Effects of Li and Cl Codoping on the Electrochemical Performance and Structural Stability of LiMn₂O₄ Cathode Materials for Hybrid Electric Vehicle Applications. Journal of Physical Chemistry C, 2013, 117, 4913-4919.	1.5	42
71	Tailoring Crystal Structure and Morphology of LiFePO₄/C Cathode Materials Synthesized by Heterogeneous Growth on Nanostructured LiFePO₄ Seed Crystals. ACS Applied Materials & Interfaces, 2013, 5, 1342-1347.	4.0	18
72	Morphological Evolution of Carbon Nanofibers Encapsulating SnCo Alloys and Its Effect on Growth of the Solid Electrolyte Interphase Layer. ACS Nano, 2013, 7, 7330-7341.	7.3	58

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73	Fabrication and Characterization of Nanoscale Ferroelectric Honeycombs. Journal of the American Ceramic Society, 2013, 96, 1355-1358.	1.9	5
74	Electrochemical performance of a smooth and highly ordered TiO2 nanotube electrode for Li-ion batteries. Electrochimica Acta, 2012, 61, 19-24.	2.6	97
75	Al2O3 coating on LiMn2O4 by electrostatic attraction forces and its effects on the high temperature cyclic performance. Electrochimica Acta, 2012, 71, 17-21.	2.6	108
76	Morphological control of highly aligned manganese dioxide nanostructure formed by electrodeposition. Materials Letters, 2012, 79, 184-187.	1.3	13
77	Synergistic effects of various morphologies and Al doping of spinel LiMn2O4 nanostructures on the electrochemical performance of lithium-rechargeable batteries. Journal of Materials Chemistry, 2011, 21, 15337.	6.7	70
78	Facile route to control the surface morphologies of 3D hierarchical MnO2 and its Al self-doping phenomenon. Journal of Nanoparticle Research, 2011, 13, 4777-4784.	0.8	16
79	Effects of Highly Ordered TiO₂ Nanotube Substrates on the Nucleation of Cu Electrodeposits. Journal of Nanoscience and Nanotechnology, 2010, 10, 3671-3675.	0.9	5
80	Synthesis of Highly Ordered TiO₂ Nanotube in Malonic Acid Solution by Anodization. Journal of Nanoscience and Nanotechnology, 2008, 8, 5467-5470.	0.9	9