

Tian Sheng

List of Publications by Year in descending order

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90
papers

4,595
citations

101543

36
h-index

106344

65
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91
all docs

91
docs citations

91
times ranked

6095
citing authors

#	ARTICLE	IF	CITATIONS
1	Edge-Site Engineering of Atomically Dispersed Fe ^{N₄} by Selective C–N Bond Cleavage for Enhanced Oxygen Reduction Reaction Activities. <i>Journal of the American Chemical Society</i> , 2018, 140, 11594-11598.	13.7	603
2	Atomic cobalt as an efficient electrocatalyst in sulfur cathodes for superior room-temperature sodium-sulfur batteries. <i>Nature Communications</i> , 2018, 9, 4082.	12.8	305
3	Identifying the key obstacle in photocatalytic oxygen evolution on rutile TiO ₂ . <i>Nature Catalysis</i> , 2018, 1, 291-299.	34.4	212
4	Long-Life Room-Temperature Sodium–Sulfur Batteries by Virtue of Transition-Metal–Nanocluster–Sulfur Interactions. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 1484-1488.	13.8	165
5	Octahedral PtCu alloy nanocrystals with high performance for oxygen reduction reaction and their enhanced stability by trace Au. <i>Nano Energy</i> , 2017, 33, 65-71.	16.0	139
6	Structure Design and Performance Tuning of Nanomaterials for Electrochemical Energy Conversion and Storage. <i>Accounts of Chemical Research</i> , 2016, 49, 2569-2577.	15.6	131
7	Graphitized porous carbon materials with high sulfur loading for lithium-sulfur batteries. <i>Nano Energy</i> , 2017, 32, 503-510.	16.0	118
8	Clarifying the controversial catalytic active sites of Co ₃ O ₄ for the oxygen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2019, 7, 23191-23198.	10.3	115
9	Singlet oxygen triggered by robust bimetallic MoFe/TiO ₂ nanospheres of highly efficacy in solar-light-driven peroxymonosulfate activation for organic pollutants removal. <i>Applied Catalysis B: Environmental</i> , 2021, 286, 119930.	20.2	110
10	In-situ FTIR spectroscopic studies of electrocatalytic reactions and processes. <i>Nano Energy</i> , 2016, 29, 414-427.	16.0	108
11	Cu ²⁺ Dual-Doped Layer-Tunnel Hybrid Na _{0.6} MnO ₂ as a Cathode of Sodium-Ion Battery with Enhanced Structure Stability, Electrochemical Property, and Air Stability. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 10147-10156.	8.0	98
12	Insights into the mechanism of nitrobenzene reduction to aniline over Pt catalyst and the significance of the adsorption of phenyl group on kinetics. <i>Chemical Engineering Journal</i> , 2016, 293, 337-344.	12.7	96
13	Constructing a Triple-Phase Interface in Micropores to Boost Performance of Fe/N/C Catalysts for Direct Methanol Fuel Cells. <i>ACS Energy Letters</i> , 2017, 2, 645-650.	17.4	89
14	Platinum–Cobalt Bimetallic Nanoparticles with Pt Skin for Electro-Oxidation of Ethanol. <i>ACS Catalysis</i> , 2017, 7, 892-895.	11.2	89
15	Synergetic Effect of Ru and NiO in the Electrocatalytic Decomposition of Li ₂ CO ₃ to Enhance the Performance of a Li-CO ₂ /O ₂ Battery. <i>ACS Catalysis</i> , 2020, 10, 1640-1651.	11.2	85
16	Structurally Disordered Phosphorus-Doped Pt as a Highly Active Electrocatalyst for an Oxygen Reduction Reaction. <i>ACS Catalysis</i> , 2021, 11, 355-363.	11.2	79
17	PtCo@NCs with Short Heteroatom Active Site Distance for Enhanced Catalytic Properties. <i>Advanced Functional Materials</i> , 2020, 30, 2002281.	14.9	74
18	Role of Water and Adsorbed Hydroxyls on Ethanol Electrochemistry on Pd: New Mechanism, Active Centers, and Energetics for Direct Ethanol Fuel Cell Running in Alkaline Medium. <i>Journal of Physical Chemistry C</i> , 2014, 118, 5762-5772.	3.1	73

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19	Does the oxophilic effect serve the same role for hydrogen evolution/oxidation reaction in alkaline media?. Nano Energy, 2019, 62, 601-609.	16.0	68
20	Pd Nanocrystals with Continuously Tunable High-Index Facets as a Model Nanocatalyst. ACS Catalysis, 2019, 9, 3144-3152.	11.2	68
21	Regulating the Hidden Solvation-Ion-Exchange in Concentrated Electrolytes for Stable and Safe Lithium Metal Batteries. Advanced Energy Materials, 2020, 10, 2000901.	19.5	65
22	Cu overlayers on tetrahedral Pd nanocrystals with high-index facets for CO ₂ electroreduction to alcohols. Chemical Communications, 2017, 53, 8085-8088.	4.1	64
23	Long-Life Room-Temperature Sodium-Sulfur Batteries by Virtue of Transition-Metal-Nanocluster-Sulfur Interactions. Angewandte Chemie, 2019, 131, 1498-1502.	2.0	63
24	Design of Binary Cu-Fe Sites Coordinated with Nitrogen Dispersed in the Porous Carbon for Synergistic CO ₂ Electroreduction. Small, 2021, 17, e2006951.	10.0	63
25	The origin of high activity but low CO ₂ selectivity on binary PtSn in the direct ethanol fuel cell. Physical Chemistry Chemical Physics, 2014, 16, 9432-9440.	2.8	56
26	Novel Sulfur Host Composed of Cobalt and Porous Graphitic Carbon Derived from MOFs for the High-Performance Li-S Battery. ACS Applied Materials & Interfaces, 2018, 10, 13499-13508.	8.0	54
27	Excavated cubic platinum-iridium alloy nanocrystals with high-index facets as highly efficient electrocatalysts in N ₂ fixation to NH ₃ . Chemical Communications, 2019, 55, 9335-9338.	4.1	48
28	Ordered platinum-bismuth intermetallic clusters with Pt-skin for a highly efficient electrochemical ethanol oxidation reaction. Journal of Materials Chemistry A, 2019, 7, 5214-5220.	10.3	48
29	Fe Single Atoms and Fe ₂ O ₃ Clusters Liberated from N-Doped Polyhedral Carbon for Chemoselective Hydrogenation under Mild Conditions. ACS Applied Materials & Interfaces, 2020, 12, 34122-34129.	8.0	47
30	Methanol electro-oxidation on platinum modified tungsten carbides in direct methanol fuel cells: a DFT study. Physical Chemistry Chemical Physics, 2015, 17, 25235-25243.	2.8	46
31	Designing Pt-Based Electrocatalysts with High Surface Energy. ACS Energy Letters, 2017, 2, 1892-1900.	17.4	46
32	Outstanding long-cycling lithium-sulfur batteries by core-shell structure of S@Pt composite with ultrahigh sulfur content. , 2022, 1, 100006.		45
33	Significance of H ₂ -dehydrogenation in ethanol electro-oxidation on platinum doped with Ru, Rh, Pd, Os and Ir. Physical Chemistry Chemical Physics, 2014, 16, 13248-13254.	2.8	44
34	Visualization of facet-dependent pseudo-photocatalytic behavior of TiO ₂ nanorods for water splitting using In situ liquid cell TEM. Nano Energy, 2019, 62, 507-512.	16.0	44
35	Ru nanoparticles supported on partially reduced TiO ₂ as highly efficient catalyst for hydrogen evolution. Nano Energy, 2021, 88, 106211.	16.0	43
36	Electrostatic Self-Assembly Enabling Integrated Bulk and Interfacial Sodium Storage in 3D Titania-Graphene Hybrid. Nano Letters, 2018, 18, 336-346.	9.1	40

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37	Fe/Fe ₃ C Encapsulated in N-Doped Carbon Tubes: A Recyclable Catalyst for Hydrogenation with High Selectivity. <i>Inorganic Chemistry</i> , 2019, 58, 9469-9475.	4.0	40
38	Hydrogen adsorption-mediated synthesis of concave Pt nanocubes and their enhanced electrocatalytic activity. <i>Nanoscale</i> , 2016, 8, 11559-11564.	5.6	39
39	Electrochemical reduction of CO ₂ into CO on Cu(100): a new insight into the C=O bond breaking mechanism. <i>Chemical Communications</i> , 2017, 53, 2594-2597.	4.1	39
40	Core-Shell Structured S@Co(OH) ₂ with a Carbon-Nanofiber Interlayer: A Conductive Cathode with Suppressed Shuttling Effect for High-Performance Lithium-Sulfur Batteries. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 4065-4073.	8.0	35
41	Regulating the nanoscale intimacy of metal and acidic sites in Ru/Al ₂ O ₃ for the selective conversions of lignin-derived phenols to jet fuels. <i>Journal of Energy Chemistry</i> , 2022, 66, 576-586.	12.9	35
42	Ammonia electrooxidation on dendritic Pt nanostructures in alkaline solutions investigated by in-situ FTIR spectroscopy and online electrochemical mass spectroscopy. <i>Journal of Electroanalytical Chemistry</i> , 2018, 819, 495-501.	3.8	34
43	Porous Carbon Membrane-Supported Atomically Dispersed Pyrrole-Type Fe/N ₄ as Active Sites for Electrochemical Hydrazine Oxidation Reaction. <i>Small</i> , 2020, 16, e2002203.	10.0	34
44	Constructing canopy-shaped molecular architectures to create local Pt surface sites with high tolerance to H ₂ S and CO for hydrogen electrooxidation. <i>Energy and Environmental Science</i> , 2018, 11, 166-171.	30.8	32
45	Unexpected effects of zirconium-doping in the high performance sodium manganese-based layer-tunnel cathode. <i>Journal of Materials Chemistry A</i> , 2018, 6, 13934-13942.	10.3	32
46	Efficient electrocatalytic water splitting by bimetallic cobalt iron boride nanoparticles with controlled electronic structure. <i>Journal of Colloid and Interface Science</i> , 2021, 604, 650-659.	9.4	32
47	Iron Doped in the Subsurface of CuS Nanosheets by Interionic Redox: Highly Efficient Electrocatalysts toward the Oxygen Evolution Reaction. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 16210-16217.	8.0	31
48	Insights into the Distinct Lithiation/Sodiation of Porous Cobalt Oxide by in Operando Synchrotron X-ray Techniques and Ab Initio Molecular Dynamics Simulations. <i>Nano Letters</i> , 2017, 17, 953-962.	9.1	30
49	Seeds and Potentials Mediated Synthesis of High-Index Faceted Gold Nanocrystals with Enhanced Electrocatalytic Activities. <i>Langmuir</i> , 2017, 33, 6991-6998.	3.5	30
50	Suppressing lithium dendrite growth by a synergetic effect of uniform nucleation and inhibition. <i>Journal of Materials Chemistry A</i> , 2020, 8, 4300-4307.	10.3	29
51	High CO-Tolerant Ru-Based Catalysts by Constructing an Oxide Blocking Layer. <i>Journal of the American Chemical Society</i> , 2022, 144, 9292-9301.	13.7	29
52	Dodecahedral W@WC Composite as Efficient Catalyst for Hydrogen Evolution and Nitrobenzene Reduction Reactions. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 20594-20602.	8.0	28
53	Novel 3.9 V Layered Na ₃ V ₃ (PO ₄) ₄ Cathode Material for Sodium Ion Batteries. <i>ACS Applied Energy Materials</i> , 2018, 1, 3603-3606.	5.1	23
54	Elucidation of the surface structure-selectivity relationship in ethanol electro-oxidation over platinum by density functional theory. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 15501-15504.	2.8	20

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55	Free energy landscape of electrocatalytic CO ₂ reduction to CO on aqueous FeN ₄ center embedded graphene studied by ab initio molecular dynamics simulations. Chemical Physics Letters, 2017, 688, 37-42.	2.6	20
56	Enhancing electrocatalytic nitrogen reduction to ammonia with rare earths (La, Y, and Sc) on high-index faceted platinum alloy concave nanocubes. Journal of Materials Chemistry A, 2021, 9, 26277-26285.	10.3	20
57	Insight into the promoting role of Rh doped on Pt(111) in methanol electro-oxidation. Journal of Electroanalytical Chemistry, 2016, 781, 24-29.	3.8	19
58	Insight into CO Activation over Cu(100) under Electrochemical Conditions. Electrochimica Acta, 2016, 190, 446-454.	5.2	19
59	Concave Cubic Pt-Sm Alloy Nanocrystals with High-Index Facets and Enhanced Electrocatalytic Ethanol Oxidation. ACS Applied Energy Materials, 2019, 2, 7204-7210.	5.1	19
60	Ultrasmall Pt Nanoparticles-Loaded Crystalline MoO ₃ /Amorphous Ni(OH) ₂ Hybrid Nanofilms with Enhanced Water Dissociation and Sufficient Hydrogen Spillover for Hydrogen Generation. ACS Sustainable Chemistry and Engineering, 2021, 9, 8257-8269.	6.7	18
61	Li-CO ₂ /O ₂ battery operating at ultra-low overpotential and low O ₂ content on Pt/CNT catalyst. Chemical Engineering Journal, 2022, 448, 137541.	12.7	18
62	Shape transformation of {hk0}-faceted Pt nanocrystals from a tetrahexahedron into a truncated ditetragonal prism. Chemical Communications, 2017, 53, 3236-3238.	4.1	17
63	Urea hydrogen bond donor-mediated synthesis of high-index faceted platinum concave nanocubes grown on multi-walled carbon nanotubes and their enhanced electrocatalytic activity. Physical Chemistry Chemical Physics, 2017, 19, 31553-31559.	2.8	16
64	An insight into methanol oxidation mechanisms on RuO ₂ (100) under an aqueous environment by DFT calculations. Physical Chemistry Chemical Physics, 2017, 19, 7476-7480.	2.8	15
65	Electrochemically shape-controlled synthesis of great stellated dodecahedral Au nanocrystals with high-index facets for nitrogen reduction to ammonia. Chemical Communications, 2020, 56, 12162-12165.	4.1	15
66	High Catalytic Activity of Pt(100) for CH ₄ Electrochemical Conversion. ACS Catalysis, 2019, 9, 10159-10165.	11.2	13
67	An Fe-doped Co ₁₁ (HPO ₃) ₈ (OH) ₆ nanosheets array for high-performance water electrolysis. Electrochimica Acta, 2020, 334, 135616.	5.2	13
68	Engineering Electronic Structure of Single-Atom Pd Site on TiO ₂ Nanosheet via Charge Transfer Enables C-Br Cleavage for Room-Temperature Suzuki Coupling. CCS Chemistry, 2021, 3, 1453-1462.	7.8	12
69	Dehydrogenative Coupling of Terminal Alkynes with O/N-Based Monohydrosilanes Catalyzed by Rare-Earth Metal Complexes. Inorganic Chemistry, 2020, 59, 14152-14161.	4.0	11
70	Boosting Electrocatalytic Hydrazine Oxidation Reaction on High-Index Faceted Au Concave Trioctahedral Nanocrystals. ACS Sustainable Chemistry and Engineering, 2022, 10, 696-702.	6.7	11
71	Identifying the significance of proton-electron transfer in CH ₄ production on Cu (100) in CO ₂ electro-reduction. Journal of Electroanalytical Chemistry, 2017, 793, 184-187.	3.8	10
72	Nickel Complexes with Non-Innocent Ligands as Highly Active Electrocatalysts for Hydrogen Evolution. Chinese Journal of Chemistry, 2018, 36, 1161-1164.	4.9	10

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73	Insights into ethanol electro-oxidation over solvated Pt(1 0 0): Origin of selectivity and kinetics revealed by DFT. Applied Surface Science, 2020, 533, 147505.	6.1	10
74	Encapsulating Cobalt into N-Doping Hollow Frameworks for Efficient Cascade Catalysis. Inorganic Chemistry, 2021, 60, 9757-9761.	4.0	10
75	High activity of step sites on Pd nanocatalysts in electrocatalytic dechlorination. Physical Chemistry Chemical Physics, 2022, 24, 3896-3904.	2.8	10
76	Insights into the Pt/Rh(111) interface for direct ethanol fuel cells. Applied Surface Science, 2020, 502, 144093.	6.1	9
77	Regulating locations of active sites: a novel strategy to greatly improve the stability of PtAu electrocatalysts. Chemical Communications, 2019, 55, 13602-13605.	4.1	8
78	High-index faceted Pt-Ru alloy concave nanocubes with enhancing ethanol and CO electro-oxidation. Electrochimica Acta, 2021, 396, 139266.	5.2	8
79	Nano-Ni-MOFs: High Active Catalysts on the Cascade Hydrogenation of Quinolines. Catalysis Letters, 2021, 151, 2445-2451.	2.6	8
80	Electrochemical interfacial influences on deoxygenation and hydrogenation reactions in CO reduction on a Cu(100) surface. Physical Chemistry Chemical Physics, 2016, 18, 15304-15311.	2.8	6
81	Effects of atom arrangement and thickness of Pt atomic layers on Pd nanocrystals for electrocatalysis. Electrochimica Acta, 2018, 271, 519-525.	5.2	6
82	Shape-dependent catalytic properties of electrochemically synthesized PdPt nanoparticles towards alcohols electrooxidation. Journal of Electroanalytical Chemistry, 2021, 896, 115189.	3.8	6
83	Titanium nitride nanocrystals anchored evenly on interconnected carbon nanosheets with effective chemisorption and catalytic effects towards polysulfides for long-life lithium-sulfur batteries. Electrochimica Acta, 2021, 395, 139208.	5.2	6
84	Electrocatalysis CO ₂ to Tunable Syngas upon Fe Clusters Catalyst Dispersed on Bamboo-like NCTs. Inorganic Chemistry, 2022, 61, 9375-9380.	4.0	6
85	Transformation of the sp ² Carbanion to Carbene with Subsequent 1,1-Migratory Insertion and Nucleophilic Substitution in Rare-Earth Metal Chemistry. Inorganic Chemistry, 2021, 60, 18843-18853.	4.0	4
86	Modelling the aqueous and nonaqueous interfaces for CO ₂ electro-reduction over Sn catalysts. Applied Surface Science, 2018, 428, 514-519.	6.1	3
87	Nanocrystal Catalysts of High-Energy Surface and Activity. Studies in Surface Science and Catalysis, 2017, 177, 439-475.	1.5	2
88	Hydrazine Oxidation Reaction: Porous Carbon Membrane-Supported Atomically Dispersed Pyrrole-Type Fe ₄ N ₄ as Active Sites for Electrochemical Hydrazine Oxidation Reaction (Small 31/2020). Small, 2020, 16, 2070171.	10.0	2
89	Stable Radicals with Protective Umbrellas Integrated on the Surface of 2D Layered Materials. Advanced Functional Materials, 2021, 31, 2104246.	14.9	2
90	Engineering Electronic Structure of Single-Atom Pd Site on TiO ₂ Nanosheet via Charge Transfer Enables C-Br Cleavage for Room Temperature Suzuki Coupling. CCS Chemistry, 0, , 1-29.	7.8	0