RaphaÃ«le ClÃ©ment

List of Publications by Year
in descending order

51 papers	5,088 citations	136950 32 h-index	182427 51 g-index
53 all docs	53 docs citations	53 times ranked	4579 citing authors

#	Article	IF	Citations
1	Reversible Mn2+/Mn4+ double redox in lithium-excess cathode materials. Nature, 2018, 556, 185-190.	27.8	525
2	Identifying the Critical Role of Li Substitution in P2â€“Na_x[Li_yNi_zMn_{1â€“yâ€“z}]O₂ (0 < x, y, z < 1) Intercalation Cathode Materials for High-Energy Na-Ion Batteries. Chemistry of Materials, 2014, 26, 1260-1269.	6.7	417
3	Reviewâ€”Manganese-Based P2-Type Transition Metal Oxides as Sodium-Ion Battery Cathode Materials. Journal of the Electrochemical Society, 2015, 162, A2589-A2604.	2.9	386
4	Exploring Oxygen Activity in the High Energy P2-Type Na_{0.78}Ni_{0.23}Mn_{0.69}O₂ Cathode Material for Na-Ion Batteries. Journal of the American Chemical Society, 2017, 139, 4835-4845.	13.7	363
5	Î²-NaMnO₂: A High-Performance Cathode for Sodium-Ion Batteries. Journal of the American Chemical Society, 2014, 136, 17243-17248.	13.7	333
6	Cation-disordered rocksalt transition metal oxides and oxyfluorides for high energy lithium-ion cathodes. Energy and Environmental Science, 2020, 13, 345-373.	30.8	301
7	Cation-disordered rocksalt-type high-entropy cathodes for Li-ion batteries. Nature Materials, 2021, 20, 214-221.	27.5	290
8	Structurally stable Mg-doped P2-Na_{2/3}Mn_{1â^'y}Mg_yO₂ sodium-ion battery cathodes with high rate performance: insights from electrochemical, NMR and diffraction studies. Energy and Environmental Science, 2016, 9, 3240-3251.	30.8	264
9	Mitigating oxygen loss to improve the cycling performance of high capacity cation-disordered cathode materials. Nature Communications, 2017, 8, 981.	12.8	197
10	Ultrahigh power and energy density in partially ordered lithium-ion cathode materials. Nature Energy, 2020, 5, 213-221.	39.5	158
11	A New Strategy for Highâ€Voltage Cathodes for Kâ€Ion Batteries: Stoichiometric KVPO₄F. Advanced Energy Materials, 2018, 8, 1801591.	19.5	130
12	The interplay between thermodynamics and kinetics in the solid-state synthesis of layered oxides. Nature Materials, 2020, 19, 1088-1095.	27.5	129
13	Improved Cycling Performance of Liâ€Excess Cationâ€Disordered Cathode Materials upon Fluorine Substitution. Advanced Energy Materials, 2019, 9, 1802959.	19.5	127
14	Design principles for high transition metal capacity in disordered rocksalt Li-ion cathodes. Energy and Environmental Science, 2018, 11, 2159-2171.	30.8	123
15	Spin-Transfer Pathways in Paramagnetic Lithium Transition-Metal Phosphates from Combined Broadband Isotropic Solid-State MAS NMR Spectroscopy and DFT Calculations. Journal of the American Chemical Society, 2012, 134, 17178-17185.	13.7	122
16	Density Functional Theory-Based Bond Pathway Decompositions of Hyperfine Shifts: Equipping Solid-State NMR to Characterize Atomic Environments in Paramagnetic Materials. Chemistry of Materials, 2013, 25, 1723-1734.	6.7	113
17	A stable cathode-solid electrolyte composite for high-voltage, long-cycle-life solid-state sodium-ion batteries. Nature Communications, 2021, 12, 1256.	12.8	110
18	Direct evidence for high Na⁺mobility and high voltage structural processes in P2-Na_x[Li_yNi_zMn_{1â^'yâ^'z}]O₂(x, y, z â‰ 1) cathodes from solid-state NMR and DFT calculations. Journal of Materials Chemistry A, 2017, 5, 4129-4143.	10.3	105

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19	Design Principles for High-Capacity Mn-Based Cation-Disordered Rocksalt Cathodes. CheM, 2020, 6, 153-168.	11.7	103
20	Short-Range Order and Unusual Modes of Nickel Redox in a Fluorine-Substituted Disordered Rocksalt Oxide Lithium-Ion Cathode. Chemistry of Materials, 2018, 30, 6945-6956.	6.7	72
21	Insights into the Nature and Evolution upon Electrochemical Cycling of Planar Defects in the Î²-NaMnO₂ Na-Ion Battery Cathode: An NMR and First-Principles Density Functional Theory Approach. Chemistry of Materials, 2016, 28, 8228-8239.	6.7	58
22	Identifying the Structure of the Intermediate, Li_{2/3}CoPO₄, Formed during Electrochemical Cycling of LiCoPO₄. Chemistry of Materials, 2014, 26, 6193-6205.	6.7	54
23	Design of Polymeric Zwitterionic Solid Electrolytes with Superionic Lithium Transport. ACS Central Science, 2022, 8, 169-175.	11.3	54
24	Characterising local environments in high energy density Li-ion battery cathodes: a combined NMR and first principles study of LiFe_xCo_{1â^'x}PO₄. Journal of Materials Chemistry A, 2014, 2, 11948-11957.	10.3	50
25	Computational Investigation and Experimental Realization of Disordered High-Capacity Li-Ion Cathodes Based on Ni Redox. Chemistry of Materials, 2019, 31, 2431-2442.	6.7	50
26	Stacking Faults Assist Lithium-Ion Conduction in a Halide-Based Superionic Conductor. Journal of the American Chemical Society, 2022, 144, 5795-5811.	13.7	50
27	Rechargeable Batteries from the Perspective of the Electron Spin. ACS Energy Letters, 2020, 5, 3848-3859.	17.4	41
28	Frequency-stepped acquisition in nuclear magnetic resonance spectroscopy under magic angle spinning. Journal of Chemical Physics, 2013, 138, 114201.	3.0	40
29	Glass Transition Temperature and Ion Binding Determine Conductivity and Lithiumâ€“Ion Transport in Polymer Electrolytes. ACS Macro Letters, 2021, 10, 104-109.	4.8	38
30	Hybrid Polyoxovanadates: Anion-Influenced Formation of Nanoscopic Cages and Supramolecular Assemblies of Asymmetric Clusters. Inorganic Chemistry, 2012, 51, 19-21.	4.0	37
31	Redox Behaviors in a Li-Excess Cation-Disordered Mnâ€“Nbâ€“Oâ€“F Rocksalt Cathode. Chemistry of Materials, 2020, 32, 4490-4498.	6.7	37
32	A Firstâ€Principles and Experimental Investigation of Nickel Solubility into the P2 Na_xCoO₂ Sodiumâ€Ion Cathode. Advanced Energy Materials, 2018, 8, 1801446.	19.5	34
33	Realizing continuous cation order-to-disorder tuning in a class of high-energy spinel-type Li-ion cathodes. Matter, 2021, 4, 3897-3916.	10.0	32
34	Importance of Superstructure in Stabilizing Oxygen Redox in P3â€Na_{0.67}Li_{0.2}Mn_{0.8}O₂. Advanced Energy Materials, 2022, 12, .	19.5	25
35	Increasing Capacity in Disordered Rocksalt Cathodes by Mg Doping. Chemistry of Materials, 2020, 32, 10728-10736.	6.7	21
36	Exceptional Cycling Performance Enabled by Local Structural Rearrangements in Disordered Rocksalt Cathodes. Advanced Energy Materials, 2022, 12, .	19.5	15

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37	Formation of LiF Surface Layer During Direct Fluorination of High-Capacity Co-Free Disordered Rocksalt Cathodes. ACS Applied Materials & Interfaces, 2021, 13, 38221-38228.	8.0	13
38	Ab initiocomputation for solid-state³¹P NMR of inorganic phosphates: revisiting X-ray structures. Physical Chemistry Chemical Physics, 2019, 21, 10070-10074.	2.8	10
39	Impact of Side Chain Chemistry on Lithium Transport in Mixed Ionâ€“Electron-Conducting Polymers. Chemistry of Materials, 2022, 34, 4672-4681.	6.7	9
40	Floating zone growth of Î±-Na0.90MnO2 single crystals. Journal of Crystal Growth, 2017, 459, 203-208.	1.5	6
41	Lattice Dynamics in the NASICON NaZr₂(PO₄)₃ Solid Electrolyte from Temperature-Dependent Neutron Diffraction, NMR, and Ab Initio Computational Studies. Chemistry of Materials, 2022, 34, 4029-4038.	6.7	6
42	Probing reaction processes and reversibility in Earth-abundant Na₃FeF₆ for Na-ion batteries. Physical Chemistry Chemical Physics, 2021, 23, 20052-20064.	2.8	5
43	Role of Electron-Deficient Imidazoles in Ion Transport and Conductivity in Solid-State Polymer Electrolytes. Macromolecules, 2022, 55, 971-977.	4.8	5
44	High-Voltage Reactivity and Long-Term Stability of Cation-Disordered Rocksalt Cathodes. Chemistry of Materials, 2022, 34, 1524-1532.	6.7	5
45	Unlocking New Redox Activity in Alluaudite Cathodes through Compositional Design. Chemistry of Materials, 2022, 34, 4088-4103.	6.7	5
46	Polymer Electrolyte Based on Cyano-Functionalized Polysiloxane with Enhanced Salt Dissolution and High Ionic Conductivity. Macromolecules, 2022, 55, 5723-5732.	4.8	5
47	Exposure History and its Effect Towards Stabilizing Li Exchange Across Disordered Rock Salt Interfaces. ChemElectroChem, 2021, 8, 3982-3991.	3.4	4
48	Solid Electrolytes in the Spotlight. Chemistry of Materials, 2022, 34, 463-467.	6.7	4
49	Sr3Ir2O7F2 : Topochemical conversion of a relativistic Mott state into a spin-orbit driven band insulator. Physical Review B, 2018, 98, .	3.2	3
50	The 2015 F. M. Becket Summer Research Fellowship -- Summary Report: In Situ NMR Study of Paramagnetic Na-Ion Battery Cathode Materials: A Challenging Experiment. Electrochemical Society Interface, 2015, 24, 74-75.	0.4	1
51	Optimum in ligand density for conductivity in polymer electrolytes. Molecular Systems Design and Engineering, 2021, 6, 1025-1038.	3.4	0