ElÅ‘d L Gyenge

List of Publications by Year
in descending order

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70 papers	2,674 citations	182225 30 h-index	214428 50 g-index
70 all docs	70 docs citations	70 times ranked	3559 citing authors

#	ARTICLE	IF	CITATIONS
1	Strategies in cell design and operation for the electrosynthesis of ammonia: status and prospects. Energy and Environmental Science, 2022, 15, 2259-2287.	15.6	22
2	Determining the Influence of Catalyst Layer Architecture and Reactant Flow in an MEA for the Electrochemical Nitrogen Reduction Reaction Under Ambient Conditions. ECS Meeting Abstracts, 2022, MA2022-01, 1787-1787.	0.0	0
3	Electrocatalytic Upgrading of Biomass Fast Pyrolysis Oil. ECS Meeting Abstracts, 2022, MA2022-01, 2452-2452.	0.0	0
4	Investigation of Activation Protocols and Carbon Components for Core-Shell Mn@Mn₃O₄/Carbon Gas Diffusion Electrodes for Oxygen Reduction and Evolution Reactions. ECS Meeting Abstracts, 2022, MA2022-01, 1228-1228.	0.0	1
5	Synergistic effects between electrocatalyst and electrolyte in the electrocatalytic reduction of lignin model compounds in a stirred slurry reactor. Journal of Applied Electrochemistry, 2021, 51, 51-63.	1.5	20
6	The carbon dioxide redox flow battery: Bifunctional CO2 reduction/formate oxidation electrocatalysis on binary and ternary catalysts. Journal of Power Sources, 2021, 495, 229752.	4.0	12
7	Guaiacol Hydrogenation in Methanesulfonic Acid Using a Stirred Slurry Electrocatalytic Reactor: Mass Transport and Reaction Kinetics Aspects. ACS Sustainable Chemistry and Engineering, 2021, 9, 13164-13175.	3.2	6
8	Enhanced catalytic performance of Pt by coupling with carbon defects. Innovation(China), 2021, 2, 100161.	5.2	11
9	Electrocatalytic Hydrogenation of Guaiacol in Diverse Electrolytes Using a Stirred Slurry Reactor. ChemSusChem, 2020, 13, 629-639.	3.6	35
10	Electrocatalytic hydrogenation and depolymerization pathways for lignin valorization: toward mild synthesis of chemicals and fuels from biomass. Green Chemistry, 2020, 22, 7233-7264.	4.6	59
11	Scanning electrochemical microscopy screening of CO2 electroreduction activities and product selectivities of catalyst arrays. Communications Chemistry, 2020, 3, .	2.0	28
12	Halogens as Positive Electrode Active Species for Flow Batteries and Regenerative Fuel Cells. Electrochemical Energy Reviews, 2020, 3, 431-465.	13.1	29
13	Ammonia Thermal Treatment toward Topological Defects in Porous Carbon for Enhanced Carbon Dioxide Electroreduction. Advanced Materials, 2020, 32, e2001300.	11.1	130
14	Production of Hydrogen Peroxide for Drinking Water Treatment in a Proton Exchange Membrane Electrolyzer at Near-Neutral pH. Journal of the Electrochemical Society, 2020, 167, 044502.	1.3	8
15	Transition metal based heterogeneous electrocatalysts for the oxygen evolution reaction at near-neutral pH. Nanoscale, 2020, 12, 9924-9934.	2.8	25
16	Vibrating Powders: Electrochemical Quartz Crystal Microbalance Study of IrO₂ and Pt/C Catalyst Layers for Voltage Reversal Tolerant Anodes in Fuel Cells. Journal of Physical Chemistry C, 2019, 123, 23361-23373.	1.5	12
17	Graphene and reduced graphene oxide based microporous layers for high-performance proton-exchange membrane fuel cells under varied humidity operation. Journal of Power Sources, 2019, 423, 192-202.	4.0	30
18	Novel methodology for ex situ characterization of iridium oxide catalysts in voltage reversal tolerant proton exchange membrane fuel cell anodes. Journal of Power Sources, 2019, 417, 53-60.	4.0	21

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19	Grapheneâ€“carbon nanotube hybrid catalyst layer architecture for reversible oxygen electrodes in rechargeable metalâ€“air batteries. Journal of Applied Electrochemistry, 2019, 49, 281-290.	1.5	7
20	Design of bifunctional electrodes for co-generation of electrical power and hydrogen peroxide. Journal of Applied Electrochemistry, 2018, 48, 985-993.	1.5	11
21	Rotating disk electrode study of borohydride oxidation in a molten eutectic electrolyte and advancements in the intermediate temperature borohydride battery. Journal of Power Sources, 2017, 358, 128-133.	4.0	1
22	Controlling the Interfacial Environment in the Electrosynthesis of MnO_x Nanostructures for High-Performance Oxygen Reduction/Evolution Electrocatalysis. ACS Applied Materials & Interfaces, 2017, 9, 26771-26785.	4.0	32
23	Tuning the Composition of Electrodeposited Bimetallic Tinâ€“Lead Catalysts for Enhanced Activity and Durability in Carbon Dioxide Electroreduction to Formate. ChemSusChem, 2017, 10, 3512-3519.	3.6	24
24	Electrochemically Produced Graphene for Microporous Layers in Fuel Cells. ChemSusChem, 2016, 9, 1689-1697.	3.6	45
25	Adsorption of a Carboxylated Silane on Gold: Characterization for Its Rational Use in Hybrid Glass/Gold Substrates. Journal of Physical Chemistry C, 2016, 120, 2675-2683.	1.5	8
26	Effect of activated biochar porous structure on the capacitive deionization of NaCl and ZnCl2 solutions. Microporous and Mesoporous Materials, 2016, 224, 217-228.	2.2	75
27	Electrochemically exfoliated graphene anodes with enhanced biocurrent production in single-chamber air-breathing microbial fuel cells. Biosensors and Bioelectronics, 2016, 81, 103-110.	5.3	52
28	A novel method to tailor the porous structure of KOH-activated biochar and its application in capacitive deionization and energy storage. Biomass and Bioenergy, 2016, 87, 107-121.	2.9	159
29	Novel Graphene Foam Microporous Layers for PEM Fuel Cells: Interfacial Characteristics and Comparative Performance. Fuel Cells, 2015, 15, 790-801.	1.5	37
30	Synergistic production of graphene microsheets by simultaneous anodic and cathodic electro-exfoliation of graphitic electrodes in aprotic ionic liquids. Carbon, 2015, 84, 449-459.	5.4	46
31	Borohydride electro-oxidation in a molten alkali hydroxide eutectic mixture and a novel borohydrideâ€“periodate battery. Journal of Power Sources, 2015, 282, 169-173.	4.0	12
32	Method for Enhancing the Bifunctional Activity and Durability of Oxygen Electrodes with Mixed Oxide Electrocatalysts: Potential Driven Intercalation of Potassium. Journal of the Electrochemical Society, 2015, 162, F1356-F1366.	1.3	32
33	Electrosorption on activated biochar: effect of thermo-chemical activation treatment on the electric double layer capacitance. Journal of Applied Electrochemistry, 2014, 44, 141-157.	1.5	95
34	High-yield graphene production by electrochemical exfoliation of graphite: Novel ionic liquid (IL)â€“acetonitrile electrolyte with low IL content. Carbon, 2014, 71, 58-69.	5.4	91
35	First-principles study of borohydride adsorption properties on osmium nanoparticles and surfaces: understanding the effects of facets, size and local sites. Catalysis Science and Technology, 2014, 4, 1301-1312.	2.1	5
36	Electrocatalysis of borohydride oxidation: a review of density functional theory approach combined with experimental validation. Journal of Physics Condensed Matter, 2014, 26, 353001.	0.7	20

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37	Experimental advances and preliminary mathematical modeling of the Swiss-roll mixed-reactant direct borohydride fuel cell. Journal of Power Sources, 2014, 265, 201-213.	4.0	15
38	Water co-adsorption and electric field effects on borohydride structures on Os(111) by first-principles calculations. Journal of Alloys and Compounds, 2013, 580, S6-S9.	2.8	1
39	Differential potential pulse deposition of amorphous osmium thin films and electrocatalytic activity for borohydride oxidation in alkaline media. Electrochimica Acta, 2013, 95, 268-274.	2.6	8
40	Borohydride-tolerant oxygen electroreduction catalyst for mixed-reactant Swiss-roll direct borohydride fuel cells. Journal of Materials Chemistry A, 2013, 1, 14384.	5.2	46
41	Platinumâ€•and Membraneâ€Free Swissâ€Roll Mixedâ€Reactant Alkaline Fuel Cell. ChemSusChem, 2013, 6, 847-855.	3.6	18
42	Drinking Water Purification by Electrosynthesis of Hydrogen Peroxide in a Powerâ€Producing PEM Fuel Cell. ChemSusChem, 2013, 6, 2137-2143.	3.6	44
43	A theoretical study of the structure and stability of borohydride on 3d transition metals. Surface Science, 2012, 606, 1954-1959.	0.8	23
44	Novel organic redox catalyst for the electroreduction of oxygen to hydrogen peroxide. Electrochimica Acta, 2012, 66, 222-229.	2.6	38
45	A Swiss-roll liquidâ€“gas mixed-reactant fuel cell. Journal of Power Sources, 2012, 212, 154-160.	4.0	29
46	Electrodeposited osmium three-dimensional anodes for direct borohydride fuel cells. Journal of Power Sources, 2012, 212, 57-65.	4.0	20
47	The Electrochemical Behavior and Catalytic Activity for Oxygen Reduction of MnO₂/Câ€“ Toray Gas Diffusion Electrodes. Journal of the Electrochemical Society, 2011, 159, F23-F34.	1.3	36
48	Reactivity Descriptors for Borohydride Interaction with Metal Surfaces. Journal of Physical Chemistry C, 2011, 115, 19883-19889.	1.5	46
49	Preparation and electrochemical studies of metalâ€“carbon composite catalysts for small-scale electrosynthesis of H2O2. Electrochimica Acta, 2011, 56, 9074-9081.	2.6	64
50	Electroreduction of nitrous oxide on platinum and palladium: Toward selective catalysts for methanolâ€“nitrous oxide mixed-reactant fuel cells. Electrochimica Acta, 2011, 56, 5238-5244.	2.6	7
51	Pt/Cr and Pt/Ni Catalysts for Oxygen Reduction Reaction: To Alloy or Not to Alloy?. Journal of Nanoscience and Nanotechnology, 2011, 11, 2944-2951.	0.9	14
52	Nafion Film-Templated Platinum Electrodes for Oxygen Reduction. Electrocatalysis, 2010, 1, 22-27.	1.5	5
53	Pt-SnO2â^'Pd/C Electrocatalyst with Enhanced Activity and Durability for the Oxygen Reduction Reaction at Low Pt Loading: The Effect of Carbon Support Type and Activation. Journal of Physical Chemistry C, 2010, 114, 16488-16504.	1.5	37
54	The effect of catalyst support on the performance of PtRu in direct borohydride fuel cell anodes. Journal of Applied Electrochemistry, 2009, 39, 1763-1770.	1.5	21

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55	Novel catalyst-support interaction for direct formic acid fuel cell anodes: Pd electrodeposition on surface-modified graphite felt. Journal of Applied Electrochemistry, 2009, 39, 1925-1938.	1.5	37
56	A Study of the Catalytic Interface for O₂ Electroreduction on Pt: The Interaction between Carbon Support Meso/Microstructure and Ionomer (Nafion) Distribution. Journal of Physical Chemistry C, 2009, 113, 298-307.	1.5	43
57	Electrocatalytic Oxidation of Methanol, Ethanol and Formic Acid. , 2008, , 165-287.		7
58	Electrochemically assisted organosol method for Pt-Sn nanoparticle synthesis and in situ deposition on graphite felt support: Extended reaction zone anodes for direct ethanol fuel cells. Electrochimica Acta, 2007, 52, 4287-4298.	2.6	27
59	Direct methanol fuel cell with extended reaction zone anode: PtRu and PtRuMo supported on graphite felt. Journal of Power Sources, 2007, 167, 281-287.	4.0	43
60	Direct methanol fuel cells with reticulated vitreous carbon, uncompressed graphite felt and Ti mesh anodes. Journal of Applied Electrochemistry, 2007, 38, 51-62.	1.5	20
61	Reply to â€œComments on the paper [â€˜Electrooxidation of borohydride on platinum and gold electrodes: Implications for direct borohydride fuel cellsâ€™ by E. Gyenge, Electrochim. Acta 49 (2004) 965]: Thiourea, a poison for the anode metallic electrocatalyst of the direct borohydride fuel cell?â€•by Ãœ.B. Demirci, Electrochim. Acta 52 (2007) 5119. Electrochimica Acta, 2007, 52, 5122-5123.	2.6	9
62	Evaluation of colloidal Ag and Ag-alloys as anode electrocatalysts for direct borohydride fuel cells. International Journal of Hydrogen Energy, 2007, 32, 3116-3125.	3.8	87
63	Electrochemical Formation of a Pt/Zn Alloy and Its Use as a Catalyst for Oxygen Reduction Reaction in Fuel Cells. Journal of Physical Chemistry B, 2006, 110, 8715-8722.	1.2	42
64	Electrodeposition of Ptâ€“Ru nanoparticles on fibrous carbon substrates in the presence of nonionic surfactant: Application for methanol oxidation. Electrochimica Acta, 2006, 51, 5356-5364.	2.6	34
65	Electrodeposition of mesoscopic Pt-Ru on reticulated vitreous carbon from reverse emulsions and microemulsions: Application to methanol electro-oxidation. Electrochimica Acta, 2006, 51, 3904-3913.	2.6	23
66	Colloidal Au and Au-alloy catalysts for direct borohydride fuel cells: Electrocatalysis and fuel cell performance. Journal of Power Sources, 2006, 158, 36-44.	4.0	178
67	Direct Methanol Fuel Cell with Extended Reaction Zone Anode. ECS Transactions, 2006, 3, 1271-1277.	0.3	2
68	Evaluation of colloidal Os and Os-Alloys (Osâ€“Sn, Osâ€“Mo and Osâ€“V) for electrocatalysis of methanol and borohydride oxidation. International Journal of Hydrogen Energy, 2005, 30, 1323-1331.	3.8	73
69	Electrooxidation of borohydride on platinum and gold electrodes: implications for direct borohydride fuel cells. Electrochimica Acta, 2004, 49, 965-978.	2.6	305
70	Electroplated reticulated vitreous carbon current collectors for leadâ€“acid batteries: opportunities and challenges. Journal of Power Sources, 2003, 113, 388-395.	4.0	71