Yan Yao

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123	23,685	57	147
papers	citations	h-index	g-index
147	26,123	13.9	6.99
ext. papers	ext. citations	avg, IF	L-index

#	Paper	IF	Citations
123	High-efficiency solution processable polymer photovoltaic cells by self-organization of polymer blends. *Nature Materials*, **2005**, 4, 864-868	27	4965
122	Stable cycling of double-walled silicon nanotube battery anodes through solid-electrolyte interphase control. *Nature Nanotechnology*, **2012**, 7, 310-5	28.7	1831
121	A yolk-shell design for stabilized and scalable li-ion battery alloy anodes. *Nano Letters*, **2012**, 12, 3315-21	11.5	1410
120	Interconnected silicon hollow nanospheres for lithium-ion battery anodes with long cycle life. *Nano Letters*, **2011**, 11, 2949-54	11.5	1155
119	Solvent Annealing Effect in Polymer Solar Cells Based on Poly(3-hexylthiophene) and Methanofullerenes. *Advanced Functional Materials*, **2007**, 17, 1636-1644	15.6	1036
118	Transition metal oxides as the buffer layer for polymer photovoltaic cells. *Applied Physics Letters*, **2006**, 88, 073508	3.4	877
117	Improving the performance of lithium-sulfur batteries by conductive polymer coating. *ACS Nano*, **2011**, 5, 9187-93	16.7	756
116	Bandgap and Molecular Energy Level Control of Conjugated Polymer Photovoltaic Materials Based on Benzo[1,2-b:4,5-b?]dithiophene. *Macromolecules*, **2008**, 41, 6012-6018	5.5	675
115	Investigation of annealing effects and film thickness dependence of polymer solar cells based on poly(3-hexylthiophene). *Journal of Applied Physics*, **2005**, 98, 043704	2.5	661
114	Effects of Solvent Mixtures on the Nanoscale Phase Separation in Polymer Solar Cells. *Advanced Functional Materials*, **2008**, 18, 1783-1789	15.6	614
113	Symmetrical MnO2-carbon nanotube-textile nanostructures for wearable pseudocapacitors with high mass loading. *ACS Nano*, **2011**, 5, 8904-13	16.7	540
112	Accurate Measurement and Characterization of Organic Solar Cells. *Advanced Functional Materials*, **2006**, 16, 2016-2023	15.6	464
111	Universal quinone electrodes for long cycle life aqueous rechargeable batteries. *Nature Materials*, **2017**, 16, 841-848	27	432
110	Manipulating regioregular poly(3-hexylthiophene) : [6,6]-phenyl-C61-butyric acid methyl ester blends Route towards high efficiency polymer solar cells. *Journal of Materials Chemistry*, **2007**, 17, 3126		338
109	Current status and future directions of multivalent metal-ion batteries. *Nature Energy*, **2020**, 5, 646-656	62.3	307
108	Effect of self-organization in polymer/fullerene bulk heterojunctions on solar cell performance. *Applied Physics Letters*, **2006**, 89, 063505	3.4	306
107	Interlayer-expanded molybdenum disulfide nanocomposites for electrochemical magnesium storage. *Nano Letters*, **2015**, 15, 2194-202	11.5	289

106	Highly Efficient Flexible Perovskite Solar Cells with Antireflection and Self-Cleaning Nanostructures. *ACS Nano*, **2015**, 9, 10287-95	16.7	274
105	Regioregular copolymers of 3-alkoxythiophene and their photovoltaic application. *Journal of the American Chemical Society*, **2006**, 128, 8980-6	16.4	264
104	Plastic Near-Infrared Photodetectors Utilizing Low Band Gap Polymer. *Advanced Materials*, **2007**, 19, 3979-3983	24	257
103	Solvent engineering towards controlled grain growth in perovskite planar heterojunction solar cells. *Nanoscale*, **2015**, 7, 10595-9	7.7	251
102	Improving the cycling stability of silicon nanowire anodes with conducting polymer coatings. *Energy and Environmental Science*, **2012**, 5, 7927	35.4	239
101	Opportunities and Challenges for Organic Electrodes in Electrochemical Energy Storage. *Chemical Reviews*, **2020**, 120, 6490-6557	68.1	232
100	Fast kinetics of magnesium monochloride cations in interlayer-expanded titanium disulfide for magnesium rechargeable batteries. *Nature Communications*, **2017**, 8, 339	17.4	220
99	Enhancing sodium-ion battery performance with interlayer-expanded MoS2PEO nanocomposites. *Nano Energy*, **2015**, 15, 453-461	17.1	219
98	Poly(anthraquinonyl sulfide) cathode for potassium-ion batteries. *Electrochemistry Communications*, **2016**, 71, 5-8	5.1	192
97	Positioning Organic Electrode Materials in the Battery Landscape. *Joule*, **2018**, 2, 1690-1706	27.8	189
96	Heavily n-Dopable Conjugated Redox Polymers with Ultrafast Energy Storage Capability. *Journal of the American Chemical Society*, **2015**, 137, 4956-9	16.4	188
95	One dimensional Si/Sn - based nanowires and nanotubes for lithium-ion energy storage materials. *Journal of Materials Chemistry*, **2011**, 21, 9825		186
94	Efficient light harvesting in multiple-device stacked structure for polymer solar cells. *Applied Physics Letters*, **2006**, 88, 064104	3.4	182
93	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, 4074-5	16.4	175
92	Broadband light management using low-Q whispering gallery modes in spherical nanoshells. *Nature Communications*, **2012**, 3, 664	17.4	174
91	Fabrication of efficient planar perovskite solar cells using a one-step chemical vapor deposition method. *Scientific Reports*, **2015**, 5, 14083	4.9	165
90	Nanoflake-Assembled Hierarchical Na3V2(PO4)3/C Microflowers: Superior Li Storage Performance and Insertion/Extraction Mechanism. *Advanced Energy Materials*, **2015**, 5, 1401963	21.8	144
89	An Aqueous Ca-Ion Battery. *Advanced Science*, **2017**, 4, 1700465	13.6	135

88	Graphene decorated vanadium oxide nanowire aerogel for long-cycle-life magnesium battery cathodes. *Nano Energy*, **2015**, 18, 265-272	17.1	134
87	Interaction of Organic Cation with Water Molecule in Perovskite MAPbI3: From Dynamic Orientational Disorder to Hydrogen Bonding. *Chemistry of Materials*, **2016**, 28, 7385-7393	9.6	133
86	Highly conductive, mechanically robust, and electrochemically inactive TiC/C nanofiber scaffold for high-performance silicon anode batteries. *ACS Nano*, **2011**, 5, 8346-51	16.7	109
85	High areal capacity hybrid magnesium-lithium-ion battery with 99.9% Coulombic efficiency for large-scale energy storage. *ACS Applied Materials & Interfaces*, **2015**, 7, 7001-7	9.5	103
84	Effects of C70 derivative in low band gap polymer photovoltaic devices: Spectral complementation and morphology optimization. *Applied Physics Letters*, **2006**, 89, 153507	3.4	103
83	Tailored Organic Electrode Material Compatible with Sulfide Electrolyte for Stable All-Solid-State Sodium Batteries. *Angewandte Chemie - International Edition*, **2018**, 57, 2630-2634	16.4	102
82	Li3VO4 anchored graphene nanosheets for long-life and high-rate lithium-ion batteries. *Chemical Communications*, **2015**, 51, 229-31	5.8	91
81	Flexible photovoltaic technologies. *Journal of Materials Chemistry C*, **2014**, 2, 1233	7.1	87
80	Low reflectivity and high flexibility of tin-doped indium oxide nanofiber transparent electrodes. *Journal of the American Chemical Society*, **2011**, 133, 27-9	16.4	85
79	Critical kinetic control of non-stoichiometric intermediate phase transformation for efficient perovskite solar cells. *Nanoscale*, **2016**, 8, 12892-9	7.7	83
78	Advanced Materials for Zinc-Based Flow Battery: Development and Challenge. *Advanced Materials*, **2019**, 31, e1902025	24	77
77	Self-propagating molecular assemblies as interlayers for efficient inverted bulk-heterojunction solar cells. *Journal of the American Chemical Society*, **2010**, 132, 12528-30	16.4	77
76	High-power Mg batteries enabled by heterogeneous enolization redox chemistry and weakly coordinating electrolytes. *Nature Energy*, **2020**, 5, 1043-1050	62.3	76
75	Cross-conjugated oligomeric quinones for high performance organic batteries. *Nano Energy*, **2017**, 37, 46-52	17.1	75
74	Rechargeable Mg□i hybrid batteries: status and challenges. *Journal of Materials Research*, **2016**, 31, 3125-3141	2.5	75
73	Directing Mg-Storage Chemistry in Organic Polymers toward High-Energy Mg Batteries. *Joule*, **2019**, 3, 782-793	27.8	74
72	Flexible electrode for long-life rechargeable sodium-ion batteries: effect of oxygen vacancy in MoO3□. *Journal of Materials Chemistry A*, **2016**, 4, 5402-5405	13	71
71	High-Rate LiTi2(PO4)3@N-C Composite via Bi-nitrogen Sources Doping. *ACS Applied Materials & Interfaces*, **2015**, 7, 28337-45	9.5	70

70	Density functional theory study of Li, Na, and Mg intercalation and diffusion in MoS2with controlled interlayer spacing. *Materials Research Express*, **2016**, 3, 064001	1.7	68
69	Mixed-phase mullite electrocatalyst for pH-neutral oxygen reduction in magnesium-air batteries. *Nano Energy*, **2016**, 27, 8-16	17.1	63
68	A high-voltage rechargeable magnesium-sodium hybrid battery. *Nano Energy*, **2017**, 34, 188-194	17.1	61
67	Enhancement in open circuit voltage through a cascade-type energy band structure. *Applied Physics Letters*, **2007**, 91, 223508	3.4	58
66	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	5.5	57
65	Functionalization of silicon nanowire surfaces with metal-organic frameworks. *Nano Research*, **2012** , 5, 109-116	10	55
64	Toxicity of exfoliated-MoS2 and annealed exfoliated-MoS2 towards planktonic cells, biofilms, and mammalian cells in the presence of electron donor. *Environmental Science: Nano*, **2015**, 2, 370-379	7.1	54
63	Nickel-iron bimetallic diselenides with enhanced kinetics for high-capacity and long-life magnesium batteries. *Nano Energy*, **2018**, 54, 360-366	17.1	50
62	Extrinsic Green Photoluminescence from the Edges of 2D Cesium Lead Halides. *Advanced Materials*, **2019**, 31, e1902492	24	48
61	Structures and electrical properties of Ag-tetracyanoquinodimethane organometallic nanowires. *IEEE Nanotechnology Magazine*, **2005**, 4, 238-241	2.6	48
60	Architectural design and fabrication approaches for solid-state batteries. *MRS Bulletin*, **2018**, 43, 775-781	3.2	48
59	Taming Active Material-Solid Electrolyte Interfaces with Organic Cathode for All-Solid-State Batteries. *Joule*, **2019**, 3, 1349-1359	27.8	47
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57	Hyperbranched PEO-Based Hyperstar Solid Polymer Electrolytes with Simultaneous Improvement of Ion Transport and Mechanical Strength. *ACS Applied Energy Materials*, **2019**, 2, 1608-1615	6.1	43
56	Optical Absorption Enhancement in Freestanding GaAs Thin Film Nanopyramid Arrays. *Advanced Energy Materials*, **2012**, 2, 1254-1260	21.8	42
55	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	13	41
54	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	13	40
53	A magnesium-sodium hybrid battery with high operating voltage. *Chemical Communications*, **2016**, 52, 8263-6	5.8	40

52	BiSe/C Nanocomposite as a New Sodium-Ion Battery Anode Material. *Nano-Micro Letters*, **2018**, 10, 50	19.5	40
51	A high-energy quinone-based all-solid-state sodium metal battery. *Nano Energy*, **2019**, 62, 718-724	17.1	37
50	Quantifying the relation between the morphology and performance of polymer solar cells using Monte Carlo simulations. *Journal of Applied Physics*, **2008**, 104, 024504	2.5	35
49	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	9.5	35
48	Preparation and electrical/optical bistable property of potassium tetracyanoquinodimethane thin films. *Thin Solid Films*, **2003**, 436, 259-263	2.2	34
47	A high-performance oxygen evolution catalyst in neutral-pH for sunlight-driven CO reduction. *Nature Communications*, **2019**, 10, 4081	17.4	33
46	Facile Synthesis of Different Morphologies of CuSnS for High-Performance Supercapacitors. *ACS Applied Materials & Interfaces*, **2017**, 9, 26038-26044	9.5	32
45	Internal and external morphology-dependent plasmonic resonance in monolithic nanoporous gold nanoparticles. *RSC Advances*, **2014**, 4, 36682-36688	3.7	31
44	High performance printable perovskite solar cells based on Cs0.1FA0.9PbI3 in mesoporous scaffolds. *Journal of Power Sources*, **2019**, 415, 105-111	8.9	29
43	Intercalation Pseudocapacitance of Exfoliated Molybdenum Disulfide for Ultrafast Energy Storage. *ChemNanoMat*, **2016**, 2, 688-691	3.5	29
42	Investigation of high oxygen reduction reaction catalytic performance on Mn-based mullite SmMn2O5. *Journal of Materials Chemistry A*, **2017**, 5, 20922-20931	13	28
41	Spontaneous Formation of 2D/3D Heterostructures on the Edges of 2D Ruddlesden□Popper Hybrid Perovskite Crystals. *Chemistry of Materials*, **2020**, 32, 5009-5015	9.6	25
40	An □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	13	23
39	Electron Microscopy Investigation of Sodiation of Titanium Disulfide Nanoflakes. *ACS Nano*, **2019**, 13, 9421-9430	16.7	23
38	Low voltage and fast speed all-polymeric optocouplers. *Applied Physics Letters*, **2007**, 90, 053509	3.4	22
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35	Conformal poly(ethyl □cyanoacrylate) nano-coating for improving the interface stability of LiNi 0.5 Mn 1.5 O 4. *Electrochimica Acta*, **2017**, 236, 221-227	6.7	19

34	CO to Formic Acid Using Cu-Sn on Laser-Induced Graphene. *ACS Applied Materials & Interfaces*, **2020**, 12, 41223-41229	9.5	17
33	High-Energy All-Solid-State Organic□lithium Batteries Based on Ceramic Electrolytes. *ACS Energy Letters*, **2021**, 6, 201-207	20.1	16
32	Efficient Alkaline Water/Seawater Hydrogen Evolution by a Nanorod-nanoparticle-structured Ni-MoN Catalyst with Fast Water-dissociation Kinetics.. *Advanced Materials*, **2022**, e2201774	24	16
31	Expanded lithiation of titanium disulfide: Reaction kinetics of multi-step conversion reaction. *Nano Energy*, **2019**, 63, 103882	17.1	14
30	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	13	13
29	High-efficiency solution processable polymer photovoltaic cells by self-organization of polymer blends **2010**, 80-84		13
28	Moisture-driven phase transition for improved perovskite solar cells with reduced trap-state density. *Nano Research*, **2017**, 10, 1413-1422	10	12
27	Charge Storage Mechanism of a Quinone Polymer Electrode for Zinc-ion Batteries. *Journal of the Electrochemical Society*, **2020**, 167, 070558	3.9	12
26	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	7.1	12
25	Microstructure engineering of solid-state composite cathode via solvent-assisted processing. *Joule*, **2021**, 5, 1845-1859	27.8	12
24	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	17.1	12
23	Stable three-dimensional metal hydride anodes for solid-state lithium storage. *Energy Storage Materials*, **2019**, 18, 423-428	19.4	11
22	Quasi-Solid-State Li□O2 Batteries with Laser-Induced Graphene Cathode Catalysts. *ACS Applied Energy Materials*, **2020**, 3, 1702-1709	6.1	11
21	A Quinone Anode for Lithium-Ion Batteries in Mild Aqueous Electrolytes. *ChemSusChem*, **2020**, 13, 2250-8255	8.5	10
20	Roadmap of Solid-State Lithium-Organic Batteries toward 500 Wh kg□1. *ACS Energy Letters*, **2021**, 6, 3287-3306	20.1	9
19	Silver-tetracyanoquinodimethane (Ag-TCNQ) nanostructures and nanodevice		7
18	Accelerated Modeling of Lithium Diffusion in Solid State Electrolytes using Artificial Neural Networks. *Advanced Theory and Simulations*, **2020**, 3, 2000097	3.5	7
17	Semihollow Core-Shell Nanoparticles with Porous SiO Shells Encapsulating Elemental Sulfur for Lithium-Sulfur Batteries. *ACS Applied Materials & Interfaces*, **2020**, 12, 47368-47376	9.5	6

16	Dendrite-free Lithium Based on Lessons Learned from Lithium and Magnesium Electrodeposition Morphology Simulations. *Cell Reports Physical Science*, **2021**, 2, 100294	6.1	6
15	Visualizing highly selective electrochemical CO2 reduction on a molecularly dispersed catalyst. *Materials Today Physics*, **2021**, 19, 100427	8	6
14	Separator Effect on Zinc Electrodeposition Behavior and Its Implication for Zinc Battery Lifetime. *Nano Letters*, **2021**,	11.5	5
13	Taming lithium metal through seeded growth. *National Science Review*, **2017**, 4, 17-18	10.8	4
12	Improved Mechanical Durability of High-Performance OPVs Using Semi-Interpenetrating Networks. *Advanced Optical Materials*, **2020**, 8, 2000516	8.1	4
11	Investigations of the structure of Na2S + P2S5 glassy electrolytes and its impact on Na+ ionic conductivity through ab initio molecular dynamics. *Solid State Ionics*, **2019**, 338, 177-184	3.3	4
10	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	21.8	4
9	On the quality of tape-cast thin films of sulfide electrolytes for solid-state batteries. *Materials Today Physics*, **2021**, 18, 100397	8	3
8	Zinc-Based Flow Batteries: Advanced Materials for Zinc-Based Flow Battery: Development and Challenge (Adv. Mater. 50/2019). *Advanced Materials*, **2019**, 31, 1970356	24	2
7	Controlling Porosity of Anode Support in Tubular Solid Oxide Fuel Cells by Freeze Casting. *Journal of Electrochemical Energy Conversion and Storage*, **2020**, 17,	2	1
6	Natural organic matter adsorption conditions influence photocatalytic reaction pathways of phosphate-treated titanium dioxide nanoparticles. *Environmental Science: Nano*, **2021**, 8, 2165-2176	7.1	1
5	Titelbild: Tailored Organic Electrode Material Compatible with Sulfide Electrolyte for Stable All-Solid-State Sodium Batteries (Angew. Chem. 10/2018). *Angewandte Chemie*, **2018**, 130, 2531-2531	3.6	
4	Low Dose Electron Microscopy of Interlayer Expanded Molybdenum Disulfide Nanocomposites. *Microscopy and Microanalysis*, **2015**, 21, 1057-1058	0.5	
3	Tandem stacking structure for polymer solar cells by using semi-transparent electrodes **2006**, 6334, 170		
2	TEM Characterization of the Edges of CsPb2Br5 Perovskite Crystals. *Microscopy and Microanalysis*, **2018**, 24, 1984-1985	0.5	
1	Development of cathode materials for rechargeable magnesium batteries: From intercalation to enolization **2022**,		