Daniel SchrÃ¶der

List of Publications by Year
in descending order

#	Article	IF	Citations
1	Interfacial Processes and Influence of Composite Cathode Microstructure Controlling the Performance of All-Solid-State Lithium Batteries. ACS Applied Materials & Interfaces, 2017, 9, 17835-17845.	8.0	353
2	(Electro)chemical expansion during cycling: monitoring the pressure changes in operating solid-state lithium batteries. Journal of Materials Chemistry A, 2017, 5, 9929-9936.	10.3	222
3	Design Strategies to Enable the Efficient Use of Sodium Metal Anodes in Highâ€Energy Batteries. Advanced Materials, 2020, 32, e1903891.	21.0	173
4	How To Improve Capacity and Cycling Stability for Next Generation Liâ€“O₂ Batteries: Approach with a Solid Electrolyte and Elevated Redox Mediator Concentrations. ACS Applied Materials & Interfaces, 2016, 8, 7756-7765.	8.0	151
5	<i>In Situ</i> Monitoring of Fast Li-Ion Conductor Li₇P₃S₁₁ Crystallization Inside a Hot-Press Setup. Chemistry of Materials, 2016, 28, 6152-6165.	6.7	138
6	Benchmarking Anode Concepts: The Future of Electrically Rechargeable Zincâ€“Air Batteries. ACS Energy Letters, 2019, 4, 1287-1300.	17.4	136
7	From Liquid- to Solid-State Batteries: Ion Transfer Kinetics of Heteroionic Interfaces. Electrochemical Energy Reviews, 2020, 3, 221-238.	25.5	117
8	Understanding the fundamentals of redox mediators in Liâ€“O₂ batteries: a case study on nitroxides. Physical Chemistry Chemical Physics, 2015, 17, 31769-31779.	2.8	111
9	Oneâ€•or Twoâ€Electron Transfer? The Ambiguous Nature of the Discharge Products in Sodiumâ€“Oxygen Batteries. Angewandte Chemie - International Edition, 2016, 55, 4640-4649.	13.8	108
10	A mechanistic investigation of the Li10GeP2S12|LiNi1-x-yCoxMnyO2 interface stability in all-solid-state lithium batteries. Nature Communications, 2021, 12, 6669.	12.8	72
11	Insights into the Chemical Nature and Formation Mechanisms of Discharge Products in Naâ€“O₂ Batteries by Means of <i>Operando</i> X-ray Diffraction. Journal of Physical Chemistry C, 2016, 120, 8472-8481.	3.1	68
12	Towards zinc-oxygen batteries with enhanced cycling stability: The benefit of anion-exchange ionomer for zinc sponge anodes. Journal of Power Sources, 2018, 395, 195-204.	7.8	65
13	A Comparative Review of Electrolytes for Organicâ€Materialâ€Based Energyâ€Storage Devices Employing Solid Electrodes and Redox Fluids. ChemSusChem, 2020, 13, 2205-2219.	6.8	64
14	Homogeneous Coating with an Anion-Exchange Ionomer Improves the Cycling Stability of Secondary Batteries with Zinc Anodes. ACS Applied Materials & Interfaces, 2018, 10, 8640-8648.	8.0	61
15	Simulating the Impact of Particle Size Distribution on the Performance of Graphite Electrodes in Lithiumâ€Ion Batteries. Energy Technology, 2016, 4, 1588-1597.	3.8	58
16	<i>In operando</i> monitoring of the state of charge and species distribution in zinc air batteries using X-ray tomography and model-based simulations. Physical Chemistry Chemical Physics, 2014, 16, 22273-22280.	2.8	56
17	Origins of Dendrite Formation in Sodiumâ€“Oxygen Batteries and Possible Countermeasures. Energy Technology, 2017, 5, 2265-2274.	3.8	56
18	Model based quantification of air-composition impact on secondary zinc air batteries. Electrochimica Acta, 2014, 117, 541-553.	5.2	55

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19	Performance of zinc air batteries with added $$hbox {K}_{2}hbox {CO}_{3}$$ K 2 CO 3 in the alkaline electrolyte. Journal of Applied Electrochemistry, 2015, 45, 427-437.	2.9	52
20	Analyzing transport paths in the air electrode of a zinc air battery using X-ray tomography. Electrochemistry Communications, 2014, 40, 88-91.	4.7	51
21	Singlet Oxygen in Electrochemical Cells: A Critical Review of Literature and Theory. Chemical Reviews, 2021, 121, 12445-12464.	47.7	48
22	Quest for Organic Active Materials for Redox Flow Batteries: 2,3-Diaza-anthraquinones and Their Electrochemical Properties. Chemistry of Materials, 2018, 30, 762-774.	6.7	44
23	Visualizing Current-Dependent Morphology and Distribution of Discharge Products in Sodium-Oxygen Battery Cathodes. Scientific Reports, 2016, 6, 24288.	3.3	38
24	Incorporating Diamondoids as Electrolyte Additive in the Sodium Metal Anode to Mitigate Dendrite Growth. ChemSusChem, 2020, 13, 2661-2670.	6.8	30
25	Challenges for Developing Rechargeable Roomâ€Temperature Sodium Oxygen Batteries. Advanced Materials Technologies, 2018, 3, 1800110.	5.8	29
26	Unraveling the Formation Mechanism of Solidâ€"Liquid Electrolyte Interphases on LiPON Thin Films. ACS Applied Materials & Interfaces, 2019, 11, 9539-9547.	8.0	29
27	Multistep Reaction Mechanisms in Nonaqueous Lithiumâ€"Oxygen Batteries with Redox Mediator: A Model-Based Study. Journal of Physical Chemistry C, 2016, 120, 24623-24636.	3.1	28
28	Which Parameter is Governing for Aqueous Redox Flow Batteries with Organic Active Material?. Chemie-Ingenieur-Technik, 2019, 91, 786-794.	0.8	27
29	Diffusivity and Solubility of Oxygen in Solvents for Metal/Oxygen Batteries: A Combined Theoretical and Experimental Study. Journal of the Electrochemical Society, 2018, 165, A3095-A3099.	2.9	24
30	Understanding the Impact of Compression on the Active Area of Carbon Felt Electrodes for Redox Flow Batteries. ACS Applied Energy Materials, 2020, 3, 4384-4393.	5.1	24
31	Tailoring Dihydroxyphthalazines to Enable Their Stable and Efficient Use in the Catholyte of Aqueous Redox Flow Batteries. Chemistry of Materials, 2020, 32, 3427-3438.	6.7	22
32	Editorsâ€™ Choiceâ€"Quantification of the Impact of Chemo-Mechanical Degradation on the Performance and Cycling Stability of NCM-Based Cathodes in Solid-State Li-Ion Batteries. Journal of the Electrochemical Society, 2021, 168, 070546.	2.9	22
33	How to Control the Discharge Product in Sodiumâ€"Oxygen Batteries: Proposing New Pathways for Sodium Peroxide Formation. Energy Technology, 2017, 5, 1242-1249.	3.8	18
34	Controlled Electrodeposition of Zinc Oxide on Conductive Meshes and Foams Enabling Its Use as Secondary Anode. Journal of the Electrochemical Society, 2018, 165, D461-D466.	2.9	17
35	Implications of Testing a Zincâ€"Oxygen Battery with Zinc Foil Anode Revealed by Operando Gas Analysis. ACS Omega, 2020, 5, 626-633.	3.5	17
36	Ein- oder Zwei-Elektronen-Transfer? - Zur Bestimmung des Entladeprodukts in Natrium-Sauerstoff-Batterien. Angewandte Chemie, 2016, 128, 4716-4726.	2.0	16

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37	Design Strategy for Zinc Anodes with Enhanced Utilization and Retention: Electrodeposited Zinc Oxide on Carbon Mesh Protected by Ionomeric Layers. ACS Applied Energy Materials, 0, , .	5.1	15
38	Numerical simulation of gas-diffusion-electrodes with moving gasâ€“liquid interface: A study on pulse-current operation and electrode flooding. Computers and Chemical Engineering, 2016, 84, 217-225.	3.8	14
39	Practical Implications of Using a Solid Electrolyte in Batteries with a Sodium Anode: A Combined Xâ€Ray Tomography and Modelâ€Based Study. Energy Technology, 2019, 7, 1801146.	3.8	14
40	Pathways to Triplet or Singlet Oxygen during the Dissociation of Alkali Metal Superoxides: Insights by Multireference Calculations of Molecular Model Systems. Chemistry - A European Journal, 2020, 26, 2395-2404.	3.3	13
41	Partially methylated polybenzimidazoles as coating for alkaline zinc anodes. Journal of Membrane Science, 2020, 610, 118254.	8.2	12
42	Nonlinear Electrochemical Analysis: Worth the Effort to Reveal New Insights into Energy Materials. Advanced Energy Materials, 2022, 12, .	19.5	11
43	Electrochemical Lithiation/Delithiation of ZnO in 3D-Structured Electrodes: Elucidating the Mechanism and the Solid Electrolyte Interphase Formation. ACS Applied Materials & Interfaces, 2021, 13, 35625-35638.	8.0	10
44	Performance enhancement of alkaline organic redox flow battery using catalyst including titanium oxide and Ketjenblack. Korean Journal of Chemical Engineering, 2022, 39, 1624-1631.	2.7	10
45	Understanding the Transport of Atmospheric Gases in Liquid Electrolytes for Lithiumâ€“Air Batteries. Journal of the Electrochemical Society, 2021, 168, 070504.	2.9	6
46	Reproducible and stable cycling performance data on secondary zinc oxygen batteries. Scientific Data, 2020, 7, 395.	5.3	5
47	Hybridization of carbon nanotube tissue and MnO2 as a generic advanced air cathode in metalâ€“air batteries. Journal of Power Sources, 2021, 514, 230597.	7.8	5
48	Digitalization Platform for Mechanistic Modeling of Battery Cell Production. Sustainability, 2022, 14, 1530.	3.2	5
49	Scenario-based Analysis of Potential and Constraints of Alkaline Electrochemical Cells. Computer Aided Chemical Engineering, 2014, , 1237-1242.	0.5	2
50	Next-Generation Rechargeable Batteries: Challenges for Developing Rechargeable Room-Temperature Sodium Oxygen Batteries (Adv. Mater. Technol. 9/2018). Advanced Materials Technologies, 2018, 3, 1870035.	5.8	2
51	Pulse Discharging of Sodium-Oxygen Batteries to Enhance Cathode Utilization. Energies, 2020, 13, 5650.	3.1	2
52	Model-based analysis of anion-exchanger positioning in direct methanol fuel cell systems. Journal of Power Sources, 2014, 262, 364-371.	7.8	1
53	Operando Analysis of Reactant Conversion and Material Stability in Nextâ€Generation Batteries. Chemie-Ingenieur-Technik, 2019, 91, 555-559.	0.8	0
54	Elucidating the Solubility and Diffusivity of Atmospheric Gases in a Wide Variation of Liquid Electrolytes for Lithium-Air Batteries. ECS Meeting Abstracts, 2021, MA2021-01, 390-390.	0.0	0

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55	Redox Mediators in Next Generation Metal-Oxygen Batteries: A Systematic Study on Homogeneous Catalysts for Li-, Na-, and Zn-O2 Cells. ECS Meeting Abstracts, 2016, , .	0.0	0
56	On the Ambiguous Nature of the Discharge Products in Sodium-Oxygen Batteries: From Theoretical Considerations to Operando XRD Analyses. ECS Meeting Abstracts, 2016, , .	0.0	0
57	Towards Improved Li-O2 Batteries: Understanding the Role of Dissolved Redox Mediators. ECS Meeting Abstracts, 2016, , .	0.0	0
58	Charge Transfer Characteristics of Diaza-Anthraquinones in Different Solvents and Their Application As Organic Active Material in Redox Flow Batteries. ECS Meeting Abstracts, 2018, , .	0.0	0
59	Looking Deep inside the Cathode of Li-O2 Batteries: Unraveling the Local Distribution of Li2O2 with a Combined Experimental and Model-Based Approach. ECS Meeting Abstracts, 2020, MA2020-01, 445-445.	0.0	0
60	Nanomaterials for alkali metal/oxygen batteries. Frontiers of Nanoscience, 2021, 19, 199-227.	0.6	0