Myung-Hyun Ryou

List of Publications by Year
in descending order

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111 papers	6,370 citations	81900 39 h-index	69250 77 g-index
117 all docs	117 docs citations	117 times ranked	7050 citing authors

#	Article	IF	Citations
1	Musselâ€Inspired Polydopamineâ€Treated Polyethylene Separators for Highâ€Power Liâ€Ion Batteries. Advanced Materials, 2011, 23, 3066-3070.	21.0	635
2	Musselâ€Inspired Adhesive Binders for Highâ€Performance Silicon Nanoparticle Anodes in Lithiumâ€Ion Batteries. Advanced Materials, 2013, 25, 1571-1576.	21.0	532
3	Excellent Cycle Life of Lithiumâ€Metal Anodes in Lithiumâ€Ion Batteries with Musselâ€Inspired Polydopamineâ€Coated Separators. Advanced Energy Materials, 2012, 2, 645-650.	19.5	410
4	Mechanical Surface Modification of Lithium Metal: Towards Improved Li Metal Anode Performance by Directed Li Plating. Advanced Functional Materials, 2015, 25, 834-841.	14.9	343
5	Recycling rice husks for high-capacity lithium battery anodes. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 12229-12234.	7.1	256
6	Mussel- and Diatom-Inspired Silica Coating on Separators Yields Improved Power and Safety in Li-Ion Batteries. Chemistry of Materials, 2012, 24, 3481-3485.	6.7	185
7	Effect of fluoroethylene carbonate on high temperature capacity retention of LiMn2O4/graphite Li-ion cells. Electrochimica Acta, 2010, 55, 2073-2077.	5.2	153
8	Microâ€Patterned Lithium Metal Anodes with Suppressed Dendrite Formation for Post Lithiumâ€Ion Batteries. Advanced Materials Interfaces, 2016, 3, 1600140.	3.7	149
9	Co-polyimide-coated polyethylene separators for enhanced thermal stability of lithium ion batteries. Electrochimica Acta, 2012, 85, 524-530.	5.2	148
10	Suppressing Lithium Dendrite Growth by Metallic Coating on a Separator. Advanced Functional Materials, 2017, 27, 1704391.	14.9	141
11	Enhancing the Cycling Stability of Sodium Metal Electrodes by Building an Inorganicâ€“Organic Composite Protective Layer. ACS Applied Materials & Interfaces, 2017, 9, 6000-6006.	8.0	124
12	A water-based Al2O3 ceramic coating for polyethylene-based microporous separators for lithium-ion batteries. Journal of Power Sources, 2016, 315, 161-168.	7.8	123
13	Composite protective layer for Li metal anode in high-performance lithiumâ€“oxygen batteries. Electrochemistry Communications, 2014, 40, 45-48.	4.7	120
14	Synergistic thermal stabilization of ceramic/co-polyimide coated polypropylene separators for lithium-ion batteries. Journal of Power Sources, 2015, 294, 537-544.	7.8	108
15	Sprayable Ultrafast Polydopamine Surface Modifications. Advanced Materials Interfaces, 2016, 3, 1500857.	3.7	99
16	Highly Adhesive and Soluble Copolyimide Binder: Improving the Long-Term Cycle Life of Silicon Anodes in Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2015, 7, 14851-14858.	8.0	96
17	Measurement and Analysis of Adhesion Property of Lithium-Ion Battery Electrodes with SAICAS. ACS Applied Materials & Interfaces, 2014, 6, 526-531.	8.0	88
18	New flame-retardant composite separators based on metal hydroxides for lithium-ion batteries. Electrochimica Acta, 2015, 157, 282-289.	5.2	87

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19	Nitrogen-doped carbon coating for a high-performance SiO anode in lithium-ion batteries. Electrochemistry Communications, 2013, 34, 98-101.	4.7	84
20	Fabrication of polyacrylonitrile/lignin-based carbon nanofibers for high-power lithium ion battery anodes. Journal of Solid State Electrochemistry, 2013, 17, 2471-2475.	2.5	84
21	Effect of polydopamine surface coating on polyethylene separators as a function of their porosity for high-power Li-ion batteries. Electrochimica Acta, 2013, 113, 433-438.	5.2	76
22	Plasma-assisted water-based Al2O3 ceramic coating for polyethylene-based microporous separators for lithium metal secondary batteries. Electrochimica Acta, 2016, 212, 649-656.	5.2	76
23	A gel polymer electrolyte based on initiator-free photopolymerization for lithium secondary batteries. Electrochimica Acta, 2012, 60, 23-30.	5.2	71
24	Dopamine as a Novel Electrolyte Additive for High-Voltage Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2016, 8, 21366-21372.	8.0	69
25	Effects of lithium salts on thermal stabilities of lithium alkyl carbonates in SEI layer. Electrochimica Acta, 2012, 83, 259-263.	5.2	68
26	Improved cycle lives of LiMn2O4 cathodes in lithium ion batteries by an alginate biopolymer from seaweed. Journal of Materials Chemistry A, 2013, 1, 15224.	10.3	67
27	N-(triphenylphosphoranylidene) aniline as a novel electrolyte additive for high voltage LiCoO2 operations in lithium ion batteries. Electrochimica Acta, 2011, 56, 5195-5200.	5.2	66
28	Design optimization of LiNi0.6Co0.2Mn0.2O2/graphite lithium-ion cells based on simulation and experimental data. Journal of Power Sources, 2016, 319, 147-158.	7.8	62
29	Chemical aspect of oxygen dissolved in a dimethyl sulfoxide-based electrolyte on lithium metal. Electrochimica Acta, 2014, 123, 419-425.	5.2	61
30	A Flame-Retardant Composite Polymer Electrolyte for Lithium-Ion Polymer Batteries. Electrochimica Acta, 2017, 241, 553-559.	5.2	60
31	Effect of Al2O3 coatings prepared by RF sputtering on polyethylene separators for high-power lithium ion batteries. Macromolecular Research, 2014, 22, 1190-1195.	2.4	58
32	A comparative investigation of carbon black (Super-P) and vapor-grown carbon fibers (VGCFs) as conductive additives for lithium-ion battery cathodes. RSC Advances, 2015, 5, 95073-95078.	3.6	57
33	Graphite/Silicon Hybrid Electrodes using a 3D Current Collector for Flexible Batteries. Advanced Materials, 2014, 26, 2977-2982.	21.0	53
34	Semi-empirical long-term cycle life model coupled with an electrolyte depletion function for large-format graphite/LiFePO 4 lithium-ion batteries. Journal of Power Sources, 2017, 365, 257-265.	7.8	52
35	Effect of cathode/anode area ratio on electrochemical performance ofÂlithium-ion batteries. Journal of Power Sources, 2013, 243, 641-647.	7.8	51
36	A facile method to enhance the uniformity and adhesion properties of water-based ceramic coating layers on hydrophobic polyethylene separators. Applied Surface Science, 2018, 427, 139-146.	6.1	50

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37	Large area multi-stacked lithium-ion batteries for flexible and rollable applications. Journal of Materials Chemistry A, 2014, 2, 10862-10868.	10.3	48
38	Comparative study on experiments and simulation of blended cathode active materials for lithium ion batteries. Electrochimica Acta, 2016, 187, 422-432.	5.2	48
39	Robust Cycling of Ultrathin Li Metal Enabled by Nitrateâ€Preplanted Li Powder Composite. Advanced Energy Materials, 2021, 11, 2003769.	19.5	48
40	Stabilizing effect of 2-(triphenylphosphoranylidene) succinic anhydride as electrolyte additive on the lithium metal of lithium metal secondary batteries. Electrochimica Acta, 2015, 170, 353-359.	5.2	39
41	Highly rough copper current collector: improving adhesion property between a silicon electrode and current collector for flexible lithium-ion batteries. RSC Advances, 2017, 7, 35681-35686.	3.6	39
42	Hybrid gel polymer electrolyte based on 1-methyl-1-Propylpyrrolidinium Bis(Trifluoromethanesulfonyl) imide for flexible and shape-variant lithium secondary batteries. Journal of Membrane Science, 2021, 621, 119018.	8.2	39
43	Improved high-temperature performance of lithium-ion batteries through use of a thermally stable co-polyimide-based cathode binder. Journal of Power Sources, 2014, 252, 138-143.	7.8	38
44	In-depth correlation of separator pore structure and electrochemical performance in lithium-ion batteries. Journal of Power Sources, 2016, 325, 732-738.	7.8	36
45	A crosslinked nonwoven separator based on an organosoluble polyimide for high-performance lithium-ion batteries. Journal of Industrial and Engineering Chemistry, 2019, 72, 390-399.	5.8	36
46	Recycling oil-extracted microalgal biomass residues into nano/micro hierarchical Sn/C composite anode materials for lithium-ion batteries. Electrochimica Acta, 2017, 250, 59-67.	5.2	35
47	Improving the Cycling Performance of Lithium-Ion Battery Si/Graphite Anodes Using a Soluble Polyimide Binder. ACS Omega, 2017, 2, 8438-8444.	3.5	35
48	Polydopamine-treated three-dimensional carbon fiber-coated separator for achieving high-performance lithium metal batteries. Journal of Power Sources, 2019, 430, 130-136.	7.8	35
49	Structureâ€Controlled Li Metal Electrodes for Postâ€Liâ€Ion Batteries: Recent Progress and Perspectives. Advanced Materials Interfaces, 2020, 7, 1902113.	3.7	33
50	Effect of Calcination Temperature on a P-type Na_{0.6}Mn_{0.65}Ni_{0.25}Co_{0.10}O₂Cathode Material for Sodium-Ion Batteries. Journal of the Electrochemical Society, 2017, 164, A6308-A6314.	2.9	32
51	Enhanced cycling performance of lithium metal secondary batteries with succinic anhydride as an electrolyte additive. Electrochimica Acta, 2014, 115, 525-530.	5.2	31
52	A Mathematical Model for Cyclic Aging of Spinel LiMn₂O₄/Graphite Lithium-Ion Cells. Journal of the Electrochemical Society, 2016, 163, A2757-A2767.	2.9	31
53	Composite protection layers for dendrite-suppressing non-granular micro-patterned lithium metal anodes. Electrochimica Acta, 2018, 282, 343-350.	5.2	29
54	Self-Healing Wide and Thin Li Metal Anodes Prepared Using Calendared Li Metal Powder for Improving Cycle Life and Rate Capability. ACS Applied Materials & Interfaces, 2018, 10, 16521-16530.	8.0	29

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55	Effect of Al2O3 ceramic fillers in LiNi1/3Co1/3Mn1/3O2 cathodes for improving high-voltage cycling and rate capability performance. Electrochimica Acta, 2018, 259, 578-586.	5.2	27
56	Mussel-inspired Polydopamine-treated Copper Foil as a Current Collector for High-performance Silicon Anodes. Scientific Reports, 2016, 6, 30945.	3.3	26
57	Effects of an Integrated Separator/Electrode Assembly on Enhanced Thermal Stability and Rate Capability of Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2017, 9, 17814-17821.	8.0	26
58	Electrode design methodology for all-solid-state batteries: 3D structural analysis and performance prediction. Energy Storage Materials, 2019, 19, 124-129.	18.0	26
59	A facile approach to prepare biomimetic composite separators toward safety-enhanced lithium secondary batteries. RSC Advances, 2015, 5, 39392-39398.	3.6	23
60	Mechanical robustness of composite electrode for lithium ion battery: Insight into entanglement & crystallinity of polymeric binder. Electrochimica Acta, 2020, 332, 135471.	5.2	23
61	The effects of humidity on the self-discharge properties of Li(Ni_{1/3}Co_{1/3}Mn_{1/3})O₂/graphite and LiCoO₂/graphite lithium-ion batteries during storage. RSC Advances, 2017, 7, 10915-10921.	3.6	22
62	Guided Lithium Deposition by Surface Microâ€Patterning of Lithiumâ€Metal Electrodes. ChemElectroChem, 2018, 5, 3169-3175.	3.4	22
63	Effect of LiCoO2 Cathode Density and Thickness on Electrochemical Performance of Lithium-Ion Batteries. Journal of Electrochemical Science and Technology, 2013, 4, 27-33.	2.2	21
64	Effect of LiCoO₂Cathode Density and Thickness on Electrochemical Performance of Lithium-Ion Batteries. Journal of Electrochemical Science and Technology, 2013, 4, 27-33.	2.2	21
65	2-(triphenylphosphoranylidene) succinic anhydride as a new electrolyte additive to improve high temperature cycle performance of LiMn2O4/graphite Li-ion batteries. Electrochimica Acta, 2013, 102, 97-103.	5.2	20
66	Size effects of micro-pattern on lithium metal surface on the electrochemical performance of lithium metal secondary batteries. Journal of Power Sources, 2018, 408, 136-142.	7.8	20
67	High-Rate Cycling of Lithium-Metal Batteries Enabled by Dual-Salt Electrolyte-Assisted Micropatterned Interfaces. ACS Applied Materials & Interfaces, 2019, 11, 31777-31785.	8.0	20
68	Three-Dimensional Adhesion Map Based on Surface and Interfacial Cutting Analysis System for Predicting Adhesion Properties of Composite Electrodes. ACS Applied Materials & Interfaces, 2016, 8, 23688-23695.	8.0	19
69	Elucidating the Polymeric Binder Distribution within Lithiumâ€Ion Battery Electrodes Using SAICAS. ChemPhysChem, 2018, 19, 1627-1634.	2.1	18
70	Highly improved thermal stability of the ceramic coating layer on the polyethylene separator via chemical crosslinking between ceramic particles and polymeric binders. Chemical Engineering Journal, 2022, 433, 134501.	12.7	18
71	Effect of LiFePO4 cathode density and thickness on electrochemical performance of lithium metal polymer batteries prepared by in situ thermal polymerization. Electrochimica Acta, 2015, 154, 149-156.	5.2	17
72	Comparative Study of the Adhesion Properties of Ceramic Composite Separators Using a Surface and Interfacial Cutting Analysis System for Lithium-Ion Batteries. ACS Omega, 2017, 2, 2159-2164.	3.5	17

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73	Effect of the Quantity of Liquid Electrolyte on Self-Healing Electrostatic Shield Mechanism of CsPF₆ Additive for Li Metal Anodes. ACS Omega, 2019, 4, 11724-11727.	3.5	16
74	Binder-free metal fibril-supported Fe2O3 anodes for high-performance lithium-ion batteries. Journal of Materials Chemistry A, 2014, 2, 2906.	10.3	15
75	Effect of liquid oil additive on lithium-ion battery ceramic composite separator prepared with an aqueous coating solution. Journal of Alloys and Compounds, 2016, 675, 341-347.	5.5	15
76	Tuning sodium nucleation and stripping by the mixed surface of carbon nanotube-sodium composite electrodes for improved reversibility. Journal of Power Sources, 2019, 438, 227005.	7.8	15
77	Crosslinkable polyhedral silsesquioxane-based ceramic-coated separators for Li-ion batteries. Journal of Industrial and Engineering Chemistry, 2019, 71, 277-283.	5.8	15
78	Musselâ€Inspired Polydopamineâ€Functionalized Superâ€P as a Conductive Additive for Highâ€Performance Silicon Anodes. Advanced Materials Interfaces, 2016, 3, 1600270.	3.7	14
79	A coupled chemo-mechanical model to study the effects of adhesive strength on the electrochemical performance of silicon electrodes for advanced lithium ion batteries. Journal of Power Sources, 2018, 407, 153-161.	7.8	14
80	Thin and porous polymer membrane-based electrochromic devices. Journal of Materials Chemistry C, 2019, 7, 1042-1047.	5.5	14
81	Suppression of dendrites and granules in surface-patterned Li metal anodes using CsPF6. Journal of Power Sources, 2019, 413, 344-350.	7.8	14
82	A Physics-Based Model Capacity Fade Analysis of LiMn₂O₄/Graphite Cell at Different Temperatures. Journal of the Electrochemical Society, 2019, 166, A5109-A5116.	2.9	14
83	Study on dead-Li suppression mechanism of Li-hosting vapor-grown-carbon-nanofiber-based protective layer for Li metal anodes. Journal of Power Sources, 2019, 409, 132-138.	7.8	14
84	Scaffold-structured polymer binders for long-term cycle performance of stabilized lithium-powder electrodes. Electrochimica Acta, 2020, 364, 136878.	5.2	14
85	Hybrid Effect of Micropatterned Lithium Metal and Three Dimensionally Ordered Macroporous Polyimide Separator on the Cycle Performance of Lithium Metal Batteries. ACS Applied Energy Materials, 2020, 3, 3721-3727.	5.1	14
86	Synergistic Effect of a Dual-Salt Liquid Electrolyte with a LiNO₃ Functional Additive toward Stabilizing Thin-Film Li Metal Electrodes for Li Secondary Batteries. ACS Applied Materials & Interfaces, 2021, 13, 31605-31613.	8.0	14
87	Eco-Friendly Water-Processable Polyimide Binders with High Adhesion to Silicon Anodes for Lithium-Ion Batteries. Nanomaterials, 2021, 11, 3164.	4.1	13
88	Effect of back-side-coated electrodes on electrochemical performances of lithium-ion batteries. Journal of Power Sources, 2015, 275, 712-719.	7.8	12
89	Submicron interlayer for stabilizing thin Li metal powder electrode. Chemical Engineering Journal, 2021, 406, 126834.	12.7	12
90	Anion receptor-coated separator for lithium-ion polymer battery. Journal of Solid State Electrochemistry, 2011, 15, 753-757.	2.5	10

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91	Surface Reinforcing Balloon Trick-Inspired Separator/Li Metal Integrated Assembly To Improve the Electrochemical Performance of Li Metal Batteries. ACS Applied Materials & Interfaces, 2019, 11, 43122-43129.	8.0	9
92	Sensitivity of power of lithium-ion batteries to temperature: A case study using cylindrical- and pouch-type cells. Journal of Power Sources, 2020, 465, 228238.	7.8	9
93	Lithium-Ion Batteries: Mussel-Inspired Adhesive Binders for High-Performance Silicon Nanoparticle Anodes in Lithium-Ion Batteries (Adv. Mater. 11/2013). Advanced Materials, 2013, 25, 1570-1570.	21.0	8
94	Microalgae-Templated Spray Drying for Hierarchical and Porous Fe3O4/C Composite Microspheres as Li-ion Battery Anode Materials. Nanomaterials, 2020, 10, 2074.	4.1	8
95	Toward understanding the real mechanical robustness of composite electrode impregnated with a liquid electrolyte. Applied Materials Today, 2020, 21, 100809.	4.3	7
96	Effect of Varying the Ratio of Carbon Black to Vapor-Grown Carbon Fibers in the Separator on the Performance of Liâ€“S Batteries. Nanomaterials, 2019, 9, 436.	4.1	6
97	Highly Stable Porous Polyimide Sponge as a Separator for Lithium-Metal Secondary Batteries. Nanomaterials, 2020, 10, 1976.	4.1	6
98	Large-area surface-patterned Li metal anodes fabricated using large, flexible patterning stamps for Li metal secondary batteries. Journal of Power Sources, 2021, 514, 230553.	7.8	6
99	Direct Fabrication of Nanodomesâ€Combined Surface Relief Gratings on Azobenzene Polymer Films with Controlled Shapes and Sizes. Journal of Polymer Science, Part B: Polymer Physics, 2019, 57, 731-737.	2.1	5
100	Design of Thin-Film Interlayer between Silicon Electrode and Current Collector Using a Chemo-Mechanical Degradation Model. Journal of the Electrochemical Society, 2020, 167, 080542.	2.9	5
101	Upgrading the Properties of Ceramic-Coated Separators for Lithium Secondary Batteries by Changing the Mixing Order of the Water-Based Ceramic Slurry Components. Batteries, 2022, 8, 64.	4.5	5
102	Lithium-Ion Batteries: Excellent Cycle Life of Lithium-Metal Anodes in Lithium-Ion Batteries with Mussel-Inspired Polydopamine-Coated Separators (Adv. Energy Mater. 6/2012). Advanced Energy Materials, 2012, 2, 610-610.	19.5	4
103	Timeâ€Effective Accelerated Cyclic Aging Analysis of Lithiumâ€Ion Batteries. ChemElectroChem, 2019, 6, 3714-3725.	3.4	4
104	Understanding the Effect of Polydopamine Interlayer on the Longâ€Term Cycling Performance of Silicon Anodes: A Multiphysicsâ€Based Model Study. Batteries and Supercaps, 2019, 2, 541-550.	4.7	4
105	Cross-linkable Polymer Matrix for Enhanced Thermal Stability of Succinonitrile-based Polymer Electrolyte in Lithium Rechargeable Batteries. Journal of Electrochemical Science and Technology, 2011, 2, 198-203.	2.2	4
106	Soluble Polyimide Binder for Silicon Electrodes in Lithium Secondary Batteries. Applied Chemistry for Engineering, 2015, 26, 674-680.	0.2	3
107	Computational Simulation on Power Prediction of Lithium Secondary Batteries by using Pulse-based Measurement Methods. KEPCO Journal on Electric Power and Energy, 2015, 1, 33-38.	0.1	3
108	Cross-linkable Polymer Matrix for Enhanced Thermal Stability of Succinonitrile-based Polymer Electrolyte in Lithium Rechargeable Batteries. Journal of Electrochemical Science and Technology, 2011, 2, 198-203.	2.2	3

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109	Li Metal Batteries: Robust Cycling of Ultrathin Li Metal Enabled by Nitrateâ€Preplanted Li Powder Composite (Adv. Energy Mater. 18/2021). Advanced Energy Materials, 2021, 11, 2170072.	19.5	2
110	Enhancement of Cycle Performance of Lithium Secondary Batteries Based on Nano-Composite Coated PVdF Membrane. Journal of the Korean Electrochemical Society, 2008, 11, 190-196.	0.1	2
111	A New Perspective on the Advanced Microblade Cutting Method for Reliable Adhesion Measurement of Composite Electrodes. Journal of Electrochemical Science and Technology, 0, , .	2.2	0