Ayyakkannu Manivannan

List of Publications by Year
in descending order

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126 papers	9,874 citations	46918 47 h-index	34900 98 g-index
128 all docs	128 docs citations	128 times ranked	14990 citing authors

#	Article	IF	Citations
1	Structural Analysis of Sucrose-Derived Hard Carbon and Correlation with the Electrochemical Properties for Lithium, Sodium, and Potassium Insertion. Chemistry of Materials, 2020, 32, 2961-2977.	3.2	150
2	Electrochemical Investigations on the Effect of Mg-Substitution in Li₂MnO₃Cathode. Journal of the Electrochemical Society, 2017, 164, A1464-A1473.	1.3	7
3	Cobalt based nanostructured alloys: Versatile high performance robust hydrogen evolution reaction electro-catalysts for electrolytic and photo-electrochemical water splitting. International Journal of Hydrogen Energy, 2017, 42, 17049-17062.	3.8	35
4	Highly active robust oxide solid solution electro-catalysts for oxygen reduction reaction for proton exchange membrane fuel cell and direct methanol fuel cell cathodes. International Journal of Hydrogen Energy, 2017, 42, 24079-24089.	3.8	14
5	A rapid solid-state synthesis of electrochemically active Chevrel phases (Mo6T8; T = S, Se) for rechargeable magnesium batteries. Nano Research, 2017, 10, 4415-4435.	5.8	33
6	Pulsed Current Electrodeposition of Silicon Thin Films Anodes for Lithium Ion Battery Applications. Inorganics, 2017, 5, 27.	1.2	11
7	Study of fluorine doped (Nb,Ir)O2 solid solution electro-catalyst powders for proton exchange membrane based oxygen evolution reaction. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2016, 212, 101-108.	1.7	18
8	The Influence of Fe Substitution in Lanthanum Calcium Cobalt Oxide on the Oxygen Evolution Reaction in Alkaline Media. Journal of the Electrochemical Society, 2016, 163, F1124-F1132.	1.3	19
9	Distinguishing surface effects of gold nanoparticles from plasmonic effect on photoelectrochemical water splitting by hematite. Journal of Materials Research, 2016, 31, 1608-1615.	1.2	25
10	Catalyst-Free Growth of Three-Dimensional Graphene Flakes and Graphene/g-C₃N₄ Composite for Hydrocarbon Oxidation. ACS Nano, 2016, 10, 3665-3673.	7.3	122
11	Vertically aligned nitrogen doped (Sn,Nb)O2 nanotubes â€“ Robust photoanodes for hydrogen generation by photoelectrochemical water splitting. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2016, 208, 1-14.	1.7	25
12	Synthesis and characterization of substituted garnet and perovskite-based lithium-ion conducting solid electrolytes. Ionics, 2016, 22, 317-325.	1.2	19
13	Localized Surface Plasmon Resonance in Au Nanoparticles Embedded dc Sputtered ZnO Thin Films. Journal of Nanoscience and Nanotechnology, 2015, 15, 1805-1814.	0.9	5
14	Direct Synthesis of Fewâ€Layer Graphene on NaCl Crystals. Small, 2015, 11, 6302-6308.	5.2	57
15	Nanostructured robust cobalt metal alloy based anode electro-catalysts exhibiting remarkably high performance and durability for proton exchange membrane fuel cells. Journal of Materials Chemistry A, 2015, 3, 14015-14032.	5.2	27
16	Lignosulphonate-cellulose derived porous activated carbon for supercapacitor electrode. Journal of Materials Chemistry A, 2015, 3, 15049-15056.	5.2	93
17	High performance and durable nanostructured TiN supported Pt50â€“Ru50 anode catalyst for direct methanol fuel cell (DMFC). Journal of Power Sources, 2015, 293, 437-446.	4.0	88
18	Electrochemical Performance of Chemically and Solid State-Derived Chevrel Phase Mo₆T₈ (T = S, Se) Positive Electrodes for Sodium-Ion Batteries. Journal of Physical Chemistry C, 2015, 119, 5771-5782.	1.5	36

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19	High energy density titanium doped-vanadium oxide-vertically aligned CNT composite electrodes for supercapacitor applications. Journal of Materials Chemistry A, 2015, 3, 8413-8432.	5.2	64
20	Design Insights for Tuning the Electrocatalytic Activity of Perovskite Oxides for the Oxygen Evolution Reaction. Journal of Physical Chemistry C, 2015, 119, 8004-8013.	1.5	44
21	Synthesis and electrochemical study of Mg1.5MnO3: A defect spinel cathode for rechargeable magnesium battery. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2015, 202, 8-14.	1.7	9
22	Investigation of Oxygen Evolution Reaction at LaRuO3, La3.5Ru4O13, and La2RuO5. Electrochimica Acta, 2015, 180, 401-408.	2.6	20
23	WO₃ based solid solution oxide â€“ promising proton exchange membrane fuel cell anode electro-catalyst. Journal of Materials Chemistry A, 2015, 3, 18296-18309.	5.2	28
24	Synthesis, characterization and electrochemical performance of Al-substituted Li2MnO3. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2015, 201, 13-22.	1.7	19
25	Nitrogen and cobalt co-doped zinc oxide nanowires â€“ Viable photoanodes for hydrogen generation via photoelectrochemical water splitting. Journal of Power Sources, 2015, 299, 11-24.	4.0	72
26	Nanostructured (Ir,Sn)O₂:F â€“ Oxygen Evolution Reaction Anode Electro-Catalyst Powders for PEM Based Water Electrolysis. Journal of the Electrochemical Society, 2014, 161, F868-F875.	1.3	20
27	Rechargeable magnesium battery: Current status and key challenges for the future. Progress in Materials Science, 2014, 66, 1-86.	16.0	538
28	Chemically Bonded Phosphorus/Graphene Hybrid as a High Performance Anode for Sodium-Ion Batteries. Nano Letters, 2014, 14, 6329-6335.	4.5	434
29	A Unique Architecture Based on 1â€‰D Semiconductor, Reduced Graphene Oxide, and Chalcogenide with Multifunctional Properties. Chemistry - A European Journal, 2014, 20, 10456-10465.	1.7	14
30	A study of a fluorine substituted phenyl based complex as a 3 V electrolyte for Mg batteries. Journal of Materials Chemistry A, 2014, 2, 15488-15494.	5.2	17
31	High energy mechano-chemical milling: Convenient approach to synthesis of LiMn1.5Ni0.5O4 high voltage cathode for lithium ion batteries. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2014, 190, 119-125.	1.7	7
32	A Convenient Approach to Mo₆S₈Chevrel Phase Cathode for Rechargeable Magnesium Battery. Journal of the Electrochemical Society, 2014, 161, A593-A598.	1.3	76
33	Solar Hydrogen Generation by a CdS-Au-TiO₂ Sandwich Nanorod Array Enhanced with Au Nanoparticle as Electron Relay and Plasmonic Photosensitizer. Journal of the American Chemical Society, 2014, 136, 8438-8449.	6.6	533
34	Highâ€Performance Hybrid Supercapacitor Enabled by a Highâ€Rate Siâ€based Anode. Advanced Functional Materials, 2014, 24, 7433-7439.	7.8	208
35	Porous Spherical Carbon/Sulfur Nanocomposites by Aerosol-Assisted Synthesis: The Effect of Pore Structure and Morphology on Their Electrochemical Performance As Lithium/Sulfur Battery Cathodes. ACS Applied Materials & Interfaces, 2014, 6, 7596-7606.	4.0	84
36	Microwave Derived Facile Approach to Sn/Graphene Composite Anodes for, Lithium-Ion Batteries. Electrochimica Acta, 2014, 127, 299-306.	2.6	28

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37	Neutron Diffraction and Electrochemical Studies of Na0.79CoO2and Na0.79Co0.7Mn0.3O2Cathodes for Sodium-Ion Batteries. Journal of the Electrochemical Society, 2014, 161, A961-A967.	1.3	19
38	Effects of Pore Structure on Performance of An Activated-Carbon Supercapacitor Electrode Recycled from Scrap Waste Tires. ACS Sustainable Chemistry and Engineering, 2014, 2, 1592-1598.	3.2	285
39	Electrochemical properties of a new nanocrystalline NaMn2O4 cathode for rechargeable sodium ion batteries. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2014, 188, 1-7.	1.7	20
40	Ground state of the singly ionized oxygen vacancy in rutile TiO2. Journal of Applied Physics, 2013, 114, .	1.1	23
41	Carbon Dioxide Decomposition and Oxygen Generation Via SOEC. ECS Transactions, 2013, 50, 129-136.	0.3	0
42	High performance robust F-doped tin oxide based oxygen evolution electro-catalysts for PEM based water electrolysis. Journal of Materials Chemistry A, 2013, 1, 4026.	5.2	66
43	Carbon coated hollow Na2FePO4F spheres for Na-ion battery cathodes. Journal of Power Sources, 2013, 223, 62-67.	4.0	134
44	A reduced graphene oxide/Co3O4 composite for supercapacitor electrode. Journal of Power Sources, 2013, 226, 65-70.	4.0	485
45	Grapheneâ€Bonded and â€Encapsulated Si Nanoparticles for Lithium Ion Battery Anodes. Small, 2013, 9, 2810-2816.	5.2	183
46	Photocatalytic Water Oxidation by Hematite/Reduced Graphene Oxide Composites. ACS Catalysis, 2013, 3, 746-751.	5.5	226
47	A Simple Low Temperature Synthesis of Nanostructured Vanadium Nitride for Supercapacitor Applications. Journal of the Electrochemical Society, 2013, 160, A2195-A2206.	1.3	55
48	A Scientific Study of Current Collectors for Mg Batteries in Mg(AlCl₂EtBu)₂/THF Electrolyte. Journal of the Electrochemical Society, 2013, 160, A351-A355.	1.3	80
49	CVD Derived Vanadium Oxide Nano-Sphere-Carbon Nanotube (CNT) Nano-Composite Hetero-Structures: High Energy Supercapacitors. Journal of the Electrochemical Society, 2013, 160, A1118-A1127.	1.3	22
50	Recent Aspects of Photocatalytic Technologies for Solar Fuels, Self-Cleaning, and Environmental Cleanup. Electrochemical Society Interface, 2013, 22, 51-56.	0.3	17
51	Electrochemical and Structural Investigations on ZnO Treated 0.5 Li₂MnO₃-0.5LiMn_{0.5}Ni_{0.5}O₂Layered Composite Cathode Material for Lithium Ion Battery. Journal of the Electrochemical Society, 2012, 159, A470-A478.	1.3	92
52	Reduced graphene oxide/titanium dioxide composites for supercapacitor electrodes: shape and coupling effects. Journal of Materials Chemistry, 2012, 22, 19161.	6.7	188
53	Synthesis, characterization, and electrochemical studies of chemically synthesized NaFePO4. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2012, 177, 1729-1733.	1.7	58
54	Electrospun La0.8Sr0.2MnO3nanofibers for a high-temperature electrochemical carbon monoxide sensor. Nanotechnology, 2012, 23, 305501.	1.3	28

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55	Electrodeposition of amorphous silicon anode for lithium ion batteries. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2012, 177, 1157-1162.	1.7	50
56	Electrocatalytic Properties of Nanocrystalline Calcium-Doped Lanthanum Cobalt Oxide for Bifunctional Oxygen Electrodes. Journal of Physical Chemistry Letters, 2012, 3, 967-972.	2.1	92
57	Novel (Ir,Sn,Nb)O2 anode electrocatalysts with reduced noble metal content for PEM based water electrolysis. International Journal of Hydrogen Energy, 2012, 37, 3001-3013.	3.8	64
58	A combined first-principles computational/experimental study on LiNi0.66Co0.17Mn0.17O2 as a potential layered cathode material. Journal of Power Sources, 2012, 211, 12-18.	4.0	25
59	Highly conductive electrospun carbon nanofiber/MnO2 coaxial nano-cables for high energy and power density supercapacitors. Journal of Power Sources, 2012, 208, 345-353.	4.0	243
60	CO2 Photoreduction in the Liquid Phase over Pd-Supported on TiO2 Nanotube and Bismuth Titanate Photocatalysts. Electrochemical and Solid-State Letters, 2011, 14, F5.	2.2	41
61	Single crystalline La_{0.5}Sr_{0.5}MnO₃microcubes as cathode of solid oxidefuel cell. Energy and Environmental Science, 2011, 4, 139-144.	15.6	81
62	Single-crystalline Ni(OH)2 and NiO nanoplatelet arrays as supercapacitor electrodes. Nanoscale, 2011, 3, 5103.	2.8	287
63	Structural Studies on NaFePO₄ as a Cathode Material for Na⁺/Li⁺ Mixed-Ion Batteries. ECS Transactions, 2011, 35, 3-7.	0.3	8
64	Pr0.6Sr0.4CoO3â˜Î´ electrocatalyst for solid oxide fuel cell cathode introduced via infiltration. Electrochimica Acta, 2011, 56, 9904-9909.	2.6	33
65	Cyclability study of siliconâ€“carbon composite anodes for lithium-ion batteries using electrochemical impedance spectroscopy. Electrochimica Acta, 2011, 56, 3981-3987.	2.6	374
66	Investigation of Mn/Co coated T441 alloy as SOFC interconnect by on-cell tests. International Journal of Hydrogen Energy, 2011, 36, 4525-4529.	3.8	45
67	Effect of Sr-Doped LaCoO3 and LaZrO3 Infiltration on the Performance of SDC-LSCF Cathode. Journal of the Electrochemical Society, 2011, 158, B735.	1.3	44
68	Microstructural Control of Composite Cathode by Wetting Nature of Infiltrated Solutions. ECS Transactions, 2011, 35, 2401-2407.	0.3	0
69	Advancing the Supercapacitor Materials and Technology Frontier for Improving Power Quality. Electrochemical Society Interface, 2010, 19, 57-62.	0.3	58
70	Evaluating Methods for Infiltration of LSCF Cathodes With Mixed Electric/Ionic Conductors for Improved Oxygen Exchange. , 2010, , .		1
71	Shape-Enhanced Photocatalytic Activity of Single-Crystalline Anatase TiO₂ (101) Nanobelts. Journal of the American Chemical Society, 2010, 132, 6679-6685.	6.6	680
72	Photoinduced electron paramagnetic resonance study of electron traps in TiO2 crystals: Oxygen vacancies and Ti3+ ions. Applied Physics Letters, 2009, 94, .	1.5	94

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73	Origin of Photocatalytic Activity of Nitrogen-Doped TiO₂ Nanobelts. Journal of the American Chemical Society, 2009, 131, 12290-12297.	6.6	1,112
74	Solâ€“gel derived La0.6Sr0.4CoO3 nanoparticles, nanotubes, nanowires and thin films. Thin Solid Films, 2008, 517, 582-587.	0.8	33
75	Synthesis of Nanocrystalline TiO2 Particles and Their Structural Characteristics. Journal of Cluster Science, 2008, 19, 391-399.	1.7	9
76	Hydrothermal Synthesis and Photocatalytic Activity of Titanium Dioxide Nanotubes, Nanowires and Nanospheres. Materials Research Society Symposia Proceedings, 2008, 1144, 1.	0.1	2
77	Electrochemical Quantification of Mercury in Solutions Using Boron-doped Diamond Electrodes: Electrode Regeneration and Role of Gold and Impurities. Analytical Letters, 2008, 41, 2162-2170.	1.0	6
78	Magnetic Resonance Spectroscopy with Longitudinal Multispin Orders. Current Analytical Chemistry, 2008, 4, 40-54.	0.6	1
79	Dewatering of fine coal slurries by selective heating with microwaves. Fuel, 2007, 86, 829-834.	3.4	80
80	Multiferroic properties of Pb(Zr,Ti)O3â•CoFe2O4 composite thin films. Journal of Applied Physics, 2006, 100, 126105.	1.1	103
81	Detection of trace levels of Pb2+ in tap water at boron-doped diamond electrodes with anodic stripping voltammetry. Electrochimica Acta, 2006, 51, 2437-2441.	2.6	84
82	Impact of cobalt-based catalyst characteristics on the performance of conventional gas-phase and supercritical-phase Fischerâ€“Tropsch synthesis. Applied Catalysis A: General, 2005, 285, 169-180.	2.2	61
83	Solâ€“Gel Synthesis and Magnetic Studies of Titanium Dioxide Doped with 10% M (M=Fe, Mn and Ni). Journal of Cluster Science, 2005, 16, 501-513.	1.7	21
84	A Room-Temperature and Microwave Synthesis of M-Doped ZnO (M=Co, Cr, Fe, Mn & Ni). Journal of Cluster Science, 2005, 16, 523-536.	1.7	50
85	Interparticle interaction effects in the magnetic properties of NiO nanorods. Journal of Applied Physics, 2005, 97, 10J509.	1.1	25
86	Electrochemical Deposition of Titanium Oxide on Boron-Doped Diamond Electrodes. Electrochemical and Solid-State Letters, 2005, 8, C138.	2.2	34
87	Characteristics of Cobalt Nanoneedles in 10% Co/Aerogel Fischerâ€'Tropsch Catalyst. Chemistry of Materials, 2005, 17, 5183-5186.	3.2	21
88	Nature of the reversible paramagnetism to ferromagnetism state in cobalt-doped titanium dioxide. Journal of Applied Physics, 2005, 97, 10D325.	1.1	46
89	Determination of the Electronic State and Concentration of Nickel in NiSAPO Catalysts by Magnetic Measurements. Catalysis Letters, 2004, 94, 181-185.	1.4	11
90	Characterization of Fischer?Tropsch Cobalt-Based Catalytic Systems (Co/SiO2 and Co/Al2O3) by X-ray Diffraction and Magnetic Measurements. Catalysis Letters, 2004, 98, 203-210.	1.4	19

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91	Interaction of Pb and Cd during anodic stripping voltammetric analysis at boron-doped diamond electrodes. Electrochimica Acta, 2004, 49, 3313-3318.	2.6	73
92	Detection of mercury at the ppb level in solution using boron-doped diamond electrode. Fuel Processing Technology, 2004, 85, 513-519.	3.7	28
93	Temperature dependence of electron magnetic resonance and magnetization in NiO nanorods. Solid State Communications, 2004, 129, 721-725.	0.9	34
94	Structural investigations of synthetic ferrihydrite nanoparticles doped with Si. Solid State Communications, 2004, 130, 597-601.	0.9	61
95	Silica Xerogel Supported Cobalt Metal Fischerâ˜Tropsch Catalysts for Syngas to Diesel Range Fuel Conversion. Energy & Fuels, 2004, 18, 1519-1521.	2.5	24
96	Magnetic and electrical characterization of heavily boron-doped diamond. Materials Characterization, 2003, 51, 329-333.	1.9	4
97	Magnetism of Co-doped titania thin films prepared by spray pyrolysis. Applied Physics Letters, 2003, 83, 111-113.	1.5	93
98	Controlled transformation of paramagnetism to room-temperature ferromagnetism in cobalt-doped titanium dioxide. Journal of Applied Physics, 2003, 94, 6994-6996.	1.1	38
99	ELECTROCHEMICAL DETECTION OF IONIC MERCURY AT BORON-DOPED DIAMOND ELECTRODES. Analytical Letters, 2002, 35, 355-368.	1.0	48
100	A naphthalocyanine-based EPR probe for localized measurements of tissue oxygenation. Free Radical Biology and Medicine, 2002, 32, 139-147.	1.3	58
101	Self-orientation of short single-walled carbon nanotubes deposited on graphite. Applied Physics Letters, 2001, 78, 1355-1357.	1.5	31
102	Effect of Si doping on the electron spin resonance properties of ferrihydrite nanoparticles. IEEE Transactions on Magnetics, 2001, 37, 2207-2209.	1.2	18
103	Synthesis and Spectral Properties of Lithium Naphthalocyanine: A Novel EPR Oximetry Probe. Chemistry Letters, 2001, 30, 568-569.	0.7	4
104	Magnetic and high-pressure magnetotransport properties of cesium-substituted lanthanum calcium manganites. Applied Physics A: Materials Science and Processing, 2001, 72, 333-339.	1.1	3
105	Epitaxial growth of molecular magnetic thin films of lithium phthalocyanine. Thin Solid Films, 2001, 393, 28-33.	0.8	9
106	Lithium naphthalocyanine as a new molecular radical probe for electron paramagnetic resonance oximetry. Journal of Magnetism and Magnetic Materials, 2001, 233, 131-135.	1.0	15
107	Thermal Expansions of the Beta and Gamma Phases in a Coâ€“Niâ€“Fe Superalloy Determined by X-ray Diffraction. Journal of Materials Research, 2000, 15, 1719-1723.	1.2	3
108	Neutron scattering and magnetic studies of ferrihydrite nanoparticles. Physical Review B, 2000, 61, 3513-3518.	1.1	135

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109	Detection of Trace Lead at Boron-Doped Diamond Electrodes by Anodic Stripping Analysis. Electrochemical and Solid-State Letters, 1999, 2, 455.	2.2	40
110	Microstructure, dangling bonds and impurities in activated carbons. Carbon, 1999, 37, 1741-1747.	5.4	94
111	Abrasive Stripping Voltammetry at Polycrystalline Diamond Electrodes. Chemistry Letters, 1999, 28, 851-852.	0.7	8
112	STM analysis of triosmium carbonyl cluster adsorption at HOPG. Surface Science, 1996, 350, 239-246.	0.8	4
113	Polarization effects in AlGaAs single quantum well laser structure. Solid State Communications, 1996, 100, 337-340.	0.9	3
114	Spatial variations of the local density of states modified by CDWs in 1T-TaS2â^'xSex. Surface Science, 1994, 314, 269-274.	0.8	8
115	Investigation of the structural ordering in thin naphthalocyanine films using scanning probe microscopy. , 1994, , 353-356.		0
116	Surface morphology of a mechanically pressed polycrystalline silver wire studied by scanning tunneling microscopy. Applied Surface Science, 1993, 72, 435-439.	3.1	2
117	Scanning tunneling microscopy observations of zincnaphthalocyanine on MoS2. Thin Solid Films, 1993, 226, 6-8.	0.8	12
118	Imaging of vanadylnaphthalocyanine aggregates by scanning tunneling microscopy. Langmuir, 1993, 9, 771-775.	1.6	17
119	Scanning Probe Microscopic Investigation of Epitaxially Grown C60Film on MoS2. Japanese Journal of Applied Physics, 1992, 31, 3680-3685.	0.8	11
120	Molecular orientation of vacuumâ€deposited thin films of zincnaphthalocyanine. Journal of Applied Physics, 1992, 71, 5146-5153.	1.1	45
121	Probing the anion effects on the charge density waves in 1T-TaS2 by scanning tunneling microscopy. Surface Science, 1992, 274, L554-L558.	0.8	6
122	Photoelectrochemical Study of n-InP: Redox Processes Using Electroluminescence as Mechanistic Probe. Bulletin of the Chemical Society of Japan, 1990, 63, 2504-2510.	2.0	1
123	Electroluminescence at nâ€‰â€â€‰SiCâ€‰/â€‰Electrolyte Interface under Cathodic Polarization: Observation of EL Transients in a Short Time Scale and Further Evidence for a Donorâ€Acceptor Transition. Journal of the Electrochemical Society, 1990, 137, 3121-3126.	1.3	6
124	Electroluminescence at the SiC/electrolyte interface. Journal of Luminescence, 1988, 42, 43-47.	1.5	8
125	Positron lifetime studies in pure and chromium intercalated 2Hï£¿NbSe2. Crystal Research and Technology, 1987, 22, 1551-1555.	0.6	3
126	Photoelectrochemical studies on p-CdCr2Se4. Solar Energy Materials and Solar Cells, 1987, 15, 293-298.	0.4	8