The role of O2 in O-redox cathodes for Li-ion batteries

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Citation Report

#	Article	IF	Citations
1	Anionic redox behaviors of layered Li-rich oxide cathodes. Inorganic Chemistry Frontiers, 2021, 8, 4590-4609.	3.0	9
2	Phase Compatible NiFe₂O₄ Coating Tunes Oxygen Redox in Li-Rich Layered Oxide. ACS Nano, 2021, 15, 11607-11618.	7.3	95
3	Cross-Investigation on Copper Nitroprusside: Combining XRD and XAS for In-Depth Structural Insights. Condensed Matter, 2021, 6, 27.	0.8	5
4	Structural and chemical evolution in layered oxide cathodes of lithium-ion batteries revealed by synchrotron techniques. National Science Review, 2022, 9, nwab146.	4.6	27
5	Enhanced Activity and Reversibility of Anionic Redox by Tuning Lithium Vacancies in Li-Rich Cathode Materials. ACS Applied Materials & Interfaces, 2021, 13, 39480-39490.	4.0	22
6	Microstructure-Controlled Li-Rich Mn-Based Cathodes by a Gasâ€“Solid Interface Reaction for Tackling the Continuous Activation of Li₂MnO₃. ACS Applied Materials & Interfaces, 2021, 13, 40995-41003.	4.0	20
7	First-principles computational insights into lithium battery cathode materials. Electrochemical Energy Reviews, 2022, 5, 1-31.	13.1	21
8	Reaction inhomogeneity coupling with metal rearrangement triggers electrochemical degradation in lithium-rich layered cathode. Nature Communications, 2021, 12, 5370.	5.8	44
9	Tailoring the redox-active transition metal content to enhance cycling stability in cation-disordered rock-salt oxides. Energy Storage Materials, 2021, 43, 275-283.	9.5	11
10	Architecture and performance of anion-doped Co-free lithium-rich cathode material with nano-micron combined morphology. Chemical Engineering Journal, 2022, 429, 132141.	6.6	16
11	Constructing stable surface structures enabling fast charging for Li-rich layered oxide cathodes. Chemical Engineering Journal, 2022, 427, 132036.	6.6	37
12	A composite surface configuration towards improving cycling stability of Li-rich layered oxide materials. Journal of Materials Chemistry A, 2021, 9, 24426-24437.	5.2	17
13	Fe³⁺_xCr³⁺_{2â€“x}Cr⁶⁺₄O₁₅: A High-Capacity Cathode Material Synthesized Using an Ion-Exchange Chromatographic Method for Li-Ion Batteries. ACS Applied Materials & Interfaces, 2021, 13, 55172-55177.	4.0	1
14	Building Homogenous Li₂TiO₃ Coating Layer on Primary Particles to Stabilize Liâ€Rich Mnâ€Based Cathode Materials. Small, 2022, 18, e2106337.	5.2	42
15	Sodium doping derived electromagnetic center of lithium layered oxide cathode materials with enhanced lithium storage. Nano Energy, 2022, 94, 106900.	8.2	57
16	Stabilizing effects of atomic Ti doping on high-voltage high-nickel layered oxide cathode for lithium-ion rechargeable batteries. Nano Research, 2022, 15, 4091-4099.	5.8	96
17	Surface Engineering and Trace Cobalt Doping Suppress Overall Li/Ni Mixing of Li-rich Mn-based Cathode Materials. ACS Applied Materials & Interfaces, 2022, 14, 6649-6657.	4.0	14
18	Long-enduring oxygen redox enabling robust layered cathodes for sodium-ion batteries. Chemical Engineering Journal, 2022, 435, 134944.	6.6	11

#	Article	IF	Citations
19	Detection of trapped molecular O₂ in a charged Li-rich cathode by Neutron PDF. Energy and Environmental Science, 2022, 15, 376-383.	15.6	26
20	Tuning Bulk O₂ and Nonbonding Oxygen State for Reversible Anionic Redox Chemistry in P2â€Layered Cathodes. Angewandte Chemie - International Edition, 2022, 61, .	7.2	16
21	High-Capacity O2-Type Layered Oxide Cathode Materials for Lithium-Ion Batteries: Ion-Exchange Synthesis and Electrochemistry. Journal of the Electrochemical Society, 2022, 169, 020508.	1.3	2
22	Tuning Bulk O2 and Nonbonding Oxygen State for Reversible Anionic Redox Chemistry in P2â€Layered Cathodes. Angewandte Chemie, 0, , .	1.6	2
23	Topologically protected oxygen redox in a layered manganese oxide cathode for sustainable batteries. Nature Sustainability, 2022, 5, 214-224.	11.5	44
24	Eliminating Oxygen Releasing of Li-Rich Layered Cathodes by Tuning the Distribution of Superlattice Domain. SSRN Electronic Journal, 0, , .	0.4	0
25	Status of Li(Na)-based anionic redox materials for better batteries. , 2023, , 6-45.		4
26	Regulating Anionic Redox Activity of Lithium-Rich Layered Oxides Via Linbo3 Integrated Modification. SSRN Electronic Journal, 0, , .	0.4	0
27	Al/Ti Synergistic Doping Enhanced Cycle Stability of Liâ€Rich Layered Oxides. Advanced Functional Materials, 2022, 32, .	7.8	29
28	Stackingâ€Fault Enhanced Oxygen Redox in Li₂MnO₃. Advanced Energy Materials, 2022, 12, .	10.2	17
29	Oxygen Redox Intercalation Cathodes: The Fundamentals and Strategies to Resolve the Challenges. ACS Applied Energy Materials, 2022, 5, 4522-4535.	2.5	1
30	Enhancing the Reversibility of Lattice Oxygen Redox Through Modulated Transition Metalâ€“Oxygen Covalency for Layered Battery Electrodes. Advanced Materials, 2022, 34, e2201152.	11.1	49
31	Tuning redox activity through delithiation induced protective layer and Fe-O coordination for Li-rich cathode with improved voltage and cycle performance. Journal of Energy Chemistry, 2022, 71, 266-276.	7.1	14
32	Oxygen redox chemistry in lithium-rich cathode materials for Li-ion batteries: Understanding from atomic structure to nano-engineering. Nano Materials Science, 2022, 4, 322-338.	3.9	24
33	Enhancing cycling stability in Li-rich Mn-based cathode materials by solid-liquid-gas integrated interface engineering. Nano Energy, 2022, 97, 107201.	8.2	17
34	Gospel for Improving the Lithium Storage Performance of High-Voltage High-Nickel Low-Cobalt Layered Oxide Cathode Materials. ACS Applied Materials & Interfaces, 2021, 13, 58871-58884.	4.0	26
35	Scalable Nitrate Treatment for Constructing Integrated Surface Structures to Mitigate Capacity Fading and Voltage Decay of Liâ€Rich Layered Oxides. Angewandte Chemie, 2022, 134, .	1.6	1
36	Scalable Nitrate Treatment for Constructing Integrated Surface Structures to Mitigate Capacity Fading and Voltage Decay of Liâ€Rich Layered Oxides. Angewandte Chemie - International Edition, 2022, 61, .	7.2	16

#	Article	IF	Citations
37	Determining Factors in Triggering Hysteretic Oxygen Capacities in Lithium-Excess Sodium Layered Oxides. ACS Applied Materials & Interfaces, 2022, 14, 19515-19523.	4.0	1
38	Review of the electrochemical performance and interfacial issues of high-nickel layered cathodes in inorganic all-solid-state batteries. International Journal of Minerals, Metallurgy and Materials, 2022, 29, 1003-1018.	2.4	7
39	Eliminating oxygen releasing of Li-rich layered cathodes by tuning the distribution of superlattice domain. Materials Today Energy, 2022, 27, 101039.	2.5	9
40	Direct imaging of oxygen shifts associated with the oxygen redox of Li-rich layered oxides. Joule, 2022, 6, 1049-1065.	11.7	13
41	Suppressing oxygen vacancies on the surface of Li-rich material as a high-energy cathode via high oxygen affinity Ca0.95Bi0.05MnO3 coating. Electrochimica Acta, 2022, 421, 140465.	2.6	3
42	Suppressing Surface Lattice Oxygen Evolution by Fluorinated Graphene-Scaffolded Lithium-Rich Manganese-Based Cathode for Enhanced Stability. Energy Storage Materials, 2022, 49, 555-563.	9.5	10
43	How Fluorine Introduction Solves the Spinel Transition, a Fundamental Problem of Mn-Based Positive Electrodes. ACS Applied Materials & Interfaces, 2022, 14, 24321-24331.	4.0	6
44	Accelerating Oâ€Redox Kinetics with Carbon Nanotubes for Stable Lithiumâ€Rich Cathodes. Small Methods, 2022, 6, e2200449.	4.6	3
45	Effects of Triple ModificationÂOf Sodium Hypophosphite on Structure and Electrochemical Performances of Lithium-Rich Manganese-Based Cathode Materials. SSRN Electronic Journal, 0, , .	0.4	0
46	Si-induced insertion of Li into SiC to form Li-rich SiC twin crystal. Particuology, 2023, 74, 56-63.	2.0	2
47	Unified Picture of (Non)Hysteretic Oxygen Capacity in O3â€Type Sodium 3d Layered Oxides. Advanced Energy Materials, 2022, 12, .	10.2	5
48	Toward Emerging Sodiumâ€Based Energy Storage Technologies: From Performance to Sustainability. Advanced Energy Materials, 2022, 12, .	10.2	33
49	Ï€-type orbital hybridization and reactive oxygen quenching induced by Se-doping for Li-rich Mn-based oxide cathode. Energy Storage Materials, 2022, 51, 671-682.	9.5	15
50	Dual Honeycombâ€Superlattice Enables Doubleâ€High Activity and Reversibility of Anion Redox for Sodiumâ€Ion Battery Layered Cathodes. Angewandte Chemie - International Edition, 2022, 61, .	7.2	28
51	Dual Honeycombâ€Superlattice Enables Doubleâ€High Activity and Reversibility of Anion Redox for Sodiumâ€Ion Battery Layered Cathodes. Angewandte Chemie, 2022, 134, .	1.6	3
52	Regulating anionic redox activity of lithium-rich layered oxides via LiNbO3 integrated modification. Nano Energy, 2022, 101, 107555.	8.2	26
53	Retardation of Structure Densification by Increasing Covalency in Li-Rich Layered Oxide Positive Electrodes for Li-Ion Batteries. Chemistry of Materials, 2022, 34, 6779-6791.	3.2	18
54	Superstructure Control of Anionic Redox Behavior in Manganese-Based Cathode Materials for Li-Ion Batteries. ACS Applied Materials & Interfaces, 2022, 14, 35822-35832.	4.0	7

#	Article	IF	Citations
55	Structure/Interface Coupling Effect for Highâ€Voltage LiCoO₂ Cathodes. Advanced Materials, 2022, 34, .	11.1	27
56	Mg2+ doping into Li sites to improve anionic redox reversibility and thermal stability of lithium-rich manganese-based oxides cathode. Materials Today Energy, 2022, 29, 101116.	2.5	12
57	Highly Sensitive Detection and Mapping of Incipient and Steady-State Oxygen Evolution from Operating Li-Ion Battery Cathodes via Scanning Electrochemical Microscopy. Journal of the Electrochemical Society, 2022, 169, 086501.	1.3	9
58	Cation configuration in transition-metal layered oxides. Matter, 2022, 5, 3869-3882.	5.0	16
59	Stabilizing lattice oxygen in slightly Li-enriched nickel oxide cathodes toward high-energy batteries. CheM, 2022, 8, 2817-2830.	5.8	29
60	Building interface bonding and shield for stable Li-rich Mn-based oxide cathode. Energy Storage Materials, 2022, 52, 736-745.	9.5	8
61	VN nanocrystals on N, S co-doped carbon framework: Topochemical self-nitridation and superior performance for lithium-ion battery. Electrochimica Acta, 2022, 429, 140982.	2.6	4
62	Polarly modulated solvent strategy for high-voltage cathode materials. Chemical Engineering Journal, 2022, 450, 138318.	6.6	3
63	Cu-substitution P2-Na0.66Mn1-Cu O2 sodium-ion cathode with enhanced interlayer stability. Journal of Energy Chemistry, 2022, 75, 478-485.	7.1	18
64	Gradational anionic redox enabling high-energy P2-type Na-layered oxide cathode. Chemical Engineering Journal, 2023, 451, 138883.	6.6	9
65	First principles investigation of anionic redox in bisulfate lithium battery cathodes. Physical Chemistry Chemical Physics, 2022, 24, 22756-22767.	1.3	1
66	An interactive design for sustainable oxygen capacity in alkali-ion batteries. Energy and Environmental Science, 2022, 15, 4554-4560.	15.6	4
67	Regulation of surface oxygen activity in Li-rich layered cathodes using band alignment of vanadium phosphate surface coatings. Journal of Materials Chemistry A, 2022, 10, 24487-24509.	5.2	2
68	Transition metal migration and O2 formation underpin voltage hysteresis in oxygen-redox disordered rocksalt cathodes. Nature Communications, 2022, 13, .	5.8	31
69	¹⁷O NMR Spectroscopy in Lithium-Ion Battery Cathode Materials: Challenges and Interpretation. Journal of the American Chemical Society, 2022, 144, 18714-18729.	6.6	6
70	Understanding voltage hysteresis and decay during anionic redox reaction in layered transition metal oxide cathodes: A critical review. Nano Research, 2023, 16, 3766-3780.	5.8	8
71	Single-crystal Li-rich layered cathodes with suppressed voltage decay by double-layer interface engineering. Energy Storage Materials, 2023, 54, 651-660.	9.5	22
72	Stabilization of high-voltage layered oxide cathode by multi-electron rare earth oxide. Chemical Engineering Journal, 2023, 454, 140249.	6.6	13

#	Article	IF	Citations
73	Solidâ€“Solid Interfacial Charge Storage of Prussian Blue/rGO Mixed-Conductor Cathode for High-Power Na Ion Batteries. ACS Energy Letters, 2022, 7, 4472-4482.	8.8	9
74	Entropy Stabilization Strategy for Enhancing the Local Structural Adaptability of Liâ€Rich Cathode Materials. Advanced Materials, 2023, 35, .	11.1	28
75	Influence of the Composition and Testing Modes on the Electrochemical Performance of Li-Rich Cathode Materials. Nanomaterials, 2022, 12, 4054.	1.9	2
76	Oxide Cathodes: Functions, Instabilities, Self Healing, and Degradation Mitigations. Chemical Reviews, 2023, 123, 811-833.	23.0	37
77	Oxygen Vacancy Introduction to Increase the Capacity and Voltage Retention in Liâ€Excess Cathode Materials. Small Structures, 2023, 4, .	6.9	3
78	Capturing Oxygen-Driven Electrolyte Oxidation during High-Voltage Cycling in Li-Rich Layered Oxide Cathodes. ACS Energy Letters, 2023, 8, 417-419.	8.8	11
79	Adjusting the Redox Coupling Effect via Li/Co Antiâ€Site Defect for Stable Highâ€Voltage LiCoO₂ Cathode. Advanced Functional Materials, 2023, 33, .	7.8	9
80	Regulation of 3dâ€Transition Metal Interlayered Disorder by Appropriate Lithium Depletion for Liâ€Rich Layered Oxide with Remarkably Enhanced Initial Coulombic Efficiency and Stability. Advanced Energy Materials, 2023, 13, .	10.2	9
81	Synergistic activation of anionic redox via cosubstitution to construct high-capacity layered oxide cathode materials for sodium-ion batteries. Science Bulletin, 2023, 68, 65-76.	4.3	15
82	Synthesis, structure and electrochemical properties of a new cation ordered layered Liâ€“Niâ€“Mgâ€“Mo oxide. Materials Advances, 2023, 4, 1021-1029.	2.6	1
83	A CeO₂-modified Li-rich layered oxide cathode with tunable interfacial oxygen for durable Li-ion batteries. New Journal of Chemistry, 0, , .	1.4	1
84	Stabilizing oxygen by highâ€valance element doping for highâ€performance Liâ€rich layered oxides. , 2023, 2, .		8
85	Nanocomposite Engineering of a Highâ€Capacity Partially Ordered Cathode for Liâ€Ion Batteries. Advanced Materials, 2023, 35, .	11.1	11
86	A universal multifunctional rare earth oxide coating to stabilize high-voltage lithium layered oxide cathodes. Energy Storage Materials, 2023, 56, 155-164.	9.5	21
87	Boosting the kinetic properties and suppressing the irreversible oxygen redox of lithium-rich manganese-based cathode materials through combined strategies of fast ionic conductor and oxygen vacancy. Journal of Alloys and Compounds, 2023, 939, 168846.	2.8	4
88	Understanding the Impact of Feâ€Doping on the Structure and Battery Performance of a Coâ€Free Liâ€Rich Layered Cathodes. ChemElectroChem, 2023, 10, .	1.7	3
89	Recent progress and perspectives on cation disordered rock-salt material for advanced Li-ion batteries. Journal of Materials Chemistry A, 2023, 11, 8426-8452.	5.2	9
90	Revealing structural degradation in layered structure oxides cathode of lithium ion batteries via in-situ transmission electron microscopy. Journal of Materials Science and Technology, 2023, 154, 189-201.	5.6	5

#	Article	IF	Citations
91	Self-compacting engineering to achieve high-performance lithium-rich layered oxides cathode materials. Applied Surface Science, 2023, 619, 156683.	3.1	4
92	Layered Oxide Cathodes for Sodium-Ion Batteries: Storage Mechanism, Electrochemistry, and Techno-economics. Accounts of Chemical Research, 2023, 56, 284-296.	7.6	70
93	Delocalized electron holes on oxygen in a battery cathode. Nature Energy, 2023, 8, 351-360.	19.8	25
94	Transition Metal Vacancy in Layered Cathode Materials for Sodiumâ€Ion Batteries. Chemistry - A European Journal, 2023, 29, .	1.7	2
95	Modulation of Local Charge Distribution Stabilized the Anionic Redox Process in Mn-Based P2-Type Layered Oxides. ACS Applied Materials & Interfaces, 2023, 15, 11691-11702.	4.0	9
96	In Situ Gas-Phase Polymerization of Polypyrrole-Coated Lithium-Rich Nanotubes for High-Performance Lithium-Ion Batteries. Surfaces, 2023, 6, 53-63.	1.0	1
97	Application of Electron Paramagnetic Resonance in an Electrochemical Energy Storage System. Magnetochemistry, 2023, 9, 63.	1.0	1
98	Regulation of Interfacial Lattice Oxygen Activity by Fullâ€Surface Modification Engineering towards Long Cycling Stability for Coâ€Free Liâ€Rich Mnâ€Based Cathode. Small, 2023, 19, .	5.2	4
99	Review on comprehending and enhancing the initial coulombic efficiency of Li-rich Mn-based cathode materials in lithium-ion batteries. Materials Chemistry Frontiers, 2023, 7, 2570-2594.	3.2	5
100	A Mechanistic Insight into the Oxygen Redox of Liâ€Rich Layered Cathodes and their Related Electronic/Atomic Behaviors Upon Cycling. Advanced Materials, 2023, 35, .	11.1	19
101	Inhibition of Structural Transformation and Surface Lattice Oxygen Activity for Excellent Stability Li-Rich Mn-Based Layered Oxides. ACS Applied Materials & Interfaces, 2023, 15, 18450-18462.	4.0	6
102	Oxygen-Redox Activity in Non-Lithium-Excess Tungsten-Doped <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:msub><mml:mrow><mml:mi>Li</mml:mi><mml:mi>Ni</mml:mi><mml:mi mathvariant="normal">O</mml:mi></mml:mrow><mml:mn>2</mml:mn></mml:msub></mml:math> Cathode. , 2023, 2, .		8
103	Voltage Hysteresis in Transition Metal Oxide Cathodes for Li/Naâ€Ion Batteries. Advanced Functional Materials, 2023, 33, .	7.8	4
104	Unraveling the Dynamic Correlations between Transition Metal Migration and the Oxygen Dimer Formation in the Highly Delithiated Li_xCoO₂ Cathode. Journal of Physical Chemistry Letters, 2023, 14, 3677-3684.	2.1	4
105	Constructing uniform oxygen defect engineering on primary particle level for high-stability lithium-rich cathode materials. Chemical Engineering Journal, 2023, 465, 142928.	6.6	7
106	Predicting the Lithium-Vacancy Arrangements of Layered Cathode Materials by a Voronoi Finite Element Method. Journal of the Electrochemical Society, 0, , .	1.3	0
111	Building Better Full Manganese-Based Cathode Materials for Next-Generation Lithium-Ion Batteries. Electrochemical Energy Reviews, 2023, 6, .	13.1	10
121	Mn-based cathode materials for rechargeable batteries. Science China Chemistry, 2024, 67, 87-105.	4.2	3

#	Article	IF	Citations
123	Structural and Electrochemical Progress of O3-Type Layered Oxide Cathode for Na-ion Batteries. Nanoscale, 0, , .	2.8	0
125	Origin and characterization of the oxygen loss phenomenon in the layered oxide cathodes of Li-ion batteries. Materials Horizons, 2023, 10, 4686-4709.	6.4	0
144	Roadmap for rechargeable batteries: present and beyond. Science China Chemistry, 0, , .	4.2	0
153	Oxygen vacancy chemistry in oxide cathodes. Chemical Society Reviews, 2024, 53, 3302-3326.	18.7	0