Sengeni Anantharaj

List of Publications by Year
in descending order

82 papers	9,306 citations	70961 41 h-index	62479 80 g-index
82 all docs	82 docs citations	82 times ranked	8014 citing authors

#	Article	IF	Citations
1	Recent Trends and Perspectives in Electrochemical Water Splitting with an Emphasis on Sulfide, Selenide, and Phosphide Catalysts of Fe, Co, and Ni: A Review. ACS Catalysis, 2016, 6, 8069-8097.	5.5	1,936
2	Precision and correctness in the evaluation of electrocatalytic water splitting: revisiting activity parameters with a critical assessment. Energy and Environmental Science, 2018, 11, 744-771.	15.6	1,055
3	â€œThe Fe Effectâ€: A review unveiling the critical roles of Fe in enhancing OER activity of Ni and Co based catalysts. Nano Energy, 2021, 80, 105514.	8.2	437
4	Amorphous Catalysts and Electrochemical Water Splitting: An Untold Story of Harmony. Small, 2020, 16, e1905779.	5.2	424
5	Do the Evaluation Parameters Reflect Intrinsic Activity of Electrocatalysts in Electrochemical Water Splitting?. ACS Energy Letters, 2019, 4, 1260-1264.	8.8	309
6	Evolution of layered double hydroxides (LDH) as high performance water oxidation electrocatalysts: A review with insights on structure, activity and mechanism. Materials Today Energy, 2017, 6, 1-26.	2.5	301
7	The Pitfalls of Using Potentiodynamic Polarization Curves for Tafel Analysis in Electrocatalytic Water Splitting. ACS Energy Letters, 0, , 1607-1611.	8.8	256
8	Strategies and Perspectives to Catch the Missing Pieces in Energyâ€Efficient Hydrogen Evolution Reaction in Alkaline Media. Angewandte Chemie - International Edition, 2021, 60, 18981-19006.	7.2	239
9	Enhancing electrocatalytic total water splitting at few layer Pt-NiFe layered double hydroxide interfaces. Nano Energy, 2017, 39, 30-43.	8.2	236
10	Developments and Perspectives in 3d Transitionâ€Metalâ€Based Electrocatalysts for Neutral and Nearâ€Neutral Water Electrolysis. Advanced Energy Materials, 2020, 10, 1902666.	10.2	226
11	Pt Nanoparticle Anchored Molecular Self-Assemblies of DNA: An Extremely Stable and Efficient HER Electrocatalyst with Ultralow Pt Content. ACS Catalysis, 2016, 6, 4660-4672.	5.5	190
12	Progress in nickel chalcogenide electrocatalyzed hydrogen evolution reaction. Journal of Materials Chemistry A, 2020, 8, 4174-4192.	5.2	189
13	The Significance of Properly Reporting Turnover Frequency in Electrocatalysis Research. Angewandte Chemie - International Edition, 2021, 60, 23051-23067.	7.2	180
14	Appropriate Use of Electrochemical Impedance Spectroscopy in Water Splitting Electrocatalysis. ChemElectroChem, 2020, 7, 2297-2308.	1.7	154
15	One step synthesis of Ni/Ni(OH)₂ nano sheets (NSs) and their application in asymmetric supercapacitors. RSC Advances, 2017, 7, 5898-5911.	1.7	139
16	Microwave-Initiated Facile Formation of Ni₃Se₄ Nanoassemblies for Enhanced and Stable Water Splitting in Neutral and Alkaline Media. ACS Applied Materials & Interfaces, 2017, 9, 8714-8728.	4.0	139
17	Self-assembled IrO₂nanoparticles on a DNA scaffold with enhanced catalytic and oxygen evolution reaction (OER) activities. Journal of Materials Chemistry A, 2015, 3, 24463-24478.	5.2	133
18	Petal-like hierarchical array of ultrathin Ni(OH)₂ nanosheets decorated with Ni(OH)₂ nanoburls: a highly efficient OER electrocatalyst. Catalysis Science and Technology, 2017, 7, 882-893.	2.1	123

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19	Nickel selenides as pre-catalysts for electrochemical oxygen evolution reaction: A review. International Journal of Hydrogen Energy, 2020, 45, 15763-15784.	3.8	116
20	Self-Assembled NiWO₄ Nanoparticles into Chain-like Aggregates on DNA Scaffold with Pronounced Catalytic and Supercapacitor Activities. Crystal Growth and Design, 2015, 15, 673-686.	1.4	114
21	Unprotected and interconnected Ru⁰ nano-chain networks: advantages of unprotected surfaces in catalysis and electrocatalysis. Chemical Science, 2016, 7, 3188-3205.	3.7	102
22	Core-Oxidized Amorphous Cobalt Phosphide Nanostructures: An Advanced and Highly Efficient Oxygen Evolution Catalyst. Inorganic Chemistry, 2017, 56, 1742-1756.	1.9	102
23	Bio-molecule Assisted Aggregation of ZnWO₄ Nanoparticles (NPs) into Chain-like Assemblies: Material for High Performance Supercapacitor and as Catalyst for Benzyl Alcohol Oxidation. Inorganic Chemistry, 2015, 54, 3851-3863.	1.9	101
24	Zn-substituted MnCo2O4 nanostructure anchored over rGO for boosting the electrocatalytic performance towards methanol oxidation and oxygen evolution reaction (OER). International Journal of Hydrogen Energy, 2020, 45, 14713-14727.	3.8	96
25	Ultrafast Growth of a Cu(OH)₂â€"CuO Nanoneedle Array on Cu Foil for Methanol Oxidation Electrocatalysis. ACS Applied Materials & Interfaces, 2020, 12, 27327-27338.	4.0	95
26	Self-Assembled Molecular Hybrids of CoS-DNA for Enhanced Water Oxidation with Low Cobalt Content. Inorganic Chemistry, 2017, 56, 6734-6745.	1.9	93
27	NiTe₂ Nanowire Outperforms Pt/C in High-Rate Hydrogen Evolution at Extreme pH Conditions. Inorganic Chemistry, 2018, 57, 3082-3096.	1.9	83
28	High-Performance Oxygen Evolution Anode from Stainless Steel via Controlled Surface Oxidation and Cr Removal. ACS Sustainable Chemistry and Engineering, 2017, 5, 10072-10083.	3.2	80
29	Recovered spinel MnCo₂O₄from spent lithium-ion batteries for enhanced electrocatalytic oxygen evolution in alkaline medium. Dalton Transactions, 2017, 46, 14382-14392.	1.6	72
30	Enhanced catalytic and supercapacitor activities of DNA encapsulated Î²-MnO₂nanomaterials. Physical Chemistry Chemical Physics, 2014, 16, 21846-21859.	1.3	69
31	Nanosheets of Nickel Iron Hydroxy Carbonate Hydrate with Pronounced OER Activity under Alkaline and Near-Neutral Conditions. Inorganic Chemistry, 2019, 58, 1895-1904.	1.9	68
32	Surface amorphized nickel hydroxy sulphide for efficient hydrogen evolution reaction in alkaline medium. Chemical Engineering Journal, 2021, 408, 127275.	6.6	64
33	Magnetic CoPt nanoparticle-decorated ultrathin Co(OH)₂ nanosheets: an efficient bi-functional water splitting catalyst. Catalysis Science and Technology, 2017, 7, 2486-2497.	2.1	61
34	Stainless Steel Scrubber: A Cost Efficient Catalytic Electrode for Full Water Splitting in Alkaline Medium. ACS Sustainable Chemistry and Engineering, 2018, 6, 2498-2509.	3.2	60
35	Spinel Cobalt Titanium Binary Oxide as an All-Non-Precious Water Oxidation Electrocatalyst in Acid. Inorganic Chemistry, 2019, 58, 8570-8576.	1.9	55
36	A review on recent developments in electrochemical hydrogen peroxide synthesis with a critical assessment of perspectives and strategies. Advances in Colloid and Interface Science, 2021, 287, 102331.	7.0	53

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37	Potentiostatic phase formation of Î²-CoOOH on pulsed laser deposited biphasic cobalt oxide thin film for enhanced oxygen evolution. Journal of Materials Chemistry A, 2017, 5, 23053-23066.	5.2	50
38	Respective influence of stoichiometry and NiOOH formation in hydrogen and oxygen evolution reactions of nickel selenides. Applied Surface Science, 2019, 487, 1152-1158.	3.1	47
39	Ru-tweaking of non-precious materials: the tale of a strategy that ensures both cost and energy efficiency in electrocatalytic water splitting. Journal of Materials Chemistry A, 2021, 9, 6710-6731.	5.2	46
40	<i>iR</i> drop correction in electrocatalysis: everything one needs to know!. Journal of Materials Chemistry A, 2022, 10, 9348-9354.	5.2	46
41	Osmium Organosol on DNA: Application in Catalytic Hydrogenation Reaction and in SERS Studies. Industrial & Engineering Chemistry Research, 2014, 53, 19228-19238.	1.8	43
42	Electrospun cobalt-ZIF micro-fibers for efficient water oxidation under unique pH conditions. Catalysis Science and Technology, 2019, 9, 1847-1856.	2.1	43
43	Shrinking the Hydrogen Overpotential of Cu by 1 V and Imparting Ultralow Charge Transfer Resistance for Enhanced H₂ Evolution. ACS Catalysis, 2018, 8, 5686-5697.	5.5	42
44	Why shouldnâ€™t double-layer capacitance (Cdl) be always trusted to justify Faradaic electrocatalytic activity differences?. Journal of Electroanalytical Chemistry, 2021, 903, 115842.	1.9	42
45	Ultra-small rhenium nanoparticles immobilized on DNA scaffolds: An excellent material for surface enhanced Raman scattering and catalysis studies. Journal of Colloid and Interface Science, 2016, 483, 360-373.	5.0	37
46	Layered 2D PtX₂ (X = S, Se, Te) for the electrocatalytic HER in comparison with Mo/WX₂ and Pt/C: are we missing the bigger picture?. Energy and Environmental Science, 2022, 15, 1461-1478.	15.6	37
47	In Situ Mn-Doping-Promoted Conversion of Co(OH)₂ to Co₃O₄ as an Active Electrocatalyst for Oxygen Evolution Reaction. ACS Sustainable Chemistry and Engineering, 2019, 7, 9690-9698.	3.2	36
48	A highly stable rhenium organosol on a DNA scaffold for catalytic and SERS applications. Journal of Materials Chemistry C, 2016, 4, 6309-6320.	2.7	35
49	Worrisome Exaggeration of Activity of Electrocatalysts Destined for Steady-State Water Electrolysis by Polarization Curves from Transient Techniques. Journal of the Electrochemical Society, 2022, 169, 014508.	1.3	35
50	Iron hydroxyphosphate and Sn-incorporated iron hydroxyphosphate: efficient and stable electrocatalysts for oxygen evolution reaction. Catalysis Science and Technology, 2017, 7, 5092-5104.	2.1	34
51	Membrane free water electrolysis under 1.23â€¯V with Ni3Se4/Ni anode in alkali and Pt cathode in acid. Applied Surface Science, 2019, 478, 784-792.	3.1	34
52	Achieving Increased Electrochemical Accessibility and Lowered Oxygen Evolution Reaction Activation Energy for Co²⁺ Sites with a Simple Anion Preoxidation. Journal of Physical Chemistry C, 2020, 124, 9673-9684.	1.5	33
53	Electrochemically chopped WS₂ quantum dots as an efficient and stable electrocatalyst for water reduction. Catalysis Science and Technology, 2019, 9, 223-231.	2.1	32
54	DNA-encapsulated chain and wire-like Î²-MnO₂organosol for oxidative polymerization of pyrrole to polypyrrole. Physical Chemistry Chemical Physics, 2015, 17, 5474-5484.	1.3	31

#	ARTICLE	IF	CITATIONS
55	Advanced Cu₃Sn and Selenized Cu₃Sn@Cu Foam as Electrocatalysts for Water Oxidation under Alkaline and Near-Neutral Conditions. Inorganic Chemistry, 2019, 58, 9490-9499.	1.9	29
56	Pushing the Limits of Rapid Anodic Growth of CuO/Cu(OH)₂Nanoneedles on Cu for the Methanol Oxidation Reaction: Anodization pH Is the Game Changer. ACS Applied Energy Materials, 2021, 4, 899-912.	2.5	26
57	The upsurge of photocatalysts in antibiotic micropollutants treatment: Materials design, recovery, toxicity and bioanalysis. Journal of Photochemistry and Photobiology C: Photochemistry Reviews, 2021, 48, 100437.	5.6	26
58	Cobalt tungsten oxide hydroxide hydrate (CTOHH) on DNA scaffold: an excellent bi-functional catalyst for oxygen evolution reaction (OER) and aromatic alcohol oxidation. Dalton Transactions, 2019, 48, 17117-17131.	1.6	25
59	Developments in DNA metallization strategies for water splitting electrocatalysis: A review. Advances in Colloid and Interface Science, 2020, 282, 102205.	7.0	23
60	Dos and donâ€™ts in screening water splitting electrocatalysts. Energy Advances, 2022, 1, 511-523.	1.4	23
61	Pt nanoparticle tethered DNA assemblies for enhanced catalysis and SERS applications. New Journal of Chemistry, 2018, 42, 15784-15792.	1.4	21
62	Chemical Leaching of Inactive Cr and Subsequent Electrochemical Resurfacing of Catalytically Active Sites in Stainless Steel for High-Rate Alkaline Hydrogen Evolution Reaction. ACS Applied Energy Materials, 2020, 3, 12596-12606.	2.5	21
63	V3+ Incorporated Î²-Co(OH)2: A Robust and Efficient Electrocatalyst for Water Oxidation. Inorganic Chemistry, 2020, 59, 730-740.	1.9	20
64	A bifunctional hexa-filamentous microfibril multimetallic foam: an unconventional high-performance electrode for total water splitting under industrial operation conditions. Journal of Materials Chemistry A, 2021, 9, 4971-4983.	5.2	20
65	Enhanced Water Oxidation with Improved Stability by Aggregated RuO2-NaPO3 Core-shell Nanostructures in Acidic Medium. Current Nanoscience, 2017, 13, .	0.7	20
66	Direct Evidence of an Efficient Plasmon-Induced Hot-Electron Transfer at an in Situ Grown Ag/TiO₂ Interface for Highly Enhanced Solar H₂ Generation. ACS Applied Energy Materials, 2020, 3, 1821-1830.	2.5	19
67	NiFe-Layered Double Hydroxide Sheets as an Efficient Electrochemical Biosensing Platform. Journal of the Electrochemical Society, 2018, 165, B536-B542.	1.3	18
68	Synthesis of ultra-small Rh nanoparticles congregated over DNA for catalysis and SERS applications. Colloids and Surfaces B: Biointerfaces, 2019, 173, 249-257.	2.5	18
69	Hydrogen evolution reaction on Pt and Ru in alkali with volmer-step promotors and electronic structure modulators. Current Opinion in Electrochemistry, 2022, 33, 100961.	2.5	17
70	Nickelo-Sulfurization of DNA Leads to an Efficient Alkaline Water Oxidation Electrocatalyst with Low Ni Quantity. ACS Sustainable Chemistry and Engineering, 2018, 6, 6802-6810.	3.2	16
71	Boosting the oxygen evolution activity of copper foam containing trace Ni by intentionally supplementing Fe and forming nanowires in anodization. Electrochimica Acta, 2020, 364, 137170.	2.6	16
72	Strategies and Perspectives to Catch the Missing Pieces in Energyâ€Efficient Hydrogen Evolution Reaction in Alkaline Media. Angewandte Chemie, 2021, 133, 19129-19154.	1.6	13

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73	Reviewâ€"A Review on Electrodes Used in Electroorganic Synthesis and the Significance of Coupled Electrocatalytic Reactions. Journal of the Electrochemical Society, 2020, 167, 125503.	1.3	12
74	Prompt synthesis of iridium organosol on DNA for catalysis and SERS applications. Journal of Materials Chemistry C, 2017, 5, 11947-11957.	2.7	11
75	Microwave-Assisted Template-Free Synthesis of Ni3(BO3)2(NOB) Hierarchical Nanoflowers for Electrocatalytic Oxygen Evolution. Energy & Fuels, 2018, 32, 6224-6233.	2.5	11
76	Alternating Current Techniques for a Better Understanding of Photoelectrocatalysts. ACS Catalysis, 2021, 11, 12763-12776.	5.5	11
77	Ï€-stacking intercalation and reductant assisted stabilization of osmium organosol for catalysis and SERS applications. RSC Advances, 2015, 5, 11850-11860.	1.7	10
78	Efficient Methanol Electrooxidation Catalyzed by Potentiostatically Grown Cuâ€"O/OH(Ni) Nanowires: Role of Inherent Ni Impurity. ACS Applied Energy Materials, 2022, 5, 419-429.	2.5	10
79	Photoelectrochemical concurrent hydrogen generation and heavy metal recovery from polluted acidic mine water. Sustainable Energy and Fuels, 2021, 5, 3084-3091.	2.5	9
80	Investigation of various synthetic protocols for self-assembled nanomaterials and their role in catalysis: progress and perspectives. Materials Today Chemistry, 2018, 10, 31-78.	1.7	5
81	Layered 2D transition metal (W, Mo, and Pt) chalcogenides for hydrogen evolution reaction. , 2022, , 495-525.		2
82	The Significance of Properly Reporting Turnover Frequency in Electrocatalysis Research. Angewandte Chemie, 2021, 133, 23235.	1.6	1