FrÃ©dÃ©ric Favier

List of Publications by Year
in descending order

109 papers	7,154 citations	87843 38 h-index	56687 83 g-index
122 all docs	122 docs citations	122 times ranked	8887 citing authors

#	Article	IF	Citations
1	Hydrogen Sensors and Switches from Electrodeposited Palladium Mesowire Arrays. Science, 2001, 293, 2227-2231.	6.0	1,310
2	Microstructural Effects on Charge-Storage Properties in MnO₂-Based Electrochemical Supercapacitors. ACS Applied Materials & Interfaces, 2009, 1, 1130-1139.	4.0	561
3	Long-term cycling behavior of asymmetric activated carbon/MnO2 aqueous electrochemical supercapacitor. Journal of Power Sources, 2007, 173, 633-641.	4.0	453
4	Electrospun Nanomaterials for Supercapacitor Electrodes: Designed Architectures and Electrochemical Performance. Advanced Energy Materials, 2017, 7, 1601301.	10.2	334
5	Electrochemical Synthesis for the Control of Î³-Fe2O3 Nanoparticle Size. Morphology, Microstructure, and Magnetic Behavior. Chemistry of Materials, 1999, 11, 141-147.	3.2	330
6	Biredox ionic liquids with solid-like redox density in the liquid state for high-energy supercapacitors. Nature Materials, 2017, 16, 446-453.	13.3	303
7	Palladium Mesowire Arrays for Fast Hydrogen Sensors and Hydrogen-Actuated Switches. Analytical Chemistry, 2002, 74, 1546-1553.	3.2	234
8	Noble and Coinage Metal Nanowires by Electrochemical Step Edge Decoration. Journal of Physical Chemistry B, 2002, 106, 11407-11411.	1.2	184
9	Activated-phosphorus as new electrode material for Li-ion batteries. Electrochemistry Communications, 2011, 13, 346-349.	2.3	164
10	Modifications of MXene layers for supercapacitors. Nano Energy, 2020, 73, 104734.	8.2	149
11	Size-selective electrodeposition of meso-scale metal particles: a general method. Electrochimica Acta, 2001, 47, 671-677.	2.6	147
12	Metal Nanowire Arrays by Electrodeposition. ChemPhysChem, 2003, 4, 131-138.	1.0	136
13	â€œWater-in-Saltâ€•for Supercapacitors: A Compromise between Voltage, Power Density, Energy Density and Stability. Journal of the Electrochemical Society, 2018, 165, A657-A663.	1.3	127
14	In situ crystallographic investigations of charge storage mechanisms in MnO2-based electrochemical capacitors. Journal of Power Sources, 2012, 206, 454-462.	4.0	124
15	Graphene-like carbide derived carbon for high-power supercapacitors. Nano Energy, 2015, 12, 197-206.	8.2	114
16	Sensors from electrodeposited metal nanowires. Surface and Interface Analysis, 2002, 34, 409-412.	0.8	113
17	Air stable copper phosphide (Cu3P): a possible negative electrode material for lithium batteries. Electrochemistry Communications, 2004, 6, 263-267.	2.3	101
18	Cu3P as anode material for lithium ion battery: powder morphology and electrochemical performances. Journal of Power Sources, 2004, 136, 80-87.	4.0	84

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19	Structural in Situ Study of the Thermal Behavior of Manganese Dioxide Materials: Toward Selected Electrode Materials for Supercapacitors. ACS Applied Materials & Interfaces, 2010, 2, 3493-3505.	4.0	82
20	Electronic devices from electrodeposited metal nanowires. Microelectronic Engineering, 2002, 61-62, 555-561.	1.1	81
21	Ordered mesoporous silicon carbide-derived carbon for high-power supercapacitors. Electrochemistry Communications, 2013, 34, 109-112.	2.3	75
22	New nanocomposite material as supercapacitor electrode prepared via restacking of Ni-Mn LDH and MnO2 nanosheets. Electrochimica Acta, 2017, 247, 1072-1079.	2.6	75
23	Electrochemical Reactivity of Cu[sub 3]P with Lithium. Journal of the Electrochemical Society, 2004, 151, A2074.	1.3	74
24	Nanocrystalline FeWO4 as a pseudocapacitive electrode material for high volumetric energy density supercapacitors operated in an aqueous electrolyte. Electrochemistry Communications, 2015, 57, 61-64.	2.3	66
25	Electrochemical Lithium Insertion in Zn3P2 Zinc Phosphide. Chemistry of Materials, 2005, 17, 6761-6771.	3.2	64
26	Redox-Induced Structural Change in Anode Materials Based on Tetrahedral (MPn4)x- Transition Metal Pnictides. Chemistry of Materials, 2004, 16, 1002-1013.	3.2	63
27	A single nanotrench in a palladium microwire for hydrogen detection. Nanotechnology, 2008, 19, 125502.	1.3	61
28	Transport Properties of Li-TFSI Water-in-Salt Electrolytes. Journal of Physical Chemistry B, 2019, 123, 10514-10521.	1.2	60
29	Electrochemical study of aqueous asymmetric FeWO4/MnO2 supercapacitor. Journal of Power Sources, 2016, 326, 695-701.	4.0	59
30	Mesoporous carbonâ€"manganese oxide composite as negative electrode material for supercapacitors. Microporous and Mesoporous Materials, 2008, 110, 167-176.	2.2	58
31	MnO2-coated Ni nanorods: Enhanced high rate behavior in pseudo-capacitive supercapacitor. Electrochimica Acta, 2010, 55, 7454-7459.	2.6	55
32	Competitive Salt Precipitation/Dissolution During Freeâ€Water Reduction in Waterâ€inâ€Salt Electrolyte. Angewandte Chemie - International Edition, 2020, 59, 15913-15917.	7.2	52
33	The LixMPn4 phases (M/Pn = Ti/P, V/As): new negative electrode materials for lithium ion rechargeable batteries. Electrochimica Acta, 2004, 49, 2325-2332.	2.6	49
34	The transition in hydrogen sensing behavior in noncontinuous palladium films. Applied Physics Letters, 2010, 97, .	1.5	43
35	â€œBeadedâ€•Bimetallic Nanowires: Wiring Nanoparticles of Metal 1 Using Nanowires of Metal 2. Advanced Materials, 2003, 15, 396-399.	11.1	41
36	Manganese oxide nanocomposites: preparation and some electrochemical properties. Journal of Physics and Chemistry of Solids, 2004, 65, 235-239.	1.9	40

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37	On chip MnO2-based 3D micro-supercapacitors with ultra-high areal energy density. Energy Storage Materials, 2021, 38, 520-527.	9.5	39
38	Conformational preferences and protonation sequence of myo-inositol hexaphosphate in aqueous solution; potentiometric and multinuclear magnetic resonance studies. Journal of the Chemical Society Dalton Transactions, 1995, , 575.	1.1	38
39	Electrochemical preparation and characterization of Birnessite-type layered manganese oxide films. Journal of Physics and Chemistry of Solids, 2006, 67, 1351-1354.	1.9	38
40	Chemical Modification of Graphene Oxide through Diazonium Chemistry and Its Influence on the Structureâ€“Property Relationships of Graphene Oxideâ€“Iron Oxide Nanocomposites. Chemistry - A European Journal, 2015, 21, 12465-12474.	1.7	38
41	Highly ordered palladium nanodot patterns for full concentration range hydrogen sensing. Nanoscale, 2012, 4, 1964.	2.8	35
42	Biredox ionic liquids: new opportunities toward high performance supercapacitors. Faraday Discussions, 2018, 206, 393-404.	1.6	33
43	Fast and robust hydrogen sensors based on discontinuous palladium films on polyimide, fabricated on a wafer scale. Nanotechnology, 2010, 21, 505501.	1.3	32
44	Microstructural and Morphological Effects on Charge Storage Properties in MnO₂-Carbon Nanofibers Based Supercapacitors. Journal of the Electrochemical Society, 2013, 160, A2315-A2321.	1.3	32
45	Biredox ionic liquids: electrochemical investigation and impact of ion size on electron transfer. Electrochimica Acta, 2016, 206, 513-523.	2.6	32
46	Improving the Volumetric Energy Density of Supercapacitors. Electrochimica Acta, 2016, 206, 458-463.	2.6	31
47	Transparent electrochemical capacitor based on electrodeposited MnO2 thin film electrodes and gel-type electrolyte. Electrochemistry Communications, 2009, 11, 1259-1261.	2.3	30
48	Zn, Ti and Si nanowires by electrodeposition in ionic liquid. Electrochemistry Communications, 2011, 13, 1252-1255.	2.3	30
49	Oxidation pathways towards Si amorphous layers or nanocrystalline powders as Li-ion batteries anodes. Materials for Renewable and Sustainable Energy, 2014, 3, 1.	1.5	29
50	Inorganic perchlorato complexes. Coordination Chemistry Reviews, 1998, 178-180, 865-902.	9.5	27
51	Size-Selective Growth of Nanoscale Tetrathiafulvalene Bromide Crystallites on Platinum Particles. Advanced Materials, 2001, 13, 1567.	11.1	26
52	Anode materials for lithium ion batteries in the Li-Zn-P system. Ionics, 2005, 11, 66-75.	1.2	26
53	Morphology Effects on the Supercapacitive Electrochemical Performances of Iron Oxide/Reduced Graphene Oxide Nanocomposites. ChemElectroChem, 2014, 1, 747-754.	1.7	26
54	MnO2 as ink material for the fabrication of supercapacitor electrodes. Electrochimica Acta, 2015, 152, 520-529.	2.6	26

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55	Faradaic contributions in the supercapacitive charge storage mechanisms of manganese dioxides. Electrochimica Acta, 2016, 206, 479-489.	2.6	25
56	Materials for Electrochemical Capacitors. , 2017, , 495-561.		25
57	Electrochemical lithium insertion in Zn3P2 zinc phosphide. Journal of Physics and Chemistry of Solids, 2006, 67, 1233-1237.	1.9	23
58	Competitive Salt Precipitation/Dissolution During Freeâ€Water Reduction in Waterâ€inâ€Salt Electrolyte. Angewandte Chemie, 2020, 132, 16047-16051.	1.6	23
59	Size and strain dependent activity of Ni nano and micro particles for hydrogen evolution reaction. International Journal of Hydrogen Energy, 2013, 38, 11695-11708.	3.8	21
60	Investigating Mechanisms Underlying Elevated-Temperature-Induced Capacity Fading of Aqueous MnO₂Polymorph Supercapacitors: Cryptomelane and Birnessite. Journal of the Electrochemical Society, 2015, 162, A5106-A5114.	1.3	21
61	Synthesis and structural analysis of a homogeneous series of anhydrous rare-earth-metal perchlorates. Journal of the Chemical Society Dalton Transactions, 1992, , 1997.	1.1	20
62	Progress in the lithium insertion mechanism in Cu3P. Ionics, 2005, 11, 36-45.	1.2	19
63	Polycationic oxides as potential electrode materials for aqueous-based electrochemical capacitors. Current Opinion in Electrochemistry, 2018, 9, 87-94.	2.5	19
64	New topotactic synthetic route to mesoporous silicon carbide. Journal of Materials Chemistry, 2011, 21, 15798.	6.7	18
65	Palladiumâ€"Silver Mesowires for the Extended Detection of H₂. ACS Applied Materials & Interfaces, 2013, 5, 310-318.	4.0	18
66	Electronic and Mechanical Antagonist Effects in Resistive Hydrogen Sensors Based on Pd@Au Coreâ€"Shell Nanoparticle Assemblies Prepared by Langmuirâ€"Blodgett. Journal of Physical Chemistry C, 2015, 119, 10130-10139.	1.5	18
67	MnO₂-MXene Composite as Electrode for Supercapacitor. Journal of the Electrochemical Society, 2022, 169, 030524.	1.3	17
68	Unveiling Pseudocapacitive Charge Storage Behavior in FeWO₄ Electrode Material by Operando Xâ€Ray Absorption Spectroscopy. Small, 2020, 16, e2002855.	5.2	16
69	Ball milling synthesis of LixTiP4: Improvement of the electrochemical performances. Ionics, 2003, 9, 71-76.	1.2	14
70	Silicon carbide with tunable ordered mesoporosity. Microporous and Mesoporous Materials, 2013, 180, 172-177.	2.2	14
71	Platinum for hydrogen sensing: surface and grain boundary scattering antagonistic effects in Pt@Au coreâ€"shell nanoparticle assemblies prepared using a Langmuirâ€"Blodgett method. Physical Chemistry Chemical Physics, 2018, 20, 383-394.	1.3	13
72	First Anhydrous Gold Perchlorato Complex: ClO2Au(ClO4)4. Synthesis and Molecular and Crystal Structure Analysis. Inorganic Chemistry, 2002, 41, 4173-4178.	1.9	12

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73	Investigation of Ba0.5Sr0.5CoxFe1-xO3-Î´ as a pseudocapacitive electrode material with high volumetric capacitance. Electrochimica Acta, 2018, 271, 677-684.	2.6	12
74	Laserâ€Induced Colloidal Writing of Organometallic Precursorâ€"Based Repeatable and Fast Pdâ€"Ni Hydrogen Sensor. Advanced Materials Interfaces, 2019, 6, 1900768.	1.9	12
75	Investigation of Electrochemical and Chemical Processes Occurring at Positive Potentials in â€œWater-in-Saltâ€• Electrolytes. Journal of the Electrochemical Society, 2021, 168, 050550.	1.3	12
76	Thermal Behavior and X-ray Powder Diffraction Structures of Two Polymorphic Phases of Anhydrous Yb(ClO4)3. Inorganic Chemistry, 1998, 37, 1776-1780.	1.9	11
77	Microwave-Assisted Decoration of Carbon Substrates for Manganese Dioxide-Based Supercapacitors. Journal of the Electrochemical Society, 2015, 162, A5133-A5139.	1.3	10
78	SynthÃ¨ses et caractÃ©risations structurales de complexes perchlorato et triflato anhydres de praseodyme(III). Canadian Journal of Chemistry, 1994, 72, 2044-2049.	0.6	8
79	Crystalline and Molecular Structures of Anhydrous Lanthanide PerchloratesLn(ClO4)3withLn=La, Ce, Pr, Sm, Eu, Ho, Er, Tm, and Lu. Journal of Solid State Chemistry, 1998, 139, 259-265.	1.4	8
80	Conformational preferences of bis(acetonitrile)tetrachloro molybdenum(IV) and tungsten(IV). Crystal structure of WCl4(CH3CN)2 and DFT calculations. New Journal of Chemistry, 1999, 23, 165-172.	1.4	8
81	Nanogaps for Sensing. Procedia Chemistry, 2009, 1, 746-749.	0.7	8
82	Crystal and molecular structure of anhydrous copper(II) perchlorate. Journal of the Chemical Society Dalton Transactions, 1994, , 3119-3121.	1.1	7
83	Twoâ€Photon Fluorescence Imaging and Therapy of Cancer Cells with Anisotropic Goldâ€Nanoparticleâ€Supported Porous Silicon Nanostructures. ChemNanoMat, 2018, 4, 343-347.	1.5	7
84	Electrochemical study of asymmetric aqueous supercapacitors based on high density oxides: C/Ba0.5Sr0.5Co0.8Fe0.2O3-Î´ and FeWO4/Ba0.5Sr0.5Co0.8Fe0.2O3-Î´. Electrochimica Acta, 2019, 326, 134886.	2.6	7
85	Triperchloratoytterbium(III) Monohydrate, Yb(ClO4)3.H2O. Acta Crystallographica Section C: Crystal Structure Communications, 1996, 52, 1872-1874.	0.4	6
86	Physicochemical properties and theoretical studies of novel fragile ionic liquids based on N-allyl-N,N-dimethylethylammonium cation. Journal of Molecular Liquids, 2019, 284, 522-535.	2.3	6
87	Trifluoromethanesulphonate-selective liquid membrane electrode. Analyst, The, 1991, 116, 479.	1.7	5
88	Ba3NbAs3O: synthesis, crystal structure, Raman spectroscopy and bonding analysis. Journal of Alloys and Compounds, 1999, 284, 124-127.	2.8	5
89	Evaluation of the Properties of an Electrolyte Based on Formamide and LiTFSI for Electrochemical Capacitors. Journal of the Electrochemical Society, 2020, 167, 110508.	1.3	5
90	Anhydrous perchlorato complexes of palladium(II): Pd(ClO4)2, (ClO2)2Pd(ClO4)4, and (NO2)2Pd(ClO4)4. Syntheses and structural analyses. Canadian Journal of Chemistry, 2000, 78, 1544-1552.	0.6	4

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91	Electrodeposition of portable, metal nanowire arrays. , 2002, 4807, 83.		3
92	Potential model for tetrathiafulvalene based on inelastic neutron scattering and Raman spectra. Journal of Chemical Physics, 2003, 119, 4929-4933.	1.2	3
93	Shuttle Effect Quantification for Redox Ionic Liquid Electrolyte Correlated to the Coulombic Efficiency of Supercapacitors. Batteries and Supercaps, 2020, 3, 1193-1200.	2.4	2
94	The bridging bidentate perchlorato group in ReO3(ClO4), ReO3(ClO4)Cl2O6 and Sb2Cl6(O)(OH)(ClO4), a vibrational analysis. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2002, 58, 2869-2875.	2.0	1
95	Transparent MnO2-based Electrochemical Capacitor. ECS Transactions, 2008, 16, 193-196.	0.3	1
96	Ionic Transport and Charge Distribution in Miniaturized Electrochemical Energy Storage Devices byModeling Investigation. Journal of the Electrochemical Society, 0, , .	1.3	1
97	Redox-Induced Structural Change in Anode Materials Based on Tetrahedral (MPn4)x- Transition Metal Pnictides.. ChemInform, 2004, 35, no.	0.1	0
98	Transparent MnO2-based Electrochemical Capacitor. ECS Meeting Abstracts, 2008, , .	0.0	0
99	Nanogaps for Sensing. Advances in Science and Technology, 0, , .	0.2	0
100	Nanogaps for hydrogen sensing. , 2012, , .		0
101	Resistive Sensors Based on Self-Assembled Core-Shell Nanoparticles. ECS Transactions, 2016, 75, 3-7.	0.3	0
102	Pseudocapacitive Behavior of Polycationic Oxides for Electrochemical Capacitors. ECS Meeting Abstracts, 2018, , .	0.0	0
103	Nano-Engineering of 2D Materials for Supercapacitors. ECS Meeting Abstracts, 2018, , .	0.0	0
104	Investigation of the Fe / W / O System for Aqueous Electrochemical Capacitor Electrode Materials. ECS Meeting Abstracts, 2019, , .	0.0	0
105	Physical Properties, Electrochemical Stabilities and Molecular Dynamics Study of Novel Ionic Liquids Based Electrolytes for Electrochemical Application. ECS Meeting Abstracts, 2019, , .	0.0	0
106	(Invited) Storing Electrons and Holes in the Electrolyte - a New Opportunity for Supercapacitors. ECS Meeting Abstracts, 2019, , .	0.0	0
107	(Invited) Investigation of Ba0,5Sr0,5CoxFe1-XO3-Î” As Pseudocapacitive Electrode for Aqueous Electrochemical Capacitor. ECS Meeting Abstracts, 2019, , .	0.0	0
108	Ba0.5Sr0.5CoxFe1-XO3-Î”: Investigation and Use of Multicationic Pseudocapacitive Oxides. ECS Meeting Abstracts, 2019, , .	0.0	0

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109	(Invited) Anthraquinone on Carbon: Is There Any Way to Get It Working?. ECS Meeting Abstracts, 2020, MA2020-02, 608-608.	0.0	0