Wen-Bin Cai

List of Publications by Year
in descending order

101	8,907	38720 50	40954 93
papers	citations	h-index	g-index

104	104	104	9514
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Reduced Mesoporous Co₃O₄ Nanowires as Efficient Water Oxidation Electrocatalysts and Supercapacitor Electrodes. Advanced Energy Materials, 2014, 4, 1400696.	10.2	852
2	Direct Observation on Reaction Intermediates and the Role of Bicarbonate Anions in CO₂ Electrochemical Reduction Reaction on Cu Surfaces. Journal of the American Chemical Society, 2017, 139, 15664-15667.	6.6	468
3	Recent Advances on Electro-Oxidation of Ethanol on Pt- and Pd-Based Catalysts: From Reaction Mechanisms to Catalytic Materials. Catalysts, 2015, 5, 1507-1534.	1.6	379
4	B-Doped Pd Catalyst: Boosting Room-Temperature Hydrogen Production from Formic Acidâ€“Formate Solutions. Journal of the American Chemical Society, 2014, 136, 4861-4864.	6.6	364
5	Transition-Metal Single Atoms in a Graphene Shell as Active Centers for Highly Efficient Artificial Photosynthesis. CheM, 2017, 3, 950-960.	5.8	326
6	Boosting Formate Production in Electrocatalytic CO₂ Reduction over Wide Potential Window on Pd Surfaces. Journal of the American Chemical Society, 2018, 140, 2880-2889.	6.6	310
7	Electrocatalysis of formic acid on palladium and platinum surfaces: from fundamental mechanisms to fuel cell applications. Physical Chemistry Chemical Physics, 2014, 16, 20360-20376.	1.3	296
8	Promoting Effect of Ni(OH)₂ on Palladium Nanocrystals Leads to Greatly Improved Operation Durability for Electrocatalytic Ethanol Oxidation in Alkaline Solution. Advanced Materials, 2017, 29, 1703057.	11.1	251
9	CO₂ Electrochemical Reduction As Probed through Infrared Spectroscopy. ACS Energy Letters, 2019, 4, 682-689.	8.8	250
10	Switchable CO2 electroreduction via engineering active phases of Pd nanoparticles. Nano Research, 2017, 10, 2181-2191.	5.8	208
11	From HCOOH to CO at Pd Electrodes: A Surface-Enhanced Infrared Spectroscopy Study. Journal of the American Chemical Society, 2011, 133, 14876-14879.	6.6	207
12	Ultralowâ€Platinumâ€Loading Highâ€Performance Nanoporous Electrocatalysts with Nanoengineered Surface Structures. Advanced Materials, 2010, 22, 1845-1848.	11.1	189
13	Electrocatalysis of Ethanol on a Pd Electrode in Alkaline Media: An in Situ Attenuated Total Reflection Surface-Enhanced Infrared Absorption Spectroscopy Study. ACS Catalysis, 2014, 4, 798-803.	5.5	182
14	Ubiquitous Strategy for Probing ATR Surface-Enhanced Infrared Absorption at Platinum Group Metalâ^'Electrolyte Interfaces. Journal of Physical Chemistry B, 2005, 109, 7900-7906.	1.2	156
15	Carbon-Supported Pdâ^'Pt Nanoalloy with Low Pt Content and Superior Catalysis for Formic Acid Electro-oxidation. Journal of Physical Chemistry C, 2010, 114, 6446-6451.	1.5	152
16	Boron-Doped Palladium Nanoparticles on Carbon Black as a Superior Catalyst for Formic Acid Electro-oxidation. Journal of Physical Chemistry C, 2009, 113, 8366-8372.	1.5	148
17	Nature of Oxygen-Containing Groups on Carbon for High-Efficiency Electrocatalytic CO₂ Reduction Reaction. Journal of the American Chemical Society, 2019, 141, 20451-20459.	6.6	143
18	Carbon supported Pdâ€“Niâ€“P nanoalloy as an efficient catalyst for ethanol electro-oxidation in alkaline media. Journal of Power Sources, 2013, 243, 369-373.	4.0	141

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19	Infrared Absorption Enhancement for CO Adsorbed on Au Films in Perchloric Acid Solutions and Effects of Surface Structure Studied by Cyclic Voltammetry, Scanning Tunneling Microscopy, and Surface-Enhanced IR Spectroscopy. Journal of Physical Chemistry B, 1999, 103, 2460-2466.	1.2	133
20	Orientational Phase Transition in a Pyridine Adlayer on Gold(111) in Aqueous Solution Studied by in Situ Infrared Spectroscopy and Scanning Tunneling Microscopy. Langmuir, 1998, 14, 6992-6998.	1.6	131
21	Interfacial Structure of Water as a New Descriptor of the Hydrogen Evolution Reaction. Angewandte Chemie - International Edition, 2020, 59, 22397-22402.	7.2	125
22	Li Electrochemical Tuning of Metal Oxide for Highly Selective CO₂ Reduction. ACS Nano, 2017, 11, 6451-6458.	7.3	123
23	Ptâ€“CoP/C as an alternative PtRu/C catalyst for direct methanol fuel cells. Journal of Materials Chemistry A, 2016, 4, 18607-18613.	5.2	122
24	Nanostructured palladium catalyst poisoning depressed by cobalt phosphide in the electro-oxidation of formic acid for fuel cells. Nano Energy, 2016, 30, 355-361.	8.2	107
25	In Situ Iridium LIII-Edge X-ray Absorption and Surface Enhanced Raman Spectroscopy of Electrodeposited Iridium Oxide Films in Aqueous Electrolytes. Journal of Physical Chemistry B, 2002, 106, 3681-3686.	1.2	104
26	Pdâ€“Cu/C electrocatalysts synthesized by one-pot polyol reduction toward formic acid oxidation: Structural characterization and electrocatalytic performance. International Journal of Hydrogen Energy, 2015, 40, 1726-1734.	3.8	97
27	Facile Fabrication of Ultrafine Copper Nanoparticles in Organic Solvent. Nanoscale Research Letters, 2009, 4, 705-8.	3.1	92
28	Electrocatalytic Activities of Oxygen Reduction Reaction on Pd/C and Pdâ€“B/C Catalysts. Journal of Physical Chemistry C, 2017, 121, 3416-3423.	1.5	91
29	Surfactant-Free Synthesis of Carbon-Supported Palladium Nanoparticles and Size-Dependent Hydrogen Production from Formic Acidâ€“Formate Solution. ACS Applied Materials & Interfaces, 2017, 9, 24678-24687.	4.0	91
30	Bioâ€Inspired Leafâ€Mimicking Nanosheet/Nanotube Heterostructure as a Highly Efficient Oxygen Evolution Catalyst. Advanced Science, 2015, 2, 1500003.	5.6	90
31	Recent applications of in situ ATR-IR spectroscopy in interfacial electrochemistry. Current Opinion in Electrochemistry, 2017, 1, 73-79.	2.5	83
32	Controllable Increase of Boron Content in B-Pd Interstitial Nanoalloy To Boost the Oxygen Reduction Activity of Palladium. Chemistry of Materials, 2017, 29, 10060-10067.	3.2	83
33	Combined Surface-Enhanced Infrared Spectroscopy and First-Principles Study on Electro-Oxidation of Formic Acid at Sb-Modified Pt Electrodes. Journal of Physical Chemistry C, 2010, 114, 3102-3107.	1.5	82
34	Mechanistic Analysis-Guided Pd-Based Catalysts for Efficient Hydrogen Production from Formic Acid Dehydrogenation. ACS Catalysis, 2020, 10, 3921-3932.	5.5	82
35	Palladium nanocrystals bound by {110} or {100} facets: from one pot synthesis to electrochemistry. Chemical Communications, 2012, 48, 8362.	2.2	81
36	Infrared Spectroelectrochemical Study of Dissociation and Oxidation of Methanol at a Palladium Electrode in Alkaline Solution. Langmuir, 2013, 29, 1709-1716.	1.6	81

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37	In situ spectroscopic investigation of CO accumulation and poisoning on Pd black surfaces in concentrated HCOOH. Journal of Power Sources, 2012, 199, 165-169.	4.0	80
38	Carbon supported Pd-Pt-Cu nanocatalysts for formic acid electrooxidation: Synthetic screening and componential functions. Applied Catalysis B: Environmental, 2014, 147, 185-192.	10.8	80
39	Seeded-Growth Approach to Fabrication of Silver Nanoparticle Films on Silicon for Electrochemical ATR Surface-Enhanced IR Absorption Spectroscopy. Journal of Physical Chemistry B, 2006, 110, 25721-25728.	1.2	78
40	Electrocatalysis of Ethylene Glycol Oxidation on Bare and Bi-Modified Pd Concave Nanocubes in Alkaline Solution: An Interfacial Infrared Spectroscopic Investigation. ACS Catalysis, 2017, 7, 2033-2041.	5.5	77
41	Pdâ€“PdO Interface as Active Site for HCOOH Selective Dehydrogenation at Ambient Condition. Journal of Physical Chemistry C, 2018, 122, 2081-2088.	1.5	75
42	Small Addition of Boron in Palladium Catalyst, Big Improvement in Fuel Cellâ€™s Performance: What May Interfacial Spectroelectrochemistry Tell?. ACS Applied Materials & Interfaces, 2016, 8, 7133-7138.	4.0	71
43	Probing the enhanced methanol electrooxidation mechanism on platinum-metal oxide catalyst. Applied Catalysis B: Environmental, 2021, 280, 119393.	10.8	68
44	Effects of ligands on electroless Niâ€“P alloy plating from alkaline citrateâ€“ammonia solution. Surface and Coatings Technology, 2003, 168, 300-306.	2.2	59
45	Electrocatalytic oxidation of ethanol and ethylene glycol on cubic, octahedral and rhombic dodecahedral palladium nanocrystals. Chemical Communications, 2018, 54, 2562-2565.	2.2	59
46	Extending in Situ Attenuated-Total-Reflection Surface-Enhanced Infrared Absorption Spectroscopy to Ni Electrodes. Journal of Physical Chemistry B, 2006, 110, 4162-4169.	1.2	58
47	Tunable Surface-Enhanced Infrared Absorption on Au Nanofilms on Si Fabricated by Self-Assembly and Growth of Colloidal Particles. Journal of Physical Chemistry B, 2005, 109, 15985-15991.	1.2	56
48	Seeded growth fabrication of Cu-on-Si electrodes for in situ ATR-SEIRAS applications. Electrochimica Acta, 2007, 52, 5950-5957.	2.6	56
49	Spectrometric Study of Electrochemical CO₂ Reduction on Pd and Pd-B Electrodes. ACS Catalysis, 2021, 11, 840-848.	5.5	56
50	Study of CO Oxidation on Polycrystalline Pt Electrodes in Acidic Solution by ATR-SEIRAS. Journal of Physical Chemistry C, 2011, 115, 16378-16388.	1.5	52
51	Resolving local reaction environment toward an optimized CO₂-to-CO conversion performance. Energy and Environmental Science, 2022, 15, 749-759.	15.6	48
52	Mesoporous microcapsules with noble metal or noble metal oxide shells and their application in electrocatalysis. Journal of Materials Chemistry, 2004, 14, 3548.	6.7	46
53	Preparation of carbon supported Pdâ€“Pb hollow nanospheres and their electrocatalytic activities for formic acid oxidation. Electrochemistry Communications, 2010, 12, 901-904.	2.3	40
54	Carbon monoxide mediated chemical deposition of Pt or Pd quasi-monolayer on Au surfaces with superior electrocatalysis for ethanol oxidation in alkaline media. Chemical Communications, 2016, 52, 374-377.	2.2	39

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55	Practically Modified Attenuated Total Reflection Surface-Enhanced IR Absorption Spectroscopy for High-Quality Frequency-Extended Detection of Surface Species at Electrodes. Analytical Chemistry, 2008, 80, 166-171.	3.2	38
56	Selective Reduction of CO₂ to CO on an Sb-Modified Cu Electrode: Spontaneous Fabrication and Physical Insight. ACS Catalysis, 2021, 11, 6846-6856.	5.5	37
57	Steering the Glycerol Electroâ€Reforming Selectivity via Cationâ€“Intermediate Interactions. Angewandte Chemie - International Edition, 2022, 61, .	7.2	37
58	Facile Fabrication of Pt, Pd and Ptâ˜Pd Alloy Films on Si with Tunable Infrared Internal Reflection Absorption and Synergetic Electrocatalysis. Journal of Physical Chemistry C, 2009, 113, 13841-13846.	1.5	36
59	A versatile electroless approach to controlled modification of Sb on Pt surfaces towards efficient electrocatalysis of formic acid. Electrochemistry Communications, 2009, 11, 831-833.	2.3	34
60	Surface Raman spectroscopic investigation of pyridine adsorption at platinum electrodesâ€”effects of potential and electrolyte. Journal of the Chemical Society, Faraday Transactions, 1998, 94, 3127-3133.	1.7	33
61	Manganese Dioxide Coated Graphene Nanoribbons Supported Palladium Nanoparticles as an Efficient Catalyst for Ethanol Electrooxidation in Alkaline Media. Electrochimica Acta, 2016, 203, 91-98.	2.6	33
62	In Situ Raman Spectroscopy of Single Particle Electrodes. Electrochemical and Solid-State Letters, 2001, 4, A101.	2.2	32
63	Palladium modified gold nanoparticles as electrocatalysts for ethanol electrooxidation. Journal of Power Sources, 2016, 321, 264-269.	4.0	31
64	Changing the Product Selectivity for Electrocatalysis of CO₂ Reduction Reaction on Plated Cu Electrodes. ChemCatChem, 2019, 11, 6139-6146.	1.8	31
65	In Situ Raman Spectroscopy of Zinc Electrodes in Alkaline Solutions. Journal of the Electrochemical Society, 2003, 150, B217.	1.3	30
66	In Situ, Real-Time Raman Microscopy of Embedded Single Particle Graphite Electrodes. Journal of the Electrochemical Society, 2002, 149, A1100.	1.3	28
67	Facile fabrication of silver nanoparticles on silicon for surfaceâ€enhanced infrared and Raman analysis. Surface and Interface Analysis, 2008, 40, 81-84.	0.8	28
68	A Multifunction Lithiumâ€“Carbon Battery System Using a Dual Electrolyte. ACS Energy Letters, 2017, 2, 36-44.	8.8	28
69	Facile Aqueous Phase Synthesis of Carbon Supported B-doped Pt3Ni Nanocatalyst for Efficient Oxygen Reduction Reaction. Electrochimica Acta, 2017, 246, 242-250.	2.6	26
70	A facile method to synthesize well-dispersed PtRuMoOx and PtRuWOx nanoparticles and their electrocatalytic activities for methanol oxidation. Journal of Power Sources, 2009, 192, 285-290.	4.0	25
71	Hâ€“D kinetic isotope effects of alcohol electrooxidation on Au, Pd and Pt electrodes in alkaline solutions. Electrochemistry Communications, 2013, 37, 49-52.	2.3	25
72	Interfacial Water at a CO-Predosed Platinum Electrode: A Surface Enhanced Infrared Study with Strong Hydrogen Evolution Reaction Control. Journal of Physical Chemistry C, 2011, 115, 5584-5592.	1.5	24

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73	Surface-Enhanced Infrared Spectroscopic Study of a CO-Covered Pt Electrode in Room-Temperature Ionic Liquid. Journal of Physical Chemistry Letters, 2013, 4, 1582-1586.	2.1	24
74	In situ ATRâ€“FTIR spectroscopy on Niâ€“P alloy electrodes. Electrochimica Acta, 2009, 54, 1834-1841.	2.6	23
75	Enhanced Electrocatalysis of Ethanol on Dealloyed Pd-Ni-P Film in Alkaline Media: an Infrared Spectroelectrochemical Investigation. Electrochimica Acta, 2015, 162, 100-107.	2.6	23
76	High Performance Ag Rich Pd-Ag Bimetallic Electrocatalyst for Ethylene Glycol Oxidation in Alkaline Media. Journal of the Electrochemical Society, 2018, 165, J3259-J3265.	1.3	23
77	In Situ Raman Spectroscopy of Single Particle Microelectrodes. Electrochemical and Solid-State Letters, 2003, 6, E35.	2.2	21
78	An alternate aqueous phase synthesis of the Pt3Co/C catalyst towards efficient oxygen reduction reaction. Chinese Journal of Catalysis, 2019, 40, 1895-1903.	6.9	21
79	Revisiting the Acetaldehyde Oxidation Reaction on a Pt Electrode by High-Sensitivity and Wide-Frequency Infrared Spectroscopy. Journal of Physical Chemistry Letters, 2020, 11, 8727-8734.	2.1	21
80	Electrochemical Characterization of Nitrogen-Incorporated Tetrahedral Carbon Films Grown by a Filtered Cathodic Vacuum Arc. Electrochemical and Solid-State Letters, 2001, 4, E42.	2.2	20
81	Exploring Electrosorption at Iron Electrode with in Situ Surface-Enhanced Infrared Absorption Spectroscopy. Analytical Chemistry, 2010, 82, 5117-5124.	3.2	20
82	A comparative investigation of electrocatalysis at Pt monolayers on shape-controlled Au nanocrystals: facet effect versus strain effect. Journal of Materials Chemistry A, 2016, 4, 15845-15850.	5.2	19
83	In Situ Surface Enhanced Raman Scattering of Ruthenium Dioxide Films in Acid Electrolytes. Electrochemical and Solid-State Letters, 2001, 4, E37.	2.2	17
84	Application of Surface-Enhanced Infrared Absorption Spectroscopy to Investigate Pyridine Adsorption on Platinum-Group Electrodes. Applied Spectroscopy, 2007, 61, 1328-1333.	1.2	17
85	Synthesis of well-dispersed PtRuSnOx by ultrasonic-assisted chemical reduction and its property for methanol electrooxidation. Electrochimica Acta, 2009, 54, 4436-4440.	2.6	17
86	Interstitial B-Doping in Pt Lattice to Upgrade Oxygen Electroreduction Performance. ACS Catalysis, 2022, 12, 8848-8856.	5.5	17
87	Exploiting the Surface-Enhanced IR Absorption Effect in the Photothermally Induced Resonance AFM-IR Technique toward Nanoscale Chemical Analysis. Analytical Chemistry, 2019, 91, 10541-10548.	3.2	16
88	Selective Alcohol on Dark Cathodes by Photoelectrochemical CO₂ Valorization and Their In Situ Characterization. ACS Energy Letters, 2019, 4, 1549-1555.	8.8	15
89	In Situ Surface-Enhanced IR Absorption Spectroscopy on CO Adducts of Iron Protoporphyrin IX Self-Assembled on a Au Electrode. Journal of Physical Chemistry B, 2006, 110, 14911-14915.	1.2	14
90	Local Coordination and Reactivity of a Pt Single-Atom Catalyst as Probed by Spectroelectrochemical and Computational Approaches. CCS Chemistry, 2021, 3, 241-251.	4.6	13

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91	Interfacial Structure of Water as a New Descriptor of the Hydrogen Evolution Reaction. Angewandte Chemie, 2020, 132, 22583-22588.	1.6	11
92	Deactivated Pt Electrocatalysts for the Oxygen Reduction Reaction: The Regeneration Mechanism and a Regenerative Protocol. ACS Catalysis, 2021, 11, 9293-9299.	5.5	11
93	Boosting electrocatalytic oxidation of formic acid on SnO2-decorated Pd nanosheets. Journal of Catalysis, 2021, 399, 8-14.	3.1	11
94	Alternative Aqueous Phase Synthesis of a PtRu/C Electrocatalyst for Direct Methanol Fuel Cells. Catalysts, 2021, 11, 925.	1.6	9
95	Deactivation and regeneration of a benchmark Pt/C catalyst toward oxygen reduction reaction in the presence of poisonous SO₂ and NO. Catalysis Science and Technology, 2022, 12, 2929-2934.	2.1	8
96	Aqueous Phase Approach to Au-Modified Ptâ€“Co/C toward Efficient and Durable Cathode Catalyst of PEMFCs. Journal of Physical Chemistry C, 2021, 125, 23821-23829.	1.5	6
97	Steering the Glycerol Electroâ€Reforming Selectivity via Cationâ€“Intermediate Interactions. Angewandte Chemie, 2022, 134, .	1.6	6
98	Electrocatalytic CO2 and HCOOH interconversion on Pd-based catalysts. , 2022, 1, 100007.		6
99	Oxidation Kinetics of a Lead Electrode Covered with an Anodic Pb(II) Film in Sulfuric Acid Solution. Journal of the Electrochemical Society, 2003, 150, B325.	1.3	5
100	(Invited) B-Doped Pd Catalyst to Boost Formate Production in Electrochemical CO2 Reduction. ECS Meeting Abstracts, 2018, , .	0.0	0
101	(Invited) Developing Electrocatalysts for Ethanol Oxidation Reaction in Alkaline Media. ECS Meeting Abstracts, 2018, , .	0.0	0