Yan Yao

List of Publications by Year
in descending order

138 papers	28,623 citations	15466 65 h-index	14702 127 g-index
147 all docs	147 docs citations	147 times ranked	26138 citing authors

#	Article	IF	Citations
1	Effect of electrolyte anions on the cycle life of a polymer electrode in aqueous batteries. EScience, 2022, 2, 110-115.	25.0	58
2	Benchmarks of the density functional tight-binding method for redox, protonation and electronic properties of quinones. Physical Chemistry Chemical Physics, 2022, 24, 6742-6756.	1.3	0
3	Efficient Alkaline Water/Seawater Hydrogen Evolution by a Nanorodâ€Nanoparticleâ€Structured Niâ€MoN Catalyst with Fast Waterâ€Dissociation Kinetics. Advanced Materials, 2022, 34, e2201774.	11.1	165
4	Ultrahigh Energy Density Liâ€Organic Primary Batteries. Energy and Environmental Materials, 2022, 5, 1010-1011.	7.3	5
5	Electrochemical swelling induced high material utilization of porous polymers in magnesium electrolytes. Materials Today, 2022, 55, 29-36.	8.3	13
6	An electrochemically stable homogeneous glassy electrolyte formed at room temperature for all-solid-state sodium batteries. Nature Communications, 2022, 13, .	5.8	62
7	Development of cathode materials for rechargeable magnesium batteries: From intercalation to enolization. , 2022, , .		0
8	Recent progress of artificial interfacial layers in aqueous Zn metal batteries. EnergyChem, 2022, 4, 100076.	10.1	59
9	High-Energy All-Solid-State Organicâ€“Lithium Batteries Based on Ceramic Electrolytes. ACS Energy Letters, 2021, 6, 201-207.	8.8	37
10	Dendrite-free Lithium Based on Lessons Learned from Lithium and Magnesium Electrodeposition Morphology Simulations. Cell Reports Physical Science, 2021, 2, 100294.	2.8	19
11	Natural organic matter adsorption conditions influence photocatalytic reaction pathways of phosphate-treated titanium dioxide nanoparticles. Environmental Science: Nano, 2021, 8, 2165-2176.	2.2	4
12	On the quality of tape-cast thin films of sulfide electrolytes for solid-state batteries. Materials Today Physics, 2021, 18, 100397.	2.9	23
13	Microstructure engineering of solid-state composite cathode via solvent-assisted processing. Joule, 2021, 5, 1845-1859.	11.7	42
14	Visualizing highly selective electrochemical CO2 reduction on a molecularly dispersed catalyst. Materials Today Physics, 2021, 19, 100427.	2.9	15
15	Roadmap of Solid-State Lithium-Organic Batteries toward 500 Wh kg^{â€“1}. ACS Energy Letters, 2021, 6, 3287-3306.	8.8	31
16	Current status and future directions of all-solid-state batteries with lithium metal anodes, sulfide electrolytes, and layered transition metal oxide cathodes. Nano Energy, 2021, 87, 106081.	8.2	55
17	Separator Effect on Zinc Electrodeposition Behavior and Its Implication for Zinc Battery Lifetime. Nano Letters, 2021, 21, 10446-10452.	4.5	94
18	Quasi-Solid-State Liâ€“O₂ Batteries with Laser-Induced Graphene Cathode Catalysts. ACS Applied Energy Materials, 2020, 3, 1702-1709.	2.5	18

#	Article	IF	Citations
19	Current status and future directions of multivalent metal-ion batteries. Nature Energy, 2020, 5, 646-656.	19.8	798
20	Accelerated Modeling of Lithium Diffusion in Solid State Electrolytes using Artificial Neural Networks. Advanced Theory and Simulations, 2020, 3, 2000097.	1.3	11
21	High-power Mg batteries enabled by heterogeneous enolization redox chemistry and weakly coordinating electrolytes. Nature Energy, 2020, 5, 1043-1050.	19.8	205
22	CO₂ to Formic Acid Using Cuâ€“Sn on Laser-Induced Graphene. ACS Applied Materials & Interfaces, 2020, 12, 41223-41229.	4.0	48
23	Semihollow Coreâ€“Shell Nanoparticles with Porous SiO₂ Shells Encapsulating Elemental Sulfur for Lithiumâ€“Sulfur Batteries. ACS Applied Materials & Interfaces, 2020, 12, 47368-47376.	4.0	12
24	Opportunities and Challenges for Organic Electrodes in Electrochemical Energy Storage. Chemical Reviews, 2020, 120, 6490-6557.	23.0	517
25	Improved Mechanical Durability of Highâ€Performance OPVs Using Semiâ€Interpenetrating Networks. Advanced Optical Materials, 2020, 8, 2000516.	3.6	6
26	A Quinone Anode for Lithiumâ€Ion Batteries in Mild Aqueous Electrolytes. ChemSusChem, 2020, 13, 2250-2255.	3.6	20
27	Preface to the Special Issue of ChemSusChem on Organic Batteries. ChemSusChem, 2020, 13, 2107-2109.	3.6	7
28	Charge Storage Mechanism of a Quinone Polymer Electrode for Zinc-ion Batteries. Journal of the Electrochemical Society, 2020, 167, 070558.	1.3	24
29	Spontaneous Formation of 2D/3D Heterostructures on the Edges of 2D Ruddlesdenâ€“Popper Hybrid Perovskite Crystals. Chemistry of Materials, 2020, 32, 5009-5015.	3.2	45
30	Controlling Porosity of Anode Support in Tubular Solid Oxide Fuel Cells by Freeze Casting. Journal of Electrochemical Energy Conversion and Storage, 2020, 17, .	1.1	5
31	In Situ Electron Microscopy Investigation of Sodiation of Titanium Disulfide Nanoflakes. ACS Nano, 2019, 13, 9421-9430.	7.3	30
32	Chemically inert covalently networked triazole-based solid polymer electrolytes for stable all-solid-state lithium batteries. Journal of Materials Chemistry A, 2019, 7, 19691-19695.	5.2	17
33	Investigations of the structure of Na2Sâ€¯+â€¯P2S5 glassy electrolytes and its impact on Na+ ionic conductivity through ab initio molecular dynamics. Solid State Ionics, 2019, 338, 177-184.	1.3	8
34	Expanded lithiation of titanium disulfide: Reaction kinetics of multi-step conversion reaction. Nano Energy, 2019, 63, 103882.	8.2	21
35	Advanced Materials for Zincâ€Based Flow Battery: Development and Challenge. Advanced Materials, 2019, 31, e1902025.	11.1	160
36	A high-performance oxygen evolution catalyst in neutral-pH for sunlight-driven CO2 reduction. Nature Communications, 2019, 10, 4081.	5.8	57

#	Article	IF	Citations
37	Stable three-dimensional metal hydride anodes for solid-state lithium storage. Energy Storage Materials, 2019, 18, 423-428.	9.5	16
38	High performance printable perovskite solar cells based on Cs0.1FA0.9PbI3 in mesoporous scaffolds. Journal of Power Sources, 2019, 415, 105-111.	4.0	34
39	Extrinsic Green Photoluminescence from the Edges of 2D Cesium Lead Halides. Advanced Materials, 2019, 31, e1902492.	11.1	75
40	A high-energy quinone-based all-solid-state sodium metal battery. Nano Energy, 2019, 62, 718-724.	8.2	71
41	SIW Microstrip Cavity Resonators with a Sensing Aperture. , 2019, , .		2
42	Taming Active Material-Solid Electrolyte Interfaces with Organic Cathode for All-Solid-State Batteries. Joule, 2019, 3, 1349-1359.	11.7	70
43	Hyperbranched PEO-Based Hyperstar Solid Polymer Electrolytes with Simultaneous Improvement of Ion Transport and Mechanical Strength. ACS Applied Energy Materials, 2019, 2, 1608-1615.	2.5	74
44	Stabilizing the Interface between Sodium Metal Anode and Sulfide-Based Solid-State Electrolyte with an Electron-Blocking Interlayer. ACS Applied Materials & Interfaces, 2019, 11, 9672-9678.	4.0	61
45	In situ observations of interfacial evolutions in solid-state lithium battery with sulfide-based solid electrolyte. , 2019, , .		0
46	Zincâ€Based Flow Batteries: Advanced Materials for Zincâ€Based Flow Battery: Development and Challenge (Adv. Mater. 50/2019). Advanced Materials, 2019, 31, 1970356.	11.1	2
47	Directing Mg-Storage Chemistry in Organic Polymers toward High-Energy Mg Batteries. Joule, 2019, 3, 782-793.	11.7	124
48	Halfway through. Nature Energy, 2019, 4, 10-11.	19.8	11
49	Titelbild: Tailored Organic Electrode Material Compatible with Sulfide Electrolyte for Stable Allâ€Solidâ€State Sodium Batteries (Angew. Chem. 10/2018). Angewandte Chemie, 2018, 130, 2531-2531.	1.6	0
50	Tailored Organic Electrode Material Compatible with Sulfide Electrolyte for Stable Allâ€Solidâ€State Sodium Batteries. Angewandte Chemie, 2018, 130, 2660-2664.	1.6	22
51	Tailored Organic Electrode Material Compatible with Sulfide Electrolyte for Stable Allâ€Solidâ€State Sodium Batteries. Angewandte Chemie - International Edition, 2018, 57, 2630-2634.	7.2	138
52	Positioning Organic Electrode Materials in the Battery Landscape. Joule, 2018, 2, 1690-1706.	11.7	320
53	Architectural design and fabrication approaches for solid-state batteries. MRS Bulletin, 2018, 43, 775-781.	1.7	64
54	Nickel-iron bimetallic diselenides with enhanced kinetics for high-capacity and long-life magnesium batteries. Nano Energy, 2018, 54, 360-366.	8.2	82

#	Article	IF	Citations
55	TEM Characterization of the Edges of CsPb2Br5 Perovskite Crystals. Microscopy and Microanalysis, 2018, 24, 1984-1985.	0.2	0
56	Bi2Se3/C Nanocomposite as a New Sodium-Ion Battery Anode Material. Nano-Micro Letters, 2018, 10, 50.	14.4	65
57	Electrolyte dictated materials design for beyond lithium ion batteries. , 2018, , .		0
58	An Î±-CrPO₄-type NaV₃(PO₄)₃ anode for sodium-ion batteries with excellent cycling stability and the exploration of sodium storage behavior. Journal of Materials Chemistry A, 2017, 5, 3839-3847.	5.2	24
59	A high-voltage rechargeable magnesium-sodium hybrid battery. Nano Energy, 2017, 34, 188-194.	8.2	84
60	Taming lithium metal through seeded growth. National Science Review, 2017, 4, 17-18.	4.6	5
61	Cross-conjugated oligomeric quinones for high performance organic batteries. Nano Energy, 2017, 37, 46-52.	8.2	97
62	Universal quinone electrodes for long cycle life aqueous rechargeable batteries. Nature Materials, 2017, 16, 841-848.	13.3	615
63	Conformal poly(ethyl Î±-cyanoacrylate) nano-coating for improving the interface stability of LiNi0.5Mn1.5O4. Electrochimica Acta, 2017, 236, 221-227.	2.6	27
64	Moisture-driven phase transition for improved perovskite solar cells with reduced trap-state density. Nano Research, 2017, 10, 1413-1422.	5.8	20
65	An Aqueous Caâ€Ion Battery. Advanced Science, 2017, 4, 1700465.	5.6	254
66	Tailoring nucleation and grain growth by changing the precursor phase ratio for efficient organic lead halide perovskite optoelectronic devices. Journal of Materials Chemistry C, 2017, 5, 10114-10121.	2.7	18
67	Synthesis and Photoluminescence Properties of 2D Phenethylammonium Lead Bromide Perovskite Nanocrystals. Small Methods, 2017, 1, 1700245.	4.6	27
68	Fast kinetics of magnesium monochloride cations in interlayer-expanded titanium disulfide for magnesium rechargeable batteries. Nature Communications, 2017, 8, 339.	5.8	304
69	Investigation of high oxygen reduction reaction catalytic performance on Mn-based mullite SmMn₂O₅. Journal of Materials Chemistry A, 2017, 5, 20922-20931.	5.2	39
70	Facile Synthesis of Different Morphologies of Cu₂SnS₃ for High-Performance Supercapacitors. ACS Applied Materials & Interfaces, 2017, 9, 26038-26044.	4.0	52
71	Rechargeable Mgâ€“Li hybrid batteries: status and challenges. Journal of Materials Research, 2016, 31, 3125-3141.	1.2	92
72	Poly(anthraquinonyl sulfide) cathode for potassium-ion batteries. Electrochemistry Communications, 2016, 71, 5-8.	2.3	235

#	Article	IF	Citations
73	Interaction of Organic Cation with Water Molecule in Perovskite MAPbI₃: From Dynamic Orientational Disorder to Hydrogen Bonding. Chemistry of Materials, 2016, 28, 7385-7393.	3.2	169
74	Mixed-phase mullite electrocatalyst for pH-neutral oxygen reduction in magnesium-air batteries. Nano Energy, 2016, 27, 8-16.	8.2	81
75	Intercalation Pseudocapacitance of Exfoliated Molybdenum Disulfide for Ultrafast Energy Storage. ChemNanoMat, 2016, 2, 688-691.	1.5	38
76	Density functional theory study of Li, Na, and Mg intercalation and diffusion in MoS₂with controlled interlayer spacing. Materials Research Express, 2016, 3, 064001.	0.8	100
77	A magnesiumâ€“sodium hybrid battery with high operating voltage. Chemical Communications, 2016, 52, 8263-8266.	2.2	48
78	Critical kinetic control of non-stoichiometric intermediate phase transformation for efficient perovskite solar cells. Nanoscale, 2016, 8, 12892-12899.	2.8	98
79	Flexible electrode for long-life rechargeable sodium-ion batteries: effect of oxygen vacancy in MoO_{3â^'x}. Journal of Materials Chemistry A, 2016, 4, 5402-5405.	5.2	82
80	Chromate conversion coated aluminium as a light-weight and corrosion-resistant current collector for aqueous lithium-ion batteries. Journal of Materials Chemistry A, 2016, 4, 395-399.	5.2	50
81	Fabrication of efficient planar perovskite solar cells using a one-step chemical vapor deposition method. Scientific Reports, 2015, 5, 14083.	1.6	200
82	Low Dose Electron Microscopy of Interlayer Expanded Molybdenum Disulfide Nanocomposites. Microscopy and Microanalysis, 2015, 21, 1057-1058.	0.2	0
83	Toxicity of exfoliated-MoS₂and annealed exfoliated-MoS₂towards planktonic cells, biofilms, and mammalian cells in the presence of electron donor. Environmental Science: Nano, 2015, 2, 370-379.	2.2	70
84	Enhancing sodium-ion battery performance with interlayer-expanded MoS2â€“PEO nanocomposites. Nano Energy, 2015, 15, 453-461.	8.2	269
85	Solvent engineering towards controlled grain growth in perovskite planar heterojunction solar cells. Nanoscale, 2015, 7, 10595-10599.	2.8	294
86	Advanced aqueous rechargeable lithium battery using nanoparticulate LiTi2(PO4)3/C as a superior anode. Scientific Reports, 2015, 5, 10733.	1.6	46
87	High-Rate LiTi₂(PO₄)₃@Nâ€“C Composite via Bi-nitrogen Sources Doping. ACS Applied Materials & Interfaces, 2015, 7, 28337-28345.	4.0	77
88	Graphene decorated vanadium oxide nanowire aerogel for long-cycle-life magnesium battery cathodes. Nano Energy, 2015, 18, 265-272.	8.2	170
89	Nanoflakeâ€Assembled Hierarchical Na₃V₂(PO₄)₃/C Microflowers: Superior Li Storage Performance and Insertion/Extraction Mechanism. Advanced Energy Materials, 2015, 5, 1401963.	10.2	169
90	Interlayer-Expanded Molybdenum Disulfide Nanocomposites for Electrochemical Magnesium Storage. Nano Letters, 2015, 15, 2194-2202.	4.5	357

#	Article	IF	Citations
91	High Areal Capacity Hybrid Magnesiumâ€“Lithium-Ion Battery with 99.9% Coulombic Efficiency for Large-Scale Energy Storage. ACS Applied Materials & Interfaces, 2015, 7, 7001-7007.	4.0	123
92	Heavily n-Dopable Ï€-Conjugated Redox Polymers with Ultrafast Energy Storage Capability. Journal of the American Chemical Society, 2015, 137, 4956-4959.	6.6	242
93	Highly Efficient Flexible Perovskite Solar Cells with Antireflection and Self-Cleaning Nanostructures. ACS Nano, 2015, 9, 10287-10295.	7.3	335
94	Li₃VO₄ anchored graphene nanosheets for long-life and high-rate lithium-ion batteries. Chemical Communications, 2015, 51, 229-231.	2.2	107
95	Carbon-coated rhombohedral Li₃V₂(PO₄)₃ as both cathode and anode materials for lithium-ion batteries: electrochemical performance and lithium storage mechanism. Journal of Materials Chemistry A, 2014, 2, 20231-20236.	5.2	44
96	Flexible photovoltaic technologies. Journal of Materials Chemistry C, 2014, 2, 1233.	2.7	106
97	Internal and external morphology-dependent plasmonic resonance in monolithic nanoporous gold nanoparticles. RSC Advances, 2014, 4, 36682-36688.	1.7	48
98	3,6-Dithiophen-2-yl-diketopyrrolo[3,2-b]pyrrole (isoDPPT) as an Acceptor Building Block for Organic Opto-Electronics. Macromolecules, 2013, 46, 3895-3906.	2.2	62
99	GaAs thin film nanostructure arrays for III-V solar cell applications. Proceedings of SPIE, 2012, , .	0.8	4
100	Optical Absorption Enhancement: Optical Absorption Enhancement in Freestanding GaAs Thin Film Nanopyramid Arrays (Adv. Energy Mater. 10/2012). Advanced Energy Materials, 2012, 2, 1150-1150.	10.2	7
101	Stable cycling of double-walled silicon nanotube battery anodes through solidâ€“electrolyte interphase control. Nature Nanotechnology, 2012, 7, 310-315.	15.6	2,144
102	Improving the cycling stability of silicon nanowire anodes with conducting polymer coatings. Energy and Environmental Science, 2012, 5, 7927.	15.6	265
103	Broadband light management using low-Q whispering gallery modes in spherical nanoshells. Nature Communications, 2012, 3, 664.	5.8	203
104	Optical Absorption Enhancement in Freestanding GaAs Thin Film Nanopyramid Arrays. Advanced Energy Materials, 2012, 2, 1254-1260.	10.2	52
105	A Yolk-Shell Design for Stabilized and Scalable Li-Ion Battery Alloy Anodes. Nano Letters, 2012, 12, 3315-3321.	4.5	1,587
106	Functionalization of silicon nanowire surfaces with metal-organic frameworks. Nano Research, 2012, 5, 109-116.	5.8	63
107	Low Reflectivity and High Flexibility of Tin-Doped Indium Oxide Nanofiber Transparent Electrodes. Journal of the American Chemical Society, 2011, 133, 27-29.	6.6	88
108	Highly Conductive, Mechanically Robust, and Electrochemically Inactive TiC/C Nanofiber Scaffold for High-Performance Silicon Anode Batteries. ACS Nano, 2011, 5, 8346-8351.	7.3	122

#	Article	IF	Citations
109	Interconnected Silicon Hollow Nanospheres for Lithium-Ion Battery Anodes with Long Cycle Life. Nano Letters, 2011, 11, 2949-2954.	4.5	1,278
110	One dimensional Si/Sn - based nanowires and nanotubes for lithium-ion energy storage materials. Journal of Materials Chemistry, 2011, 21, 9825.	6.7	200
111	Symmetrical MnO₂â€“Carbon Nanotubeâ€“Textile Nanostructures for Wearable Pseudocapacitors with High Mass Loading. ACS Nano, 2011, 5, 8904-8913.	7.3	582
112	Improving the Performance of Lithiumâ€“Sulfur Batteries by Conductive Polymer Coating. ACS Nano, 2011, 5, 9187-9193.	7.3	815
113	High-efficiency solution processable polymer photovoltaic cells by self-organization of polymer blends. , 2010, , 80-84.		24
114	Marked Alkyl- vs Alkenyl-Substitutent Effects on Squaraine Dye Solid-State Structure, Carrier Mobility, and Bulk-Heterojunction Solar Cell Efficiency. Journal of the American Chemical Society, 2010, 132, 4074-4075.	6.6	186
115	Self-Propagating Molecular Assemblies as Interlayers for Efficient Inverted Bulk-Heterojunction Solar Cells. Journal of the American Chemical Society, 2010, 132, 12528-12530.	6.6	85
116	Effects of Solvent Mixtures on the Nanoscale Phase Separation in Polymer Solar Cells. Advanced Functional Materials, 2008, 18, 1783-1789.	7.8	645
117	Bandgap and Molecular Energy Level Control of Conjugated Polymer Photovoltaic Materials Based on Benzo[1,2-b:4,5-bâ€²]dithiophene. Macromolecules, 2008, 41, 6012-6018.	2.2	723
118	Nanostructured polymer solar cells. , 2008, , .		0
119	Quantifying the relation between the morphology and performance of polymer solar cells using Monte Carlo simulations. Journal of Applied Physics, 2008, 104, .	1.1	43
120	Enhancement in open circuit voltage through a cascade-type energy band structure. Applied Physics Letters, 2007, 91, 223508.	1.5	60
121	Low voltage and fast speed all-polymeric optocouplers. Applied Physics Letters, 2007, 90, 053509.	1.5	26
122	Manipulating regioregular poly(3-hexylthiophene) : [6,6]-phenyl-C61-butyric acid methyl ester blendsâ€”route towards high efficiency polymer solar cells. Journal of Materials Chemistry, 2007, 17, 3126.	6.7	351
123	â€œSolvent Annealingâ€•Effect in Polymer Solar Cells Based on Poly(3-hexylthiophene) and Methanofullerenes. Advanced Functional Materials, 2007, 17, 1636-1644.	7.8	1,091
124	Plastic Nearâ€Infrared Photodetectors Utilizing Low Band Gap Polymer. Advanced Materials, 2007, 19, 3979-3983.	11.1	281
125	Transition metal oxides as the buffer layer for polymer photovoltaic cells. Applied Physics Letters, 2006, 88, 073508.	1.5	953
126	Efficient light harvesting in multiple-device stacked structure for polymer solar cells. Applied Physics Letters, 2006, 88, 064104.	1.5	193

#	Article	IF	Citations
127	Regioregular Copolymers of 3-Alkoxythiophene and Their Photovoltaic Application. Journal of the American Chemical Society, 2006, 128, 8980-8986.	6.6	286
128	Effect of self-organization in polymer/fullerene bulk heterojunctions on solar cell performance. Applied Physics Letters, 2006, 89, 063505.	1.5	331
129	Effect of side-chains on low band gap polymer photovoltaic devices. , 2006, , .		0
130	Accurate Measurement and Characterization of Organic Solar Cells. Advanced Functional Materials, 2006, 16, 2016-2023.	7.8	506
131	Tandem stacking structure for polymer solar cells by using semi-transparent electrodes. , 2006, 6334, 170.		1
132	Effects of C70 derivative in low band gap polymer photovoltaic devices: Spectral complementation and morphology optimization. Applied Physics Letters, 2006, 89, 153507.	1.5	106
133	High-efficiency solution processable polymer photovoltaic cells by self-organization of polymer blends. Nature Materials, 2005, 4, 864-868.	13.3	5,281
134	Gossip-based Multicast Loss Recovery Mechanisms in Group Key Distribution. , 2005, , .		0
135	Structures and Electrical Properties of Agâ€“Tetracyanoquinodimethane Organometallic Nanowires. IEEE Nanotechnology Magazine, 2005, 4, 238-241.	1.1	53
136	Investigation of annealing effects and film thickness dependence of polymer solar cells based on poly(3-hexylthiophene). Journal of Applied Physics, 2005, 98, 043704.	1.1	730
137	Preparation and electrical/optical bistable property of potassium tetracyanoquinodimethane thin films. Thin Solid Films, 2003, 436, 259-263.	0.8	36
138	Silver-tetracyanoquinodimethane (Ag-TCNQ) nanostructures and nanodevice. , 0, , .		7