Ortal Hanna

List of Publications by Year
in descending order

90 papers	17,133 citations	66234 42 h-index	46693 89 g-index
90 all docs	90 docs citations	90 times ranked	18021 citing authors

#	Article	IF	Citations
1	Challenges in the development of advanced Li-ion batteries: a review. Energy and Environmental Science, 2011, 4, 3243.	15.6	5,644
2	Prototype systems for rechargeable magnesium batteries. Nature, 2000, 407, 724-727.	13.7	1,946
3	Carbon-based composite materials for supercapacitor electrodes: a review. Journal of Materials Chemistry A, 2017, 5, 12653-12672.	5.2	1,152
4	Advances in understanding mechanisms underpinning lithiumâ€“air batteries. Nature Energy, 2016, 1, .	19.8	1,050
5	Reviewâ€”Recent Advances and Remaining Challenges for Lithium Ion Battery Cathodes. Journal of the Electrochemical Society, 2017, 164, A6220-A6228.	1.3	581
6	On the Way to Rechargeable Mg Batteries: The Challenge of New Cathode Materials. Chemistry of Materials, 2010, 22, 860-868.	3.2	509
7	Simultaneous Measurements and Modeling of the Electrochemical Impedance and the Cyclic Voltammetric Characteristics of Graphite Electrodes Doped with Lithium. Journal of Physical Chemistry B, 1997, 101, 4630-4640.	1.2	493
8	Progress in Rechargeable Magnesium Battery Technology. Advanced Materials, 2007, 19, 4260-4267.	11.1	477
9	New insights into the interactions between electrode materials and electrolyte solutions for advanced nonaqueous batteries. Journal of Power Sources, 1999, 81-82, 95-111.	4.0	418
10	Diffusion Coefficients of Lithium Ions during Intercalation into Graphite Derived from the Simultaneous Measurements and Modeling of Electrochemical Impedance and Potentiostatic Intermittent Titration Characteristics of Thin Graphite Electrodes. Journal of Physical Chemistry B, 1997, 101, 4641-4647.	1.2	401
11	Pushing the limit of layered transition metal oxide cathodes for high-energy density rechargeable Li ion batteries. Energy and Environmental Science, 2018, 11, 1271-1279.	15.6	322
12	Liâ€“O₂ cells with LiBr as an electrolyte and a redox mediator. Energy and Environmental Science, 2016, 9, 2334-2345.	15.6	229
13	A review on the problems of the solid state ions diffusion in cathodes for rechargeable Mg batteries. Journal of Electroceramics, 2009, 22, 13-19.	0.8	225
14	Understanding the behavior of Liâ€“oxygen cells containing LiI. Journal of Materials Chemistry A, 2015, 3, 8855-8864.	5.2	187
15	Integrated Materials xLi[sub 2]MnO[sub 3]â‹…(1â^'x)LiMn[sub 1/3]Ni[sub 1/3]Co[sub 1/3]O[sub 2] (x=0.3,â€,0.5,â€,0.7) Synthesized. Journal of the Electrochemical Society, 2010, 157, A1121.	1.3	185
16	Preparation of amorphous magnetite nanoparticles embedded in polyvinyl alcohol using ultrasound radiation. Journal of Materials Chemistry, 2000, 10, 1125-1129.	6.7	179
17	Impedance of a Single Intercalation Particle and of Non-Homogeneous, Multilayered Porous Composite Electrodes for Li-ion Batteries. Journal of Physical Chemistry B, 2004, 108, 11693-11703.	1.2	165
18	The electrochemistry of activated carbonaceous materials: past, present, and future. Journal of Solid State Electrochemistry, 2011, 15, 1563-1578.	1.2	161

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19	Testing Carbon-Coated VOx Prepared via Reaction under Autogenic Pressure at Elevated Temperature as Li-Insertion Materials. Advanced Materials, 2006, 18, 1431-1436.	11.1	149
20	The Study of Surface Film Formation on Noble-Metal Electrodes in Alkyl Carbonates/Li Salt Solutions, Using Simultaneous in Situ AFM, EQCM, FTIR, and EIS. Langmuir, 1999, 15, 2947-2960.	1.6	131
21	Mechanistic Role of Li⁺ Dissociation Level in Aprotic Liâ€“O₂ Battery. ACS Applied Materials & Interfaces, 2016, 8, 5300-5307.	4.0	120
22	Study of the Lithium-Rich Integrated Compound xLi₂MnO₃Â·(1-x)LiMO₂(x around 0.5; M = Mn, Ni, Co; 2:2:1) and Its Electrochemical Activity as Positive Electrode in Lithium Cells. Journal of the Electrochemical Society, 2013, 160, A324-A337.	1.3	119
23	Direct Assessment of Nanoconfined Water in 2D Ti₃C₂ Electrode Interspaces by a Surface Acoustic Technique. Journal of the American Chemical Society, 2018, 140, 8910-8917.	6.6	102
24	Preparation and Properties of Metal Organic Framework/Activated Carbon Composite Materials. Langmuir, 2016, 32, 4935-4944.	1.6	97
25	Composite Carbon Nanotube/Carbon Electrodes for Electrical Doubleâ€Layer Super Capacitors. Angewandte Chemie - International Edition, 2012, 51, 1568-1571.	7.2	92
26	In Situ Real-Time Mechanical and Morphological Characterization of Electrodes for Electrochemical Energy Storage and Conversion by Electrochemical Quartz Crystal Microbalance with Dissipation Monitoring. Accounts of Chemical Research, 2018, 51, 69-79.	7.6	92
27	Studies of Li and Mn-Rich Li_x[MnNiCo]O₂Electrodes: Electrochemical Performance, Structure, and the Effect of the Aluminum Fluoride Coating. Journal of the Electrochemical Society, 2013, 160, A2220-A2233.	1.3	87
28	Kinetic and Thermodynamic Studies of Mg[sup 2+] and Li[sup +] Ion Insertion into the Mo[sub 6]S[sub 8] Chevrel Phase. Journal of the Electrochemical Society, 2004, 151, A1044.	1.3	85
29	The Rate-Determining Step of Electroadsorption Processes into Nanoporous Carbon Electrodes Related to Water Desalination. Journal of Physical Chemistry C, 2009, 113, 21319-21327.	1.5	79
30	Activated Carbon Modified with Carbon Nanodots as Novel Electrode Material for Supercapacitors. Journal of Physical Chemistry C, 2016, 120, 13406-13413.	1.5	72
31	Carbon Electrodes Modified with TiO2 /Metal Nanoparticles and Their Application for the Detection of Trinitrotoluene. Advanced Functional Materials, 2007, 17, 1487-1492.	7.8	69
32	Reviewâ€"A Comparative Evaluation of Redox Mediators for Li-O₂Batteries: A Critical Review. Journal of the Electrochemical Society, 2018, 165, A2274-A2293.	1.3	63
33	Can Anions Be Inserted into MXene?. Journal of the American Chemical Society, 2021, 143, 12552-12559.	6.6	63
34	On the challenge of large energy storage by electrochemical devices. Electrochimica Acta, 2020, 354, 136771.	2.6	62
35	Optimized Bicompartment Two Solution Cells for Effective and Stable Operation of Liâ€“O₂ Batteries. Advanced Energy Materials, 2017, 7, 1701232.	10.2	61
36	An Aqueous Reduction Method To Synthesize Spinel-LiMn2O4Nanoparticles as a Cathode Material for Rechargeable Lithium-Ion Batteries. Chemistry of Materials, 2003, 15, 4211-4216.	3.2	60

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37	Assessing optimal pore-to-ion size relations in the design of porous poly(vinylidene chloride) carbons for EDL capacitors. Applied Physics A: Materials Science and Processing, 2006, 82, 607-613.	1.1	60
38	Hierarchical activated carbon microfiber (ACM) electrodes for rechargeable Liâ€“O2 batteries. Journal of Materials Chemistry A, 2013, 1, 5021.	5.2	54
39	Effect of cycling conditions on the electrochemical performance of high capacity Li and Mn-rich cathodes for Li-ion batteries. Journal of Power Sources, 2016, 318, 9-17.	4.0	47
40	A Synopsis of recent attempts toward construction of rechargeable batteries utilizing conducting polymer cathodes and anodes. Polymers for Advanced Technologies, 2002, 13, 697-713.	1.6	46
41	Electrochemical Performance of a Layered-Spinel Integrated Li[Ni_{1/3}Mn_{2/3}]O₂ as a High Capacity Cathode Material for Li-Ion Batteries. Chemistry of Materials, 2015, 27, 2600-2611.	3.2	46
42	The effect of milling on the performance of a Mo6S8 Chevrel phase as a cathode material for rechargeable Mg batteries. Journal of Solid State Electrochemistry, 2005, 9, 259-266.	1.2	44
43	The application of electroanalytical methods to the analysis of phase transitions during intercalation of ions into electrodes. Journal of Solid State Electrochemistry, 2007, 11, 1031-1042.	1.2	40
44	Use of 1,10-Phenanthroline as an Additive for High-Performance Supercapacitors. Journal of Physical Chemistry C, 2015, 119, 12165-12173.	1.5	40
45	Composite Carbon Nano-Tubes (CNT)/Activated Carbon Electrodes for Non-Aqueous Super Capacitors Using Organic Electrolyte Solutions. Journal of the Electrochemical Society, 2013, 160, A1282-A1285.	1.3	39
46	Micromorphological Dynamics of Polypyrrole Films in Propylene Carbonate Solutions Studied by in Situ AFM and EQCM. Langmuir, 2003, 19, 9804-9811.	1.6	38
47	Mass-producible polyhedral macrotube carbon arrays with multi-hole cross-section profiles: superb 3D tertiary porous electrode materials for supercapacitors and capacitive deionization cells. Journal of Materials Chemistry A, 2020, 8, 16312-16322.	5.2	38
48	Development of Anion Stereoselective, Activated Carbon Molecular Sieve Electrodes Prepared by Chemical Vapor Deposition. Journal of Physical Chemistry C, 2009, 113, 7316-7321.	1.5	35
49	Electrochemical performance of Na_{0.6}[Li_{0.2}Ni_{0.2}Mn_{0.6}]O₂ cathodes with high-working average voltage for Na-ion batteries. Journal of Materials Chemistry A, 2017, 5, 5858-5864.	5.2	35
50	Aqueous energy-storage cells based on activated carbon and LiMn 2 O 4 electrodes. Journal of Power Sources, 2017, 354, 148-156.	4.0	32
51	Superfast high-energy storage hybrid device composed of MXene and Chevrel-phase electrodes operated in saturated LiCl electrolyte solution. Journal of Materials Chemistry A, 2019, 7, 19761-19773.	5.2	32
52	New aqueous energy storage devices comprising graphite cathodes, MXene anodes and concentrated sulfuric acid solutions. Energy Storage Materials, 2020, 32, 1-10.	9.5	32
53	Feasibility of Full (Li-Ion)â€“O₂ Cells Comprised of Hard Carbon Anodes. ACS Applied Materials & Interfaces, 2017, 9, 4352-4361.	4.0	31
54	MXene conductive binder for improving performance of sodium-ion anodes in water-in-salt electrolyte. Nano Energy, 2021, 79, 105433.	8.2	31

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55	Understanding the Role of Alumina (Al₂O₃), Pentalithium Aluminate (Li₅AlO₄), and Pentasodium Aluminate (Na₅AlO₄) Coatings on the Li and Mnâ€Rich NCM Cathode Material 0.33Li₂MnO₃Â·0.67Li(Ni_{0.4}Co_{0.2}Mn_{0.4})O₂ for Enhanced Electrochemical Performance. Advanced Functional Materials, 2021, 31, 2008083.	7.8	30
56	Sodium oxygen batteries: one step further with catalysis by ruthenium nanoparticles. Journal of Materials Chemistry A, 2017, 5, 20678-20686.	5.2	29
57	Enhanced Performance of Ti3C2Tx (MXene) Electrodes in Concentrated ZnCl2 Solutions: A Combined Electrochemical and EQCM-D Study. Energy Storage Materials, 2021, 38, 535-541.	9.5	29
58	Behavior of lithiated graphite electrodes comprising silica based binder. Journal of Applied Electrochemistry, 1998, 28, 1051-1059.	1.5	23
59	Electrochemical Quartz Crystal Microbalance with Dissipation Real-Time Hydrodynamic Spectroscopy of Porous Solids in Contact with Liquids. Analytical Chemistry, 2016, 88, 10151-10157.	3.2	22
60	Linking structure to performance of Li_{1.2}Mn_{0.54}Ni_{0.13}Co_{0.13}O₂ (Li and Mn) Tj ETQq0 0 0 rgBT /Overlock 2020, 22, 9098-9109.	1.3	22
61	The Study of Activated Carbon/CNT/MoO3Electrodes for Aqueous Pseudo-Capacitors. Journal of the Electrochemical Society, 2013, 160, A1489-A1496.	1.3	21
62	Kinetics of electrochemically induced phase transitions in ion-insertion electrodes and the chemical diffusion coefficient. Journal of Solid State Electrochemistry, 2008, 12, 409-420.	1.2	19
63	Metalâ€“organic complexes as redox candidates for carbon based pseudo-capacitors. Journal of Materials Chemistry A, 2014, 2, 18132-18138.	5.2	19
64	Ammonia Treatment of 0.35Li₂MnO₃Â·0.65LiNi_{0.35}Mn_{0.45}Co_{0.20}O₂ Material: Insights from Solid-State NMR Analysis. Journal of Physical Chemistry C, 2018, 122, 3773-3779.	3.7	19
65	Na-ion battery cathode materials prepared by electrochemical ion exchange from alumina-coated Li_{1+x}Mn_{0.54}Co_{0.13}Ni_{0.1+y}O₂. Journal of Materials Chemistry A, 2018, 6, 14816-14827.	5.2	19
66	Noteworthy electroanalytical features of the stage 4 to stage 3 phase transition in lithiated graphite. Journal of Solid State Electrochemistry, 2003, 8, 40-43.	1.2	18
67	Review on Engineering and Characterization of Activated Carbon Electrodes for Electrochemical Double Layer Capacitors and Separation Processes. Israel Journal of Chemistry, 2008, 48, 287-303.	1.0	17
68	Assessing the Concentration Effect on Hydration Radii in Aqueous Solutions by Electroadsorption on a Carbon Molecular Sieve Electrode. Journal of Physical Chemistry C, 2010, 114, 13354-13361.	1.5	17
69	Double gas treatment: A successful approach for stabilizing the Li and Mn-rich NCM cathode materialsâ€™ electrochemical behavior. Energy Storage Materials, 2022, 45, 74-91.	9.5	17
70	Electroanalytical features of non-uniformly doped conducting poly-3-(3,4,5-trifluorophenyl)thiophene films. Physical Chemistry Chemical Physics, 2003, 5, 2886.	1.3	15
71	Controllable and stable organometallic redox mediators for lithium oxygen batteries. Materials Horizons, 2020, 7, 214-222.	6.4	15
72	Sonochemical and soft-chemical intercalation of lithium ions into MnO2 polymorphs. Journal of Solid State Electrochemistry, 2004, 8, 957-967.	1.2	12

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73	Improving Amorphous Carbon Anodes for Na Ion Batteries by Surface Treatment of a Presodiated Electrode with Al₂O₃. Langmuir, 2019, 35, 11670-11678.	1.6	12
74	Anions-capture materials for electrochemical electrode deionization: Mechanism, performance, and development prospects. Desalination, 2021, 520, 115336.	4.0	12
75	Quantification of porosity in extensively nanoporous thin films in contact with gases and liquids. Nature Communications, 2019, 10, 4394.	5.8	11
76	Thermally reduced graphene oxide as an electrode for CDI processes: A compromise between performance and scalability?. Desalination, 2020, 492, 114599.	4.0	11
77	Unveiling ionic diffusion in MgNiMnO4 cathode material for Mg-ion batteries via combined computational and experimental studies. Journal of Solid State Electrochemistry, 2019, 23, 3209-3216.	1.2	10
78	Sustainable existence of solid mercury (Hg) nanoparticles at room temperature and their applications. Chemical Science, 2021, 12, 3226-3238.	3.7	10
79	Toward High Performance All Solid-State Na Batteries: Investigation of Electrolytes Comprising NaPF₆, Poly(ethylene oxide) and TiO₂. Journal of the Electrochemical Society, 2021, 168, 110553.	1.3	10
80	Ultrafast anode for high voltage aqueous Li-ion batteries. Journal of Solid State Electrochemistry, 2012, 16, 3443-3448.	1.2	9
81	Effect of the Structure of Nonuniform Conducting Polymer Films on Their Electrochemical Impedance Response. Russian Journal of Electrochemistry, 2004, 40, 273-279.	0.3	8
82	Alumina thin coat on pre-charged soft carbon anode reduces electrolyte breakdown and maintains sodiation sites active in Na-ion battery â€“ Insights from NMR measurements. Journal of Solid State Chemistry, 2021, 298, 122121.	1.4	8
83	Horizons for Modern Electrochemistry Related to Energy Storage and Conversion, a Review. Israel Journal of Chemistry, 2021, 61, 11-25.	1.0	6
84	Influence of pH on the Structure of the Aqueous Sonolysis Products of Manganese(III) Acetylacetonate. Journal of Materials Research, 2002, 17, 1706-1710.	1.2	5
85	Aqueous Energy Storage Device Based on LiMn 2 O 4 (Spinel) Positive Electrode and Anthraquinoneâ€Modified Carbonâ€Negative Electrode. Energy Technology, 2019, 7, 1900589.	1.8	5
86	Conversion of LiMn2â^'x Co x O4 spinel on the basis of electrolytically Co-deposited Mn,Co-oxide precursors in a lithium battery. Russian Journal of Applied Chemistry, 2014, 87, 1260-1267.	0.1	2
87	Combined nanofiltration and advanced oxidation processes with bifunctional carbon nanomembranes. RSC Advances, 2021, 11, 14777-14786.	1.7	2
88	Recent Studies of Interfacial Phenomena which Determine the Electrochemical Behavior of Lithium and Lithiated Carbon Anodes with the Emphasis on In Situ Techniques. Materials Research Society Symposia Proceedings, 1997, 496, 587.	0.1	1
89	Integral Role of the NiS Electrode/Electrolyte Interface in the Redox Reaction with Lithium. Surface Engineering and Applied Electrochemistry, 2020, 56, 665-674.	0.3	1
90	Title is missing!. Journal of Applied Electrochemistry, 2003, 33, 989-993.	1.5	0