Edgar A Ventosa

List of Publications by Year
in descending order

93 papers	3,781 citations	117619 34 h-index	138468 58 g-index
95 all docs	95 docs citations	95 times ranked	5212 citing authors

#	Article	IF	Citations
1	Ultrathin High Surface Area Nickel Boride (Ni<i>_x</i>B) Nanosheets as Highly Efficient Electrocatalyst for Oxygen Evolution. Advanced Energy Materials, 2017, 7, 1700381.	19.5	348
2	Redox flow batteries: Status and perspective towards sustainable stationary energy storage. Journal of Power Sources, 2021, 481, 228804.	7.8	336
3	Discovery of a Multinary Noble Metalâ€“Free Oxygen Reduction Catalyst. Advanced Energy Materials, 2018, 8, 1802269.	19.5	227
4	Complete Prevention of Dendrite Formation in Zn Metal Anodes by Means of Pulsed Charging Protocols. ACS Applied Materials & Interfaces, 2017, 9, 18691-18698.	8.0	130
5	Powder Catalyst Fixation for Postâ€Electrolysis Structural Characterization of NiFe Layered Double Hydroxide Based Oxygen Evolution Reaction Electrocatalysts. Angewandte Chemie - International Edition, 2017, 56, 11258-11262.	13.8	130
6	Rational design of the electrode morphology for oxygen evolution â€“ enhancing the performance for catalytic water oxidation. RSC Advances, 2014, 4, 9579.	3.6	117
7	In situ visualization of Li-ion intercalation and formation of the solid electrolyte interphase on TiO2 based paste electrodes using scanning electrochemical microscopy. Chemical Communications, 2013, 49, 9347.	4.1	93
8	New Anthraquinoneâ€Based Conjugated Microporous Polymer Cathode with Ultrahigh Specific Surface Area for Highâ€Performance Lithiumâ€Ion Batteries. Advanced Functional Materials, 2020, 30, 1908074.	14.9	91
9	Is TiO₂(B) the Future of Titaniumâ€Based Battery Materials?. ChemPlusChem, 2015, 80, 785-795.	2.8	85
10	The importance of cell geometry for electrochemical impedance spectroscopy in three-electrode lithium ion battery test cells. Electrochemistry Communications, 2012, 22, 120-123.	4.7	81
11	Scanning electrochemical microscopy of Li-ion batteries. Physical Chemistry Chemical Physics, 2015, 17, 28441-28450.	2.8	81
12	Cobalt boride modified with N-doped carbon nanotubes as a high-performance bifunctional oxygen electrocatalyst. Journal of Materials Chemistry A, 2017, 5, 21122-21129.	10.3	73
13	Evaluation of Perovskites as Electrocatalysts for the Oxygen Evolution Reaction. ChemPhysChem, 2014, 15, 2810-2816.	2.1	70
14	Nanoelectrodes reveal the electrochemistry of single nickelhydroxide nanoparticles. Chemical Communications, 2016, 52, 2408-2411.	4.1	59
15	Electrode Engineering of Redox-Active Conjugated Microporous Polymers for Ultra-High Areal Capacity Organic Batteries. ACS Energy Letters, 2020, 5, 2945-2953.	17.4	59
16	Hydrogenâ€Treated Rutile TiO₂ Shell in Graphiteâ€Core Structure as a Negative Electrode for Highâ€Performance Vanadium Redox Flow Batteries. ChemSusChem, 2017, 10, 2089-2098.	6.8	58
17	Influence of Temperature and Electrolyte Concentration on the Structure and Catalytic Oxygen Evolution Activity of Nickelâ€“Iron Layered Double Hydroxide. Chemistry - A European Journal, 2018, 24, 13773-13777.	3.3	57
18	Solid Electrolyte Interphase (SEI) at TiO₂ Electrodes in Li-Ion Batteries: Defining <i>Apparent</i> and <i>Effective</i> SEI Based on Evidence from X-ray Photoemission Spectroscopy and Scanning Electrochemical Microscopy. ACS Applied Materials & Interfaces, 2017, 9, 3123-3130.	8.0	52

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19	Evaluation of the Catalytic Performance of Gasâ€Evolving Electrodes using Local Electrochemical Noise Measurements. ChemSusChem, 2012, 5, 1905-1911.	6.8	51
20	Ultrafast Dischargeable LiMn₂O₄ Thin-Film Electrodes with Pseudocapacitive Properties for Microbatteries. ACS Applied Materials & Interfaces, 2017, 9, 5295-5301.	8.0	50
21	Non-aqueous semi-solid flow battery based on Na-ion chemistry. P2-type Na_xNi_{0.22}Co_{0.11}Mn_{0.66}O₂â€"NaTi₂(PO₄) Chemical Communications, 2015, 51, 7298-7301.	4.1	49
22	A carbon-coated TiO2(B) nanosheet composite for lithium ion batteries. Chemical Communications, 2014, 50, 5506.	4.1	45
23	Tailoring of CNT surface oxygen groups by gas-phase oxidation and its implications for lithium ion batteries. Electrochemistry Communications, 2012, 15, 10-13.	4.7	44
24	A critical perspective on rechargeable Al-ion battery technology. Dalton Transactions, 2019, 48, 9906-9911.	3.3	42
25	Ammoniaâ€Annealed TiO₂ as a Negative Electrode Material in Liâ€Ion Batteries: N Doping or Oxygen Deficiency?. Chemistry - A European Journal, 2013, 19, 14194-14199.	3.3	39
26	Wet Nanoindentation of the Solid Electrolyte Interphase on Thin Film Si Electrodes. ACS Applied Materials & Interfaces, 2015, 7, 23554-23563.	8.0	39
27	Techniques and methodologies in modern electrocatalysis: evaluation of activity, selectivity and stability of catalytic materials. Analyst, The, 2014, 139, 1274.	3.5	38
28	Combined AFM/SECM Investigation of the Solid Electrolyte Interphase in Liâ€Ion Batteries. ChemElectroChem, 2015, 2, 1607-1611.	3.4	38
29	Exceeding 6500 cycles for LiFePO₄/Li metal batteries through understanding pulsed charging protocols. Journal of Materials Chemistry A, 2018, 6, 4746-4751.	10.3	38
30	Revisiting the cycling stability of ferrocyanide in alkaline media for redox flow batteries. Journal of Power Sources, 2020, 471, 228453.	7.8	38
31	Hollow and Yolkâ€Shell Iron Oxide Nanostructures on Fewâ€Layer Graphene in Liâ€Ion Batteries. Chemistry - A European Journal, 2014, 20, 2022-2030.	3.3	37
32	Understanding surface reactivity of Si electrodes in Li-ion batteries by in operando scanning electrochemical microscopy. Chemical Communications, 2016, 52, 6825-6828.	4.1	37
33	New insights into phenazine-based organic redox flow batteries by using high-throughput DFT modelling. Sustainable Energy and Fuels, 2020, 4, 5513-5521.	4.9	37
34	Solid electrolyte interphase in semi-solid flow batteries: a wolf in sheep's clothing. Chemical Communications, 2015, 51, 14973-14976.	4.1	36
35	Investigation of different anode materials for aluminium rechargeable batteries. Journal of Power Sources, 2018, 374, 77-83.	7.8	36
36	An Intrinsic Selfâ€Charging Biosupercapacitor Comprised of a Highâ€Potential Bioanode and a Lowâ€Potential Biocathode. ChemPlusChem, 2017, 82, 576-583.	2.8	35

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37	TiO₂(B)/Anatase Composites Synthesized by Spray Drying as High Performance Negative Electrode Material in Liâ€ion Batteries. ChemSusChem, 2013, 6, 1312-1315.	6.8	33
38	Impact of the Specific Surface Area on the Memory Effect in Liâ€ion Batteries: The Case of Anatase TiO₂. Advanced Energy Materials, 2014, 4, 1400829.	19.5	33
39	Scanning Electrochemical Microscopy Applied to the Investigation of Lithium (Deâ€)Insertion in TiO₂. Electroanalysis, 2015, 27, 1017-1025.	2.9	33
40	The Mechanism of the Interfacial Charge and Mass Transfer during Intercalation of Alkali Metal Cations. Advanced Science, 2016, 3, 1600211.	11.2	32
41	Mediated Alkaline Flow Batteries: From Fundamentals to Application. ACS Applied Energy Materials, 2019, 2, 8328-8336.	5.1	30
42	Operando studies of all-vanadium flow batteries: Easy-to-make reference electrode based on silverâ€“silver sulfate. Journal of Power Sources, 2014, 271, 556-560.	7.8	28
43	Influence of surface functional groups on lithium ion intercalation of carbon cloth. Electrochimica Acta, 2012, 65, 22-29.	5.2	26
44	Correlative Electrochemical Microscopy for the Elucidation of the Local Ionic and Electronic Properties of the Solid Electrolyte Interphase in Liâ€ion Batteries. Angewandte Chemie - International Edition, 2022, 61, .	13.8	25
45	Influence of ultrathin poly-(3,4-ethylenedioxythiophene) (PEDOT) film supports on the electrodeposition and electrocatalytic activity of discrete platinum nanoparticles. Journal of Solid State Electrochemistry, 2011, 15, 2331-2339.	2.5	24
46	Low temperature Hydrogen Reduction of High Surface Area Anatase and Anatase/Î²â€TiO₂ for Highâ€Chargingâ€Rate Batteries. ChemSusChem, 2014, 7, 2584-2589.	6.8	24
47	Reliable benchmark material for anatase TiO2 in Li-ion batteries: On the role of dehydration of commercial TiO2. Journal of Power Sources, 2014, 266, 155-161.	7.8	24
48	Onset potential determination at gas-evolving catalysts by means of constant-distance mode positioning of nanoelectrodes. Electrochimica Acta, 2015, 179, 38-44.	5.2	24
49	Detection of individual nanoparticle impacts using etched carbon nanoelectrodes. Electrochemistry Communications, 2016, 73, 67-70.	4.7	23
50	Unexpected Contribution of Current Collector to the Cost of Rechargeable Alâ€ion Batteries. ChemElectroChem, 2019, 6, 2766-2770.	3.4	23
51	CNTs grown on oxygen-deficient anatase TiO2â^'Î´ as high-rate composite electrode material for lithium ion batteries. Electrochemistry Communications, 2012, 25, 132-135.	4.7	22
52	Revealing onset potentials using electrochemical microscopy to assess the catalytic activity of gas-evolving electrodes. Electrochemistry Communications, 2014, 38, 142-145.	4.7	22
53	Effect of the specific surface area on thermodynamic and kinetic properties of nanoparticle anatase TiO2 in lithium-ion batteries. Journal of Power Sources, 2015, 297, 140-148.	7.8	20
54	Nucleation and growth of poly(3,4-ethylenedioxythiophene) thin films on highly oriented pyrolytic graphite (HOPG) electrodes. Electrochemistry Communications, 2008, 10, 1752-1755.	4.7	19

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55	Thermally Stable Positive Electrolytes with a Superior Performance in Allâ€Vanadium Redox Flow Batteries. ChemPlusChem, 2015, 80, 354-358.	2.8	19
56	Electron Bottleneck in the Charge/Discharge Mechanism of Lithium Titanates for Batteries. ChemSusChem, 2015, 8, 1737-1744.	6.8	19
57	Overcoming the Instability of Nanoparticleâ€Based Catalyst Films in Alkaline Electrolyzers by using Selfâ€Assembling and Selfâ€Healing Films. Angewandte Chemie - International Edition, 2017, 56, 8573-8577.	13.8	19
58	An innovative multi-layer pulsed laser deposition approach for LiMn2O4 thin film cathodes. Thin Solid Films, 2018, 648, 108-112.	1.8	18
59	Widely commercial carbonaceous materials as cathode for Al-ion batteries. Carbon, 2020, 167, 475-484.	10.3	18
60	Demonstrating the steady performance of iron oxide composites over 2000 cycles at fast charge-rates for Li-ion batteries. Chemical Communications, 2016, 52, 7348-7351.	4.1	17
61	Mitigating capacity fading in aqueous organic redox flow batteries through a simple electrochemical charge balancing protocol. Journal of Power Sources, 2021, 512, 230516.	7.8	17
62	A Threeâ€Electrode, Batteryâ€Type Swagelok Cell for the Evaluation of Secondary Alkaline Batteries: The Case of the Niâ€"Zn Battery. ChemElectroChem, 2016, 3, 592-597.	3.4	16
63	Polybenzoxazineâ€Derived Nâ€doped Carbon as Matrix for Powderâ€Based Electrocatalysts. ChemSusChem, 2017, 10, 2653-2659.	6.8	16
64	Single entity electrochemistry for the elucidation of lithiation kinetics of TiO2 particles in non-aqueous batteries. Nano Energy, 2019, 57, 827-834.	16.0	16
65	Surface Properties of Battery Materials Elucidated Using Scanning Electrochemical Microscopy: The Case of Type I Silicon Clathrate. ChemElectroChem, 2020, 7, 665-671.	3.4	16
66	Why nanoelectrochemistry is necessary in battery research?. Current Opinion in Electrochemistry, 2021, 25, 100635.	4.8	16
67	Semiâ€solid flow battery and redox-mediated flow battery: two strategies to implement the use of solid electroactive materials in high-energy redox-flow batteries. Current Opinion in Chemical Engineering, 2022, 37, 100834.	7.8	16
68	Electrochemical, spectroscopic and electrogravimetric detection of oligomers occluded in electrochemically synthesized poly(3,4-ethylenedioxythiophene) films. Electrochimica Acta, 2008, 53, 4219-4227.	5.2	15
69	Using Cavity Microelectrodes for Electrochemical Noise Studies of Oxygenâ€Evolving Catalysts. ChemSusChem, 2015, 8, 560-566.	6.8	15
70	Understanding memory effects in Li-ion batteries: evidence of a kinetic origin in TiO₂ upon hydrogen annealing. Chemical Communications, 2016, 52, 11524-11526.	4.1	15
71	Fixierung von NiFeâ€Hydrotalkitâ€Pulverkatalysatoren fÃ¼r die postelektrolytische strukturelle Charakterisierung von Elektrokatalysatoren fÃ¼r die Sauerstoffevolution. Angewandte Chemie, 2017, 129, 11411-11416.	2.0	15
72	Aging effects of anatase TiO2 nanoparticles in Li-ion batteries. Physical Chemistry Chemical Physics, 2014, 16, 7939.	2.8	14

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73	Utilization of the catalyst layer of dimensionally stable anodes. Part 2: Impact of spatial current distribution on electrocatalytic performance. Journal of Electroanalytical Chemistry, 2018, 828, 63-70.	3.8	14
74	Mechanical properties of SiLixthin films at different stages of electrochemical Li insertion. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 2650-2656.	1.8	13
75	A new reflectionâ€“transmission bidimensional spectroelectrochemistry cell: Electrically controlled release of chemicals from a conducting polymer. Journal of Electroanalytical Chemistry, 2006, 596, 95-100.	3.8	12
76	One-pot synthesis of gold/poly(3,4-ethylendioxythiophene) nanocomposite. Journal of Nanoparticle Research, 2012, 14, 1.	1.9	12
77	Oneâ€Pot Synthesis of Carbonâ€Coated Nanostructured Iron Oxide on Fewâ€Layer Graphene for Lithiumâ€Ion Batteries. Chemistry - A European Journal, 2015, 21, 16154-16161.	3.3	12
78	Overcoming cathode poisoning from electrolyte impurities in alkaline electrolysis by means of self-healing electrocatalyst films. Nano Energy, 2018, 53, 763-768.	16.0	12
79	Al-Ion Battery Based on Semisolid Electrodes for Higher Specific Energy and Lower Cost. ACS Applied Energy Materials, 2020, 3, 2285-2289.	5.1	11
80	The Redoxâ€Mediated Nickelâ€“Metal Hydride Flow Battery. Advanced Energy Materials, 2022, 12, 2102866.	19.5	10
81	Semi-flowable Zn semi-solid electrodes as renewable energy carrier for refillable Znâ€“Air batteries. Journal of Power Sources, 2022, 536, 231480.	7.8	8
82	High resolution, binder-free investigation of the intrinsic activity of immobilized NiFe LDH nanoparticles on etched carbon nanoelectrodes. Nano Research, 2018, 11, 6034-6044.	10.4	7
83	The injectable battery. A conceptually new strategy in pursue of a sustainable and circular battery model. Journal of Power Sources, 2020, 480, 228839.	7.8	7
84	Regenerative electrochemical ion pumping cell based on semi-solid electrodes for sustainable Li recovery. Desalination, 2022, 533, 115764.	8.2	6
85	Determination of calibration function in thermal field flow fractionation under thermal field programming. Journal of Separation Science, 2006, 29, 1088-1101.	2.5	5
86	Aqueous Mixed-Cation Semi-solid Hybrid-Flow Batteries. ACS Applied Energy Materials, 2018, , .	5.1	4
87	Selbstassemblierende und selbstheilende Partikelfilme zur Ãœberwindung der InstabilitÃ¤t nanopartikulÃ¤rer Katalysatorfilme in der alkalischen Elektrolyse. Angewandte Chemie, 2017, 129, 8696-8700.	2.0	3
88	Accelerated Electrochemical Investigation of Li Plating Efficiency as Key Parameter for Li Metal Batteries Utilizing a Scanning Droplet Cell. ChemElectroChem, 2021, 8, 3143-3149.	3.4	3
89	New Insights into SEI Formation in Lithium Ion Batteries: Inhomogeneous Distribution of Irreversible Charge Losses Across Graphite Electrodes. ECS Transactions, 2014, 62, 265-271.	0.5	2
90	Korrelative elektrochemische Mikroskopie zur AufklÃ¤rung der lokalen ionischen und elektronischen Eigenschaften der FestkÃ¶rperâ€Elektrolyt Zwischenphase in Liâ€Ionenâ€Batterien. Angewandte Chemie, 2022, 134, .	2.0	2

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91	Frontispiece: Is TiO2 (B) the Future of Titanium-Based Battery Materials?. ChemPlusChem, 2015, 80, .	2.8	0
92	Application of Scanning Electrochemical Microscopy (SECM) to Study Electrocatalysis of Oxygen Reduction by MN4-Macrocyclic Complexes. , 2016, , 103-141.		0
93	Merging Flow and Non-Flow Batteries: K4fe(CN)6 Electrolyte â€" Ni(OH)2 Solid Material As Proof of Concept. ECS Meeting Abstracts, 2019, , .	0.0	0