Tao Qian

List of Publications by Year
in descending order

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115 papers	7,579 citations	47 h-index	84 g-index
		47006	54911
117 all docs	117 docs citations	117 times ranked	8493 citing authors

#	Article	IF	Citations
1	Low-temperature Li-S batteries enabled by all amorphous conversion process of organosulfur cathode. Journal of Energy Chemistry, 2022, 64, 496-502.	12.9	28
2	Efficient solar domestic and industrial sewage purification via polymer wastewater collector. Chemical Engineering Journal, 2022, 428, 131199.	12.7	16
3	Polynorbornene-based bottlebrush polymers confining phase change materials for ultra-stable latent heat storage derived from solar irradiation. Solar Energy Materials and Solar Cells, 2022, 236, 111547.	6.2	10
4	Bifunctional effect of Bi(OH)3 on the PdBi surface as interfacial BrÃ¸nsted base enables ethanol electro-oxidization. Journal of Colloid and Interface Science, 2022, 611, 327-335.	9.4	5
5	Healable supramolecular phase change polymers for thermal energy harvesting and storage. Chemical Engineering Journal, 2022, 433, 134549.	12.7	22
6	Interfacial Microextraction Boosting Nitrogen Feed for Efficient Ambient Ammonia Synthesis in Aqueous Electrolyte. Advanced Functional Materials, 2022, 32, .	14.9	41
7	Processing robust lithium metal anode for high-security batteries: A minireview. Energy Storage Materials, 2022, 47, 122-133.	18.0	28
8	Recent advances in material design and reactor engineering for electrocatalytic ambient nitrogen fixation. Materials Chemistry Frontiers, 2022, 6, 843-879.	5.9	14
9	A Lewis acidity adjustable organic ammonium cation derived robust protecting shield for stable aqueous zinc-ion batteries by inhibiting the tip effect. Materials Chemistry Frontiers, 2022, 6, 901-907.	5.9	13
10	Diminishing Interfacial Turbulence by Colloidâ€Polymer Electrolyte to Stabilize Zinc Ion Flux for Deepâ€Cycling Zn Metal Batteries. Advanced Materials, 2022, 34, e2200131.	21.0	54
11	New Type of Dynamically â€œSolidâ€“Liquidâ€•Interconvertible Electrolyte for High-Rate Zn Metal Battery. Nano Letters, 2022, 22, 2898-2906.	9.1	13
12	Eliminating Stubborn Insulated Deposition by Coordination Effect to Boost Zn Electrode Reversibility in Aqueous Electrolyte. Frontiers in Chemistry, 2022, 10, 851973.	3.6	4
13	Surpassing the Redox Potential Limit of Organic Cathode Materials via Extended pâ€Ï€ Conjugation of Dioxin. Nano Letters, 2022, 22, 3473-3479.	9.1	14
14	Interfacial engineering of carbon-based materials for efficient electrocatalysis: Recent advances and future. EnergyChem, 2022, 4, 100074.	19.1	20
15	Suppressing Surface Lattice Oxygen Evolution by Fluorinated Graphene-Scaffolded Lithium-Rich Manganese-Based Cathode for Enhanced Stability. Energy Storage Materials, 2022, 49, 555-563.	18.0	10
16	Oxygen-vacancy-rich nickel hydroxide nanosheet: a multifunctional layer between Ir and Si toward enhanced solar hydrogen production in alkaline media. Energy and Environmental Science, 2022, 15, 3051-3061.	30.8	27
17	Cationic Covalent Organic Framework with Ultralow HOMO Energy Used as Scaffolds for 5.2 V Solid Polycarbonate Electrolytes. Advanced Science, 2022, 9, .	11.2	19
18	The current status of sodium metal anodes for improved sodium batteries and its future perspectives. APL Materials, 2022, 10, .	5.1	7

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19	Altering the rate-determining step over cobalt single clusters leading to highly efficient ammonia synthesis. National Science Review, 2021, 8, nwaa136.	9.5	64
20	Rapid leakage responsive and self-healing Li-metal batteries. Chemical Engineering Journal, 2021, 404, 126470.	12.7	26
21	Insight into the reaction mechanism of sulfur chains adjustable polymer cathode for high-loading lithium-organosulfur batteries. Journal of Energy Chemistry, 2021, 56, 238-244.	12.9	28
22	Boosting Oxygen Dissociation over Bimetal Sites to Facilitate Oxygen Reduction Activity of Zincâ€Air Battery. Advanced Functional Materials, 2021, 31, 2006533.	14.9	64
23	Highly efficient lithium utilization in lithium metal full-cell by simulated missile guidance and confinement systems. Science China Materials, 2021, 64, 830-839.	6.3	6
24	Proton-filtering covalent organic frameworks with superior nitrogen penetration flux promote ambient ammonia synthesis. Nature Catalysis, 2021, 4, 322-331.	34.4	216
25	Salting-out effect promoting highly efficient ambient ammonia synthesis. Nature Communications, 2021, 12, 3198.	12.8	105
26	Healable Lithium Alloy Anode with Ultrahigh Capacity. Nano Letters, 2021, 21, 5021-5027.	9.1	21
27	Functional-selected LiF-intercalated-graphene enabling ultra-stable lithium sulfur battery. Journal of Energy Chemistry, 2021, 58, 78-84.	12.9	17
28	All-Liquid-Phase Reaction Mechanism Enabling Cryogenic Liâ€“S Batteries. ACS Nano, 2021, 15, 13847-13856.	14.6	55
29	Ordered lithium ion channels of covalent organic frameworks with lithiophilic groups enable uniform and efficient Li plating/stripping. Journal of Energy Chemistry, 2021, 61, 135-140.	12.9	13
30	Nanosensors Based on Structural Memory Carbon Nanodots for Ag+ Fluorescence Determination. Nanomaterials, 2021, 11, 2687.	4.1	7
31	Molecular Simulations Guided Polymer Electrolyte towards Superior Low-Temperature Solid Lithium-Metal Batteries. ACS Applied Materials & Interfaces, 2021, 13, 48810-48817.	8.0	16
32	In Situ/Operando Spectroscopic Characterizations Guide the Compositional and Structural Design of Lithiumâ€“Sulfur Batteries. Small Methods, 2020, 4, 1900467.	8.6	42
33	Single lithium-ion channel polymer binder for stabilizing sulfur cathodes. National Science Review, 2020, 7, 315-323.	9.5	43
34	Dendriteâ€“free and Ultraâ€“High energy lithium sulfur battery enabled by dimethyl polysulfide intermediates. Energy Storage Materials, 2020, 24, 265-271.	18.0	26
35	Super lithiophilic SEI derived from quinones electrolyte to guide Li uniform deposition. Energy Storage Materials, 2020, 24, 426-431.	18.0	34
36	Lithium dendrite inhibition via 3D porous lithium metal anode accompanied by inherent SEI layer. Energy Storage Materials, 2020, 26, 385-390.	18.0	52

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37	Identifying the Lewis Base Chemistry in Preventing the Deposition of Metal Oxides on Ketone-Enriched Carbon Cathodes for Highly Durable Metalâ€“Air Batteries. ACS Applied Materials & Interfaces, 2020, 12, 3603-3609.	8.0	9
38	Pyridinic and graphitic nitrogen-enriched carbon paper as a highly active bifunctional catalyst for Zn-air batteries. Electrochimica Acta, 2020, 334, 135562.	5.2	45
39	Novel Organophosphateâ€Derived Dualâ€Layered Interface Enabling Airâ€Stable and Dendriteâ€Free Lithium Metal Anode. Advanced Materials, 2020, 32, e1902724.	21.0	83
40	Boosting the Optimization of Lithium Metal Batteries by Molecular Dynamics Simulations: A Perspective. Advanced Energy Materials, 2020, 10, 2002373.	19.5	56
41	Artificial Lithium Isopropyl-Sulfide Macromolecules as an Ion-Selective Interface for Long-Life Lithiumâ€“Sulfur Batteries. ACS Applied Materials & Interfaces, 2020, 12, 54537-54544.	8.0	49
42	Atomic Metal Vacancy Modulation of Single-Atom Dispersed Co/N/C for Highly Efficient and Stable Air Cathode. ACS Applied Materials & Interfaces, 2020, 12, 15298-15304.	8.0	33
43	Single-atom scale metal vacancy engineering in heteroatom-doped carbon for rechargeable zinc-air battery with reduced overpotential. Chemical Engineering Journal, 2020, 393, 124702.	12.7	43
44	Form-stable phase change materials based on polyolefin elastomer and octadecylamine-functionalized graphene for thermal energy storage. Nanotechnology, 2020, 31, 245402.	2.6	6
45	Unveiling the Essential Nature of Lewis Basicity in Thermodynamically and Dynamically Promoted Nitrogen Fixation. Advanced Functional Materials, 2020, 30, 2001244.	14.9	49
46	In-situ observation as activity descriptor enables rational design of oxygen reduction catalyst for zinc-air battery. Energy Storage Materials, 2020, 27, 226-231.	18.0	42
47	Wiping off oxygen bonding to maximize heteroatom-induced improvement in oxygen reaction activity of metal site for high-performance zinc-air battery. Nanotechnology, 2020, 31, 195403.	2.6	1
48	Toward safer solid-state lithium metal batteries: a review. Nanoscale Advances, 2020, 2, 1828-1836.	4.6	50
49	Enhanced utilization of active sites of Fe/N/C catalysts by pore-in-pore structures for ultrahigh mass activity. Nanotechnology, 2020, 31, 315401.	2.6	6
50	Interface Engineering of Silver-Based Heterostructures for CO₂ Reduction Reaction. ACS Applied Materials & Interfaces, 2020, 12, 56642-56649.	8.0	27
51	In situ evolved NiMo/NiMoO₄ nanorods as a bifunctional catalyst for overall water splitting. Nanotechnology, 2020, 31, 495404.	2.6	14
52	Strongly trapping soluble lithium polysulfides using polar cysteamine groups for highly stable lithium sulfur batteries. Nanotechnology, 2020, 31, 485403.	2.6	4
53	High Coulombic efficiency cathode with nitryl grafted sulfur for Li-S battery. Energy Storage Materials, 2019, 17, 260-265.	18.0	35
54	Modulating the d-band center of boron doped single-atom sites to boost the oxygen reduction reaction. Journal of Materials Chemistry A, 2019, 7, 20952-20957.	10.3	117

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55	Single-Atom Iron as Lithiophilic Site To Minimize Lithium Nucleation Overpotential for Stable Lithium Metal Full Battery. ACS Applied Materials & Interfaces, 2019, 11, 32008-32014.	8.0	64
56	Updating the Intrinsic Activity of a Single-Atom Site with a Pâ€“O Bond for a Rechargeable Znâ€“Air Battery. ACS Applied Materials & Interfaces, 2019, 11, 33054-33061.	8.0	47
57	A New Type of Electrolyte System To Suppress Polysulfide Dissolution for Lithiumâ€“Sulfur Battery. ACS Nano, 2019, 13, 9067-9073.	14.6	69
58	Nonflammable and High-Voltage-Tolerated Polymer Electrolyte Achieving High Stability and Safety in 4.9 V-Class Lithium Metal Battery. ACS Applied Materials & Interfaces, 2019, 11, 45048-45056.	8.0	73
59	Facilitating nitrogen accessibility to boron-rich covalent organic frameworks via electrochemical excitation for efficient nitrogen fixation. Nature Communications, 2019, 10, 3898.	12.8	191
60	Stabilizing cathodes of lithiumâ€“sulfur batteries by the chemical binding of sulfur and their discharge products to carbon nanofibers. New Journal of Chemistry, 2019, 43, 15267-15274.	2.8	7
61	Mega High Utilization of Sodium Metal Anodes Enabled by Single Zinc Atom Sites. Nano Letters, 2019, 19, 7827-7835.	9.1	86
62	Over 56.55% Faradaic efficiency of ambient ammonia synthesis enabled by positively shifting the reaction potential. Nature Communications, 2019, 10, 341.	12.8	412
63	A new high ionic conductive gel polymer electrolyte enables highly stable quasi-solid-state lithium sulfur battery. Energy Storage Materials, 2019, 22, 256-264.	18.0	89
64	Single-cluster Au as an usher for deeply cyclable Li metal anodes. Journal of Materials Chemistry A, 2019, 7, 14496-14503.	10.3	51
65	Selenium-Doped Carbon Nanosheets with Strong Electron Cloud Delocalization for Nondeposition of Metal Oxides on Air Cathode of Zincâ€“Air Battery. ACS Applied Materials & Interfaces, 2019, 11, 20056-20063.	8.0	46
66	High-Safety All-Solid-State Lithium-Metal Battery with High-Ionic-Conductivity Thermoresponsive Solid Polymer Electrolyte. Nano Letters, 2019, 19, 3066-3073.	9.1	108
67	Lithium anode stable in air for low-cost fabrication of a dendrite-free lithium battery. Nature Communications, 2019, 10, 900.	12.8	297
68	Anion-regulated solid polymer electrolyte enhances the stable deposition of lithium ion for lithium metal batteries. Journal of Power Sources, 2019, 417, 70-75.	7.8	60
69	A functional-gradient-structured ultrahigh modulus solid polymer electrolyte for all-solid-state lithium metal batteries. Journal of Materials Chemistry A, 2019, 7, 24477-24485.	10.3	51
70	Facile and cost-effective preparation of carbon quantum dots for Fe3+ ion and ascorbic acid detection in living cells based on the â€œon-off-onâ€•fluorescence principle. Applied Surface Science, 2019, 469, 911-916.	6.1	102
71	Oxidizing Vacancies in Nitrogenâ€Doped Carbon Enhance Airâ€Cathode Activity. Advanced Materials, 2019, 31, e1803339.	21.0	52
72	In situoptical spectroscopy characterization for optimal design of lithiumâ€“sulfur batteries. Chemical Society Reviews, 2019, 48, 5432-5453.	38.1	120

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73	High Lithium Ion Conductivity LiF/GO Solid Electrolyte Interphase Inhibiting the Shuttle of Lithium Polysulfides in Longâ€Life Liâ€“S Batteries. Advanced Functional Materials, 2018, 28, 1706513.	14.9	109
74	A New Hydrophilic Binder Enabling Strongly Anchoring Polysulfides for Highâ€Performance Sulfur Electrodes in Lithiumâ€Sulfur Battery. Advanced Energy Materials, 2018, 8, 1702889.	19.5	270
75	Progress and perspective of organosulfur polymers as cathode materials for advanced lithium-sulfur batteries. Energy Storage Materials, 2018, 15, 53-64.	18.0	131
76	Use of Tween Polymer To Enhance the Compatibility of the Li/Electrolyte Interface for the High-Performance and High-Safety Quasi-Solid-State Lithiumâ€“Sulfur Battery. Nano Letters, 2018, 18, 4598-4605.	9.1	81
77	Greatly Improved Conductivity of Doubleâ€Chain Polymer Network Binder for High Sulfur Loading Lithiumâ€“Sulfur Batteries with a Low Electrolyte/Sulfur Ratio. Small, 2018, 14, e1801536.	10.0	47
78	Bioinspired Polysulfiphobic Artificial Interphase Layer on Lithium Metal Anodes for Lithium Sulfur Batteries. ACS Applied Materials & Interfaces, 2018, 10, 30058-30064.	8.0	49
79	Novel triphenylamine-based fluorescent probe for specific detection and bioimaging of OClâ^'. Tetrahedron, 2018, 74, 5733-5738.	1.9	20
80	Facilitated Oxygen Chemisorption in Heteroatomâ€Doped Carbon for Improved Oxygen Reaction Activity in Allâ€Solidâ€State Zincâ€“Air Batteries. Advanced Materials, 2018, 30, 1704898.	21.0	135
81	An Efficient Bifunctional Electrocatalyst for a Zincâ€“Air Battery Derived from Fe/N/C and Bimetallic Metalâ€“Organic Framework Composites. ACS Applied Materials & Interfaces, 2017, 9, 5213-5221.	8.0	113
82	A New Type of Multifunctional Polar Binder: Toward Practical Application of High Energy Lithium Sulfur Batteries. Advanced Materials, 2017, 29, 1605160.	21.0	284
83	Unprecedented Activity of Bifunctional Electrocatalyst for High Power Density Aqueous Zincâ€“Air Batteries. ACS Applied Materials & Interfaces, 2017, 9, 21216-21224.	8.0	64
84	Greatly Suppressed Shuttle Effect for Improved Lithium Sulfur Battery Performance through Short Chain Intermediates. Nano Letters, 2017, 17, 538-543.	9.1	271
85	Active Feâ€N_x Sites in Carbon Nanosheets as Oxygen Reduction Electrocatalyst for Flexible Allâ€Solidâ€State Zincâ€“Air Batteries. Advanced Sustainable Systems, 2017, 1, 1700085.	5.3	43
86	Stabilized Lithiumâ€“Sulfur Batteries by Covalently Binding Sulfur onto the Thiolâ€Terminated Polymeric Matrices. Small, 2017, 13, 1702104.	10.0	34
87	High coulombic efficiency and high-rate capability lithium sulfur batteries with low-solubility lithium polysulfides by using alkylene radicals to covalently connect sulfur. Nano Energy, 2017, 41, 758-764.	16.0	37
88	Porous yolkâ€“shell microspheres as Nâ€“doped carbon matrix for motivating the oxygen reduction activity of oxygen evolution oriented materials. Nanotechnology, 2017, 28, 365403.	2.6	10
89	Batteries: Seleniumâ€Doped Cathodes for Lithiumâ€“Organosulfur Batteries with Greatly Improved Volumetric Capacity and Coulombic Efficiency (Adv. Mater. 33/2017). Advanced Materials, 2017, 29, .	21.0	1
90	Seleniumâ€Doped Cathodes for Lithiumâ€“Organosulfur Batteries with Greatly Improved Volumetric Capacity and Coulombic Efficiency. Advanced Materials, 2017, 29, 1701294.	21.0	126

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91	Confined silicon nanospheres by biomass lignin for stable lithium ion battery. Nanotechnology, 2017, 28, 405401.	2.6	19
92	Molecularly Imprinted Polymer Enables High-Efficiency Recognition and Trapping Lithium Polysulfides for Stable Lithium Sulfur Battery. Nano Letters, 2017, 17, 5064-5070.	9.1	112
93	Heat resistance and surface properties of polyester resin modified with fluorosilicone. Surface and Coatings Technology, 2016, 304, 31-39.	4.8	26
94	Stationary Full Li-Ion Batteries with Interlayer-Expanded V6O13 Cathodes and Lithiated Graphite Anodes. Electrochimica Acta, 2016, 203, 171-177.	5.2	42
95	Half and full sodium-ion batteries based on maize with high-loading density and long-cycle life. Nanoscale, 2016, 8, 15497-15504.	5.6	35
96	Half-cell and full-cell applications of horizontally aligned reduced oxide graphene/V2O5 sheets as cathodes for high stability lithium-ion batteries. RSC Advances, 2016, 6, 98581-98587.	3.6	19
97	A Sustainable Route from Biomass Byproduct Okara to High Content Nitrogenâ€Doped Carbon Sheets for Efficient Sodium Ion Batteries. Advanced Materials, 2016, 28, 539-545.	21.0	384
98	Coreâ€“Shell Coating Silicon Anode Interfaces with Coordination Complex for Stable Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2016, 8, 5358-5365.	8.0	60
99	Supercapacitors based on highly dispersed polypyrrole-reduced graphene oxide composite with a folded surface. Applied Physics A: Materials Science and Processing, 2015, 120, 693-698.	2.3	13
100	Preparation of on chip, flexible supercapacitor with high performance based on electrophoretic deposition of reduced graphene oxide/polypyrrole composites. Carbon, 2015, 92, 348-353.	10.3	71
101	On-chip supercapacitors with ultrahigh volumetric performance based on electrochemically co-deposited CuO/polypyrrole nanosheet arrays. Nanotechnology, 2015, 26, 425402.	2.6	30
102	Nanomeshes of highly crystalline nitrogen-doped carbon encapsulated Fe/Fe₃C electrodes as ultrafast and stable anodes for Li-ion batteries. Journal of Materials Chemistry A, 2015, 3, 15008-15014.	10.3	51
103	A new approach towards the synthesis of nitrogen-doped graphene/MnO₂ hybrids for ultralong cycle-life lithium ion batteries. Journal of Materials Chemistry A, 2015, 3, 6291-6296.	10.3	52
104	Highly Flexible Full Lithium Batteries with Self-Knitted Î±-MnO₂ Fabric Foam. ACS Applied Materials & Interfaces, 2015, 7, 25298-25305.	8.0	34
105	Interconnected three-dimensional V₂O₅/polypyrrole network nanostructures for high performance solid-state supercapacitors. Journal of Materials Chemistry A, 2015, 3, 488-493.	10.3	135
106	Dopamine fluorescent sensors based on polypyrrole/graphene quantum dots core/shell hybrids. Biosensors and Bioelectronics, 2015, 64, 404-410.	10.1	184
107	Ultrasensitive dopamine sensor based on novel molecularly imprinted polypyrrole coated carbon nanotubes. Biosensors and Bioelectronics, 2014, 58, 237-241.	10.1	158
108	Au nanoparticles decorated polypyrrole/reduced graphene oxide hybrid sheets for ultrasensitive dopamine detection. Sensors and Actuators B: Chemical, 2014, 193, 759-763.	7.8	114

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109	All-Solid-State Flexible Supercapacitors Based on Highly Dispersed Polypyrrole Nanowire and Reduced Graphene Oxide Composites. ACS Applied Materials & Interfaces, 2014, 6, 17937-17943.	8.0	76
110	Highly dispersed carbon nanotube/polypyrrole core/shell composites with improved electrochemical capacitive performance. Journal of Materials Chemistry A, 2013, 1, 15230.	10.3	63
111	Gold nanoparticles coated polystyrene/reduced graphite oxide microspheres with improved dispersibility and electrical conductivity for dopamine detection. Colloids and Surfaces B: Biointerfaces, 2013, 112, 310-314.	5.0	44
112	Facilely prepared polypyrrole-reduced graphite oxide coreâ€“shell microspheres with high dispersibility for electrochemical detection of dopamine. Chemical Communications, 2013, 49, 4610.	4.1	82
113	A facilely prepared polypyrroleâ€“reduced graphene oxide composite with a crumpled surface for high performance supercapacitor electrodes. Journal of Materials Chemistry A, 2013, 1, 6539.	10.3	93
114	In situ polymerization of highly dispersed polypyrrole on reduced graphite oxide for dopamine detection. Biosensors and Bioelectronics, 2013, 50, 157-160.	10.1	48
115	A facile, controllable fabrication of polystyrene/graphene core-shell microspheres and its application in high-performance electrocatalysis. Chemical Communications, 2012, 48, 7997.	4.1	34