

# Tao Qian

## List of Publications by Year in descending order

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115  
papers

7,579  
citations

53939

47  
h-index

62345

84  
g-index

117  
all docs

117  
docs citations

117  
times ranked

9742  
citing authors

#	ARTICLE	IF	CITATIONS
1	Low-temperature Li-S batteries enabled by all amorphous conversion process of organosulfur cathode. <i>Journal of Energy Chemistry</i> , 2022, 64, 496-502.	7.1	28
2	Efficient solar domestic and industrial sewage purification via polymer wastewater collector. <i>Chemical Engineering Journal</i> , 2022, 428, 131199.	6.6	16
3	Polynorborene-based bottlebrush polymers confining phase change materials for ultra-stable latent heat storage derived from solar irradiation. <i>Solar Energy Materials and Solar Cells</i> , 2022, 236, 111547.	3.0	10
4	Bifunctional effect of Bi(OH) <sub>3</sub> on the PdBi surface as interfacial Brønsted base enables ethanol electro-oxidation. <i>Journal of Colloid and Interface Science</i> , 2022, 611, 327-335.	5.0	5
5	Healable supramolecular phase change polymers for thermal energy harvesting and storage. <i>Chemical Engineering Journal</i> , 2022, 433, 134549.	6.6	22
6	Interfacial Microextraction Boosting Nitrogen Feed for Efficient Ambient Ammonia Synthesis in Aqueous Electrolyte. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	41
7	Processing robust lithium metal anode for high-security batteries: A minireview. <i>Energy Storage Materials</i> , 2022, 47, 122-133.	9.5	28
8	Recent advances in material design and reactor engineering for electrocatalytic ambient nitrogen fixation. <i>Materials Chemistry Frontiers</i> , 2022, 6, 843-879.	3.2	14
9	A Lewis acidity adjustable organic ammonium cation derived robust protecting shield for stable aqueous zinc-ion batteries by inhibiting the tip effect. <i>Materials Chemistry Frontiers</i> , 2022, 6, 901-907.	3.2	13
10	Diminishing Interfacial Turbulence by Colloid-Polymer Electrolyte to Stabilize Zinc Ion Flux for Deep-Cycling Zn Metal Batteries. <i>Advanced Materials</i> , 2022, 34, e2200131.	11.1	54
11	New Type of Dynamically "Solid-Liquid" Interconvertible Electrolyte for High-Rate Zn Metal Battery. <i>Nano Letters</i> , 2022, 22, 2898-2906.	4.5	13
12	Eliminating Stubborn Insulated Deposition by Coordination Effect to Boost Zn Electrode Reversibility in Aqueous Electrolyte. <i>Frontiers in Chemistry</i> , 2022, 10, 851973.	1.8	4
13	Surpassing the Redox Potential Limit of Organic Cathode Materials via Extended $\pi$ -Conjugation of Dioxin. <i>Nano Letters</i> , 2022, 22, 3473-3479.	4.5	14
14	Interfacial engineering of carbon-based materials for efficient electrocatalysis: Recent advances and future. <i>EnergyChem</i> , 2022, 4, 100074.	10.1	20
15	Suppressing Surface Lattice Oxygen Evolution by Fluorinated Graphene-Scaffolded Lithium-Rich Manganese-Based Cathode for Enhanced Stability. <i>Energy Storage Materials</i> , 2022, 49, 555-563.	9.5	10
16	Oxygen-vacancy-rich nickel hydroxide nanosheet: a multifunctional layer between Ir and Si toward enhanced solar hydrogen production in alkaline media. <i>Energy and Environmental Science</i> , 2022, 15, 3051-3061.	15.6	27
17	Cationic Covalent Organic Framework with Ultralow HOMO Energy Used as Scaffolds for 5.2 V Solid Polycarbonate Electrolytes. <i>Advanced Science</i> , 2022, 9, .	5.6	19
18	The current status of sodium metal anodes for improved sodium batteries and its future perspectives. <i>APL Materials</i> , 2022, 10, .	2.2	7

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19	Altering the rate-determining step over cobalt single clusters leading to highly efficient ammonia synthesis. <i>National Science Review</i> , 2021, 8, nwaal136.	4.6	64
20	Rapid leakage responsive and self-healing Li-metal batteries. <i>Chemical Engineering Journal</i> , 2021, 404, 126470.	6.6	26
21	Insight into the reaction mechanism of sulfur chains adjustable polymer cathode for high-loading lithium-organosulfur batteries. <i>Journal of Energy Chemistry</i> , 2021, 56, 238-244.	7.1	28
22	Boosting Oxygen Dissociation over Bimetal Sites to Facilitate Oxygen Reduction Activity of Zinc-Air Battery. <i>Advanced Functional Materials</i> , 2021, 31, 2006533.	7.8	64
23	Highly efficient lithium utilization in lithium metal full-cell by simulated missile guidance and confinement systems. <i>Science China Materials</i> , 2021, 64, 830-839.	3.5	6
24	Proton-filtering covalent organic frameworks with superior nitrogen penetration flux promote ambient ammonia synthesis. <i>Nature Catalysis</i> , 2021, 4, 322-331.	16.1	216
25	Salting-out effect promoting highly efficient ambient ammonia synthesis. <i>Nature Communications</i> , 2021, 12, 3198.	5.8	105
26	Healable Lithium Alloy Anode with Ultrahigh Capacity. <i>Nano Letters</i> , 2021, 21, 5021-5027.	4.5	21
27	Functional-selected LiF-intercalated-graphene enabling ultra-stable lithium sulfur battery. <i>Journal of Energy Chemistry</i> , 2021, 58, 78-84.	7.1	17
28	All-Liquid-Phase Reaction Mechanism Enabling Cryogenic Li-S Batteries. <i>ACS Nano</i> , 2021, 15, 13847-13856.	7.3	55
29	Ordered lithium ion channels of covalent organic frameworks with lithiophilic groups enable uniform and efficient Li plating/stripping. <i>Journal of Energy Chemistry</i> , 2021, 61, 135-140.	7.1	13
30	Nanosensors Based on Structural Memory Carbon Nanodots for Ag+ Fluorescence Determination. <i>Nanomaterials</i> , 2021, 11, 2687.	1.9	7
31	Molecular Simulations Guided Polymer Electrolyte towards Superior Low-Temperature Solid Lithium-Metal Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 48810-48817.	4.0	16
32	In Situ/Operando Spectroscopic Characterizations Guide the Compositional and Structural Design of Lithium-Sulfur Batteries. <i>Small Methods</i> , 2020, 4, 1900467.	4.6	42
33	Single lithium-ion channel polymer binder for stabilizing sulfur cathodes. <i>National Science Review</i> , 2020, 7, 315-323.	4.6	43
34	Dendrite-free and Ultra-High energy lithium sulfur battery enabled by dimethyl polysulfide intermediates. <i>Energy Storage Materials</i> , 2020, 24, 265-271.	9.5	26
35	Super lithiophilic SEI derived from quinones electrolyte to guide Li uniform deposition. <i>Energy Storage Materials</i> , 2020, 24, 426-431.	9.5	34
36	Lithium dendrite inhibition via 3D porous lithium metal anode accompanied by inherent SEI layer. <i>Energy Storage Materials</i> , 2020, 26, 385-390.	9.5	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 Metal-Air Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 3603-3609.	4.0	9
38	Pyridinic and graphitic nitrogen-enriched carbon paper as a highly active bifunctional catalyst for Zn-air batteries. <i>Electrochimica Acta</i> , 2020, 334, 135562.	2.6	45
39	Novel Organophosphate-Derived Dual-Layered Interface Enabling Air-Stable and Dendrite-Free Lithium Metal Anode. <i>Advanced Materials</i> , 2020, 32, e1902724.	11.1	83
40	Boosting the Optimization of Lithium Metal Batteries by Molecular Dynamics Simulations: A Perspective. <i>Advanced Energy Materials</i> , 2020, 10, 2002373.	10.2	56
41	Artificial Lithium Isopropyl-Sulfide Macromolecules as an Ion-Selective Interface for Long-Life Lithium-Sulfur Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 54537-54544.	4.0	49
42	Atomic Metal Vacancy Modulation of Single-Atom Dispersed Co/N/C for Highly Efficient and Stable Air Cathode. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 15298-15304.	4.0	33
43	Single-atom scale metal vacancy engineering in heteroatom-doped carbon for rechargeable zinc-air battery with reduced overpotential. <i>Chemical Engineering Journal</i> , 2020, 393, 124702.	6.6	43
44	Form-stable phase change materials based on polyolefin elastomer and octadecylamine-functionalized graphene for thermal energy storage. <i>Nanotechnology</i> , 2020, 31, 245402.	1.3	6
45	Unveiling the Essential Nature of Lewis Basicity in Thermodynamically and Dynamically Promoted Nitrogen Fixation. <i>Advanced Functional Materials</i> , 2020, 30, 2001244.	7.8	49
46	In-situ observation as activity descriptor enables rational design of oxygen reduction catalyst for zinc-air battery. <i>Energy Storage Materials</i> , 2020, 27, 226-231.	9.5	42
47	Wiping off oxygen bonding to maximize heteroatom-induced improvement in oxygen reaction activity of metal site for high-performance zinc-air battery. <i>Nanotechnology</i> , 2020, 31, 195403.	1.3	1
48	Toward safer solid-state lithium metal batteries: a review. <i>Nanoscale Advances</i> , 2020, 2, 1828-1836.	2.2	50
49	Enhanced utilization of active sites of Fe/N/C catalysts by pore-in-pore structures for ultrahigh mass activity. <i>Nanotechnology</i> , 2020, 31, 315401.	1.3	6
50	Interface Engineering of Silver-Based Heterostructures for CO <sub>2</sub> Reduction Reaction. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 56642-56649.	4.0	27
51	In situ evolved NiMo/NiMoO <sub>4</sub> nanorods as a bifunctional catalyst for overall water splitting. <i>Nanotechnology</i> , 2020, 31, 495404.	1.3	14
52	Strongly trapping soluble lithium polysulfides using polar cysteamine groups for highly stable lithium sulfur batteries. <i>Nanotechnology</i> , 2020, 31, 485403.	1.3	4
53	High Coulombic efficiency cathode with nitril grafted sulfur for Li-S battery. <i>Energy Storage Materials</i> , 2019, 17, 260-265.	9.5	35
54	Modulating the d-band center of boron doped single-atom sites to boost the oxygen reduction reaction. <i>Journal of Materials Chemistry A</i> , 2019, 7, 20952-20957.	5.2	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.	4.0	64
56	Updating the Intrinsic Activity of a Single-Atom Site with a P=O Bond for a Rechargeable Zn=Air Battery. ACS Applied Materials & Interfaces, 2019, 11, 33054-33061.	4.0	47
57	A New Type of Electrolyte System To Suppress Polysulfide Dissolution for Lithium=Sulfur Battery. ACS Nano, 2019, 13, 9067-9073.	7.3	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.	4.0	73
59	Facilitating nitrogen accessibility to boron-rich covalent organic frameworks via electrochemical excitation for efficient nitrogen fixation. Nature Communications, 2019, 10, 3898.	5.8	191
60	Stabilizing cathodes of lithium=sulfur batteries by the chemical binding of sulfur and their discharge products to carbon nanofibers. New Journal of Chemistry, 2019, 43, 15267-15274.	1.4	7
61	Mega High Utilization of Sodium Metal Anodes Enabled by Single Zinc Atom Sites. Nano Letters, 2019, 19, 7827-7835.	4.5	86
62	Over 56.55% Faradaic efficiency of ambient ammonia synthesis enabled by positively shifting the reaction potential. Nature Communications, 2019, 10, 341.	5.8	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.	9.5	89
64	Single-cluster Au as an usher for deeply cyclable Li metal anodes. Journal of Materials Chemistry A, 2019, 7, 14496-14503.	5.2	51
65	Selenium-Doped Carbon Nanosheets with Strong Electron Cloud Delocalization for Nondeposition of Metal Oxides on Air Cathode of Zinc=Air Battery. ACS Applied Materials & Interfaces, 2019, 11, 20056-20063.	4.0	46
66	High-Safety All-Solid-State Lithium-Metal Battery with High-Ionic-Conductivity Thermoresponsive Solid Polymer Electrolyte. Nano Letters, 2019, 19, 3066-3073.	4.5	108
67	Lithium anode stable in air for low-cost fabrication of a dendrite-free lithium battery. Nature Communications, 2019, 10, 900.	5.8	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.	4.0	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.	5.2	51
70	Facile and cost-effective preparation of carbon quantum dots for Fe <sup>3+</sup> ion and ascorbic acid detection in living cells based on the =on-off-on= fluorescence principle. Applied Surface Science, 2019, 469, 911-916.	3.1	102
71	Oxidizing Vacancies in Nitrogen=Doped Carbon Enhance Air=Cathode Activity. Advanced Materials, 2019, 31, e1803339.	11.1	52
72	<i>In situ</i> optical spectroscopy characterization for optimal design of lithium=sulfur batteries. Chemical Society Reviews, 2019, 48, 5432-5453.	18.7	120

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73	High Lithium Ion Conductivity LiF/GO Solid Electrolyte Interphase Inhibiting the Shuttle of Lithium Polysulfides in Long-Life Li-S Batteries. <i>Advanced Functional Materials</i> , 2018, 28, 1706513.	7.8	109
74	A New Hydrophilic Binder Enabling Strongly Anchoring Polysulfides for High-Performance Sulfur Electrodes in Lithium-Sulfur Battery. <i>Advanced Energy Materials</i> , 2018, 8, 1702889.	10.2	270
75	Progress and perspective of organosulfur polymers as cathode materials for advanced lithium-sulfur batteries. <i>Energy Storage Materials</i> , 2018, 15, 53-64.	9.5	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 Lithium-Sulfur Battery. <i>Nano Letters</i> , 2018, 18, 4598-4605.	4.5	81
77	Greatly Improved Conductivity of Double-Chain Polymer Network Binder for High Sulfur Loading Lithium-Sulfur Batteries with a Low Electrolyte/Sulfur Ratio. <i>Small</i> , 2018, 14, e1801536.	5.2	47
78	Bioinspired Polysulfiphobic Artificial Interphase Layer on Lithium Metal Anodes for Lithium Sulfur Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 30058-30064.	4.0	49
79	Novel triphenylamine-based fluorescent probe for specific detection and bioimaging of OCl <sup>-</sup> . <i>Tetrahedron</i> , 2018, 74, 5733-5738.	1.0	20
80	Facilitated Oxygen Chemisorption in Heteroatom-Doped Carbon for Improved Oxygen Reaction Activity in All-Solid-State Zinc-Air Batteries. <i>Advanced Materials</i> , 2018, 30, 1704898.	11.1	135
81	An Efficient Bifunctional Electrocatalyst for a Zinc-Air Battery Derived from Fe/N/C and Bimetallic Metal-Organic Framework Composites. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 5213-5221.	4.0	113
82	A New Type of Multifunctional Polar Binder: Toward Practical Application of High Energy Lithium Sulfur Batteries. <i>Advanced Materials</i> , 2017, 29, 1605160.	11.1	284
83	Unprecedented Activity of Bifunctional Electrocatalyst for High Power Density Aqueous Zinc-Air Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 21216-21224.	4.0	64
84	Greatly Suppressed Shuttle Effect for Improved Lithium Sulfur Battery Performance through Short Chain Intermediates. <i>Nano Letters</i> , 2017, 17, 538-543.	4.5	271
85	Active Fe Sites in Carbon Nanosheets as Oxygen Reduction Electrocatalyst for Flexible All-Solid-State Zinc-Air Batteries. <i>Advanced Sustainable Systems</i> , 2017, 1, 1700085.	2.7	43
86	Stabilized Lithium-Sulfur Batteries by Covalently Binding Sulfur onto the Thiol-Terminated Polymeric Matrices. <i>Small</i> , 2017, 13, 1702104.	5.2	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. <i>Nano Energy</i> , 2017, 41, 758-764.	8.2	37
88	Porous yolk-shell microspheres as N-doped carbon matrix for motivating the oxygen reduction activity of oxygen evolution oriented materials. <i>Nanotechnology</i> , 2017, 28, 365403.	1.3	10
89	Batteries: Selenium-Doped Cathodes for Lithium-Organosulfur Batteries with Greatly Improved Volumetric Capacity and Coulombic Efficiency ( <i>Adv. Mater.</i> 33/2017). <i>Advanced Materials</i> , 2017, 29, .	11.1	1
90	Selenium-Doped Cathodes for Lithium-Organosulfur Batteries with Greatly Improved Volumetric Capacity and Coulombic Efficiency. <i>Advanced Materials</i> , 2017, 29, 1701294.	11.1	126

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91	Confined silicon nanospheres by biomass lignin for stable lithium ion battery. <i>Nanotechnology</i> , 2017, 28, 405401.	1.3	19
92	Molecularly Imprinted Polymer Enables High-Efficiency Recognition and Trapping Lithium Polysulfides for Stable Lithium Sulfur Battery. <i>Nano Letters</i> , 2017, 17, 5064-5070.	4.5	112
93	Heat resistance and surface properties of polyester resin modified with fluorosilicone. <i>Surface and Coatings Technology</i> , 2016, 304, 31-39.	2.2	26
94	Stationary Full Li-Ion Batteries with Interlayer-Expanded V6O13 Cathodes and Lithiated Graphite Anodes. <i>Electrochimica Acta</i> , 2016, 203, 171-177.	2.6	42
95	Half and full sodium-ion batteries based on maize with high-loading density and long-cycle life. <i>Nanoscale</i> , 2016, 8, 15497-15504.	2.8	35
96	Half-cell and full-cell applications of horizontally aligned reduced oxide graphene/V2O5 sheets as cathodes for high stability lithium-ion batteries. <i>RSC Advances</i> , 2016, 6, 98581-98587.	1.7	19
97	A Sustainable Route from Biomass Byproduct Okara to High Content Nitrogen-Doped Carbon Sheets for Efficient Sodium Ion Batteries. <i>Advanced Materials</i> , 2016, 28, 539-545.	11.1	384
98	Core-Shell Coating Silicon Anode Interfaces with Coordination Complex for Stable Lithium-Ion Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , 2016, 8, 5358-5365.	4.0	60
99	Supercapacitors based on highly dispersed polypyrrole-reduced graphene oxide composite with a folded surface. <i>Applied Physics A: Materials Science and Processing</i> , 2015, 120, 693-698.	1.1	13
100	Preparation of on chip, flexible supercapacitor with high performance based on electrophoretic deposition of reduced graphene oxide/polypyrrole composites. <i>Carbon</i> , 2015, 92, 348-353.	5.4	71
101	On-chip supercapacitors with ultrahigh volumetric performance based on electrochemically co-deposited CuO/polypyrrole nanosheet arrays. <i>Nanotechnology</i> , 2015, 26, 425402.	1.3	30
102	Nanomeses of highly crystalline nitrogen-doped carbon encapsulated Fe/Fe <sub>3</sub> C electrodes as ultrafast and stable anodes for Li-ion batteries. <i>Journal of Materials Chemistry A</i> , 2015, 3, 15008-15014.	5.2	51
103	A new approach towards the synthesis of nitrogen-doped graphene/MnO <sub>2</sub> hybrids for ultralong cycle-life lithium ion batteries. <i>Journal of Materials Chemistry A</i> , 2015, 3, 6291-6296.	5.2	52
104	Highly Flexible Full Lithium Batteries with Self-Knitted $\gamma$ -MnO <sub>2</sub> Fabric Foam. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 25298-25305.	4.0	34
105	Interconnected three-dimensional V <sub>2</sub> O <sub>5</sub> /polypyrrole network nanostructures for high performance solid-state supercapacitors. <i>Journal of Materials Chemistry A</i> , 2015, 3, 488-493.	5.2	135
106	Dopamine fluorescent sensors based on polypyrrole/graphene quantum dots core/shell hybrids. <i>Biosensors and Bioelectronics</i> , 2015, 64, 404-410.	5.3	184
107	Ultrasensitive dopamine sensor based on novel molecularly imprinted polypyrrole coated carbon nanotubes. <i>Biosensors and Bioelectronics</i> , 2014, 58, 237-241.	5.3	158
108	Au nanoparticles decorated polypyrrole/reduced graphene oxide hybrid sheets for ultrasensitive dopamine detection. <i>Sensors and Actuators B: Chemical</i> , 2014, 193, 759-763.	4.0	114

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109	All-Solid-State Flexible Supercapacitors Based on Highly Dispersed Polypyrrole Nanowire and Reduced Graphene Oxide Composites. <i>ACS Applied Materials &amp; Interfaces</i> , 2014, 6, 17937-17943.	4.0	76
110	Highly dispersed carbon nanotube/polypyrrole core/shell composites with improved electrochemical capacitive performance. <i>Journal of Materials Chemistry A</i> , 2013, 1, 15230.	5.2	63
111	Gold nanoparticles coated polystyrene/reduced graphite oxide microspheres with improved dispersibility and electrical conductivity for dopamine detection. <i>Colloids and Surfaces B: Biointerfaces</i> , 2013, 112, 310-314.	2.5	44
112	Facilely prepared polypyrrole-reduced graphite oxide core-shell microspheres with high dispersibility for electrochemical detection of dopamine. <i>Chemical Communications</i> , 2013, 49, 4610.	2.2	82
113	A facilely prepared polypyrrole-reduced graphite oxide composite with a crumpled surface for high performance supercapacitor electrodes. <i>Journal of Materials Chemistry A</i> , 2013, 1, 6539.	5.2	93
114	In situ polymerization of highly dispersed polypyrrole on reduced graphite oxide for dopamine detection. <i>Biosensors and Bioelectronics</i> , 2013, 50, 157-160.	5.3	48
115	A facile, controllable fabrication of polystyrene/graphene core-shell microspheres and its application in high-performance electrocatalysis. <i>Chemical Communications</i> , 2012, 48, 7997.	2.2	34