Swee Ching Sc Tan

List of Publications by Year
in descending order

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Version: 2024-02-01

100	4,549	76196	110170
papers	citations	40 h-index	64 g-index

105	105	105	4220
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Ultrathin Two-Dimensional Membranes Assembled by Ionic Covalent Organic Nanosheets with Reduced Apertures for Gas Separation. Journal of the American Chemical Society, 2020, 142, 4472-4480.	6.6	304
2	Structure Architecting for Saltâ€Rejecting Solar Interfacial Desalination to Achieve Highâ€Performance Evaporation With In Situ Energy Generation. Advanced Science, 2020, 7, 1903478.	5.6	224
3	Atomic structure of the 6Hâ€“SiC(0001) nanomesh. Surface Science, 2005, 596, 176-186.	0.8	179
4	Solar Energy Triggered Clean Water Harvesting from Humid Air Existing above Sea Surface Enabled by a Hydrogel with Ultrahigh Hygroscopicity. Advanced Materials, 2019, 31, e1806730.	11.1	173
5	Manipulating unidirectional fluid transportation to drive sustainable solar water extraction and brine-drenching induced energy generation. Energy and Environmental Science, 2020, 13, 4891-4902.	15.6	162
6	Food-derived carbonaceous materials for solar desalination and thermo-electric power generation. Nano Energy, 2019, 65, 104006.	8.2	149
7	A super hygroscopic hydrogel for harnessing ambient humidity for energy conservation and harvesting. Energy and Environmental Science, 2018, 11, 2179-2187.	15.6	134
8	Guaranteeing Complete Salt Rejection by Channeling Saline Water through Fluidic Photothermal Structure toward Synergistic Zero Energy Clean Water Production and In Situ Energy Generation. ACS Energy Letters, 2020, 5, 3397-3404.	8.8	129
9	Best practices for solar water production technologies. Nature Sustainability, 2022, 5, 554-556.	11.5	113
10	Progress and perspectives in exploiting photosynthetic biomolecules for solar energy harnessing. Energy and Environmental Science, 2015, 8, 2551-2573.	15.6	100
11	Energy Harvesting from Atmospheric Humidity by a Hydrogel-Integrated Ferroelectric-Semiconductor System. Joule, 2020, 4, 176-188.	11.7	94
12	Digestion of Ambient Humidity for Energy Generation. Joule, 2020, 4, 2532-2536.	11.7	94
13	Inkjet-Printable Hydrochromic Paper for Encrypting Information and Anticounterfeiting. ACS Applied Materials & Interfaces, 2017, 9, 33071-33079.	4.0	92
14	Carbon Nanotube Reinforced Strong Carbon Matrix Composites. ACS Nano, 2020, 14, 9282-9319.	7.3	89
15	Repurposing face mask waste to construct floating photothermal evaporator for autonomous solar ocean farming. EcoMat, 2022, 4, .	6.8	89
16	A Moistureâ€Hungry Copper Complex Harvesting Air Moisture for Potable Water and Autonomous Urban Agriculture. Advanced Materials, 2020, 32, e2002936.	11.1	81
17	Liquidâ€Exfoliated 2D Materials for Optoelectronic Applications. Advanced Science, 2021, 8, e2003864.	5.6	77
18	A bio-inspired nanocomposite membrane with improved light-trapping and salt-rejecting performance for solar-driven interfacial evaporation applications. Nano Energy, 2021, 89, 106443.	8.2	75

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19	Shadow enhanced self-charging power system for wave and solar energy harvesting from the ocean. Nature Communications, 2021, 12, 616.	5.8	69
20	Generation of Alternating Current in Response to Discontinuous Illumination by Photoelectrochemical Cells Based on Photosynthetic Proteins. Angewandte Chemie - International Edition, 2012, 51, 6667-6671.	7.2	63
21	Crystalline silicon core fibres from aluminium core preforms. Nature Communications, 2015, 6, 6248.	5.8	62
22	Photosynthetic Bioelectronic Sensors for Touch Perception, UVâ€Detection, and Nanopower Generation: Toward Selfâ€Powered Eâ€Skins. Advanced Materials, 2018, 30, e1802290.	11.1	62
23	Impact of Water-Assisted Electrochemical Reactions on the OFF-State Degradation of AlGaN/GaN HEMTs. IEEE Transactions on Electron Devices, 2014, 61, 437-444.	1.6	58
24	A Hybrid Artificial Photocatalysis System Splits Atmospheric Water for Simultaneous Dehumidification and Power Generation. Advanced Materials, 2019, 31, e1902963.	11.1	55
25	An Asymmetric Hygroscopic Structure for Moistureâ€Driven Hygroâ€Ionic Electricity Generation and Storage. Advanced Materials, 2022, 34, e2201228.	11.1	55
26	High-flux flowing interfacial water evaporation under multiple heating sources enabled by a biohybrid hydrogel. Nano Energy, 2022, 98, 107287.	8.2	55
27	Performance Improvement by Ozone Treatment of 2D PdSe₂. ACS Nano, 2020, 14, 5668-5677.	7.3	54
28	Systematic Study of the Effects of System Geometry and Ambient Conditions on Solar Steam Generation for Evaporation Optimization. Advanced Sustainable Systems, 2019, 3, 1900044.	2.7	53
29	Super-hygroscopic film for wearables with dual functions of expediting sweat evaporation and energy harvesting. Nano Energy, 2020, 75, 104873.	8.2	52
30	Robust, 3D-printed hydratable plastics for effective solar desalination. Nano Energy, 2021, 79, 105436.	8.2	52
31	A 3D-printing method of fabrication for metals, ceramics, and multi-materials using a universal self-curable technique for robocasting. Materials Horizons, 2020, 7, 1083-1090.	6.4	51
32	A Barbeque-Analog Route to Carbonize Moldy Bread for Efficient Steam Generation. IScience, 2018, 3, 31-39.	1.9	50
33	An efficient DSSC based on ZnO nanowire photo-anodes and a new D-Ï€-A organic dye. Energy and Environmental Science, 2011, 4, 2903.	15.6	49
34	Enhanced Output from Biohybrid Photoelectrochemical Transparent Tandem Cells Integrating Photosynthetic Proteins Genetically Modified for Expanded Solar Energy Harvesting. Advanced Energy Materials, 2017, 7, 1601821.	10.2	49
35	Emerging Role of the Bandâ€Structure Approach in Biohybrid Photovoltaics: A Path Beyond Bioelectrochemistry. Advanced Functional Materials, 2018, 28, 1705305.	7.8	48
36	Highâ€Performance Freshwater Harvesting System by Coupling Solar Desalination and Fog Collection with Hierarchical Porous Microneedle Arrays. Advanced Functional Materials, 2022, 32, .	7.8	45

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37	Efficient power generating devices utilizing low intensity indoor lights via non-radiative energy transfer mechanism from organic ionic redox couples. Nano Energy, 2019, 60, 457-466.	8.2	44
38	Increasing the Open-Circuit Voltage of Photoprotein-Based Photoelectrochemical Cells by Manipulation of the Vacuum Potential of the Electrolytes. ACS Nano, 2012, 6, 9103-9109.	7.3	43
39	A Mechanoresponsive Phaseâ€Changing Electrolyte Enables Fabrication of Highâ€Output Solidâ€State Photobioelectrochemical Devices from Pigmentâ€Protein Multilayers. Advanced Materials, 2018, 30, 1704073.	11.1	43
40	Biohybrid Photoproteinâ€Semiconductor Cells with Deepâ€Lying Redox Shuttles Achieve a 0.7 V Photovoltage. Advanced Functional Materials, 2018, 28, 1703689.	7.8	42
41	A Smart Flexible Solid State Photovoltaic Device with Interfacial Cooling Recovery Feature through Thermoreversible Polymer Gel Electrolyte. Small, 2018, 14, e1800842.	5.2	42
42	Portable Trilayer Photothermal Structure for Hybrid Energy Harvesting and Synergic Water Purification. ACS Applied Materials & Interfaces, 2019, 11, 38674-38682.	4.0	42
43	Photosynthetic apparatus of Rhodobacter sphaeroides exhibits prolonged charge storage. Nature Communications, 2019, 10, 902.	5.8	40
44	Sustainable Fuel Production from Ambient Moisture via Ferroelectrically Driven MoS₂ Nanosheets. Advanced Materials, 2020, 32, e2000971.	11.1	38
45	Dual functional hetero-anthracene based single component organic ionic conductors as redox mediator cum light harvester for solid state photoelectrochemical cells. Journal of Materials Chemistry A, 2018, 6, 4868-4877.	5.2	37
46	Bio-photocapacitive tactile sensors as a touch-to-audio braille reader and solar capacitor. Materials Horizons, 2020, 7, 866-876.	6.4	37
47	Highly efficient photoelectrochemical water oxidation enabled by enhanced interfacial interaction in 2D/1D In₂S₃@Bi₂S₃ heterostructures. Journal of Materials Chemistry A, 2020, 8, 5612-5621.	5.2	35
48	Optical manipulation of work function contrasts on metal thin films. Science Advances, 2018, 4, eaao6050.	4.7	34
49	Ultrafast Exfoliation of 2D Materials by Solvent Activation and One-Step Fabrication of All-2D-Material Photodetectors by Electrohydrodynamic Printing. ACS Applied Materials & Interfaces, 2020, 12, 28840-28851.	4.0	34
50	Machineâ€Learningâ€Assisted Autonomous Humidity Management System Based on Solarâ€Regenerated Super Hygroscopic Complex. Advanced Science, 2021, 8, 2003939.	5.6	34
51	Understanding the Dielectric Properties of Heat-Treated Carbon Nanofibers at Terahertz Frequencies: a New Perspective on the Catalytic Activity of Structured Carbonaceous Materials. Journal of Physical Chemistry C, 2009, 113, 10554-10559.	1.5	33
52	A solar cell that breathes in moisture for energy generation. Nano Energy, 2020, 68, 104263.	8.2	32
53	Superhydrophobic Carbon Nanotube Electrode Produces a Nearâ€Symmetrical Alternating Current from Photosynthetic Proteinâ€Based Photoelectrochemical Cells. Advanced Functional Materials, 2013, 23, 5556-5563.	7.8	31
54	Transparent Nanofibrous Mesh Selfâ€Assembled from Molecular LEGOs for High Efficiency Air Filtration with New Functionalities. Small, 2017, 13, 1601924.	5.2	31

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55	Engineering the photoresponse of liquid-exfoliated 2D materials by size selection and controlled mixing for an ultrasensitive and ultraresponsive photodetector. Materials Horizons, 2020, 7, 3325-3338.	6.4	31
56	Structural and magnetic characterization of soft-magnetic FeCo alloy nanoparticles. Journal of Electron Spectroscopy and Related Phenomena, 2006, 150, 11-14.	0.8	30
57	Zincâ€“Air Battery-Based Desalination Device. ACS Applied Materials & Interfaces, 2020, 12, 25728-25735.	4.0	29
58	Energy harvesting from shadow-effect. Energy and Environmental Science, 2020, 13, 2404-2413.	15.6	29
59	High-Performance UV Enhancer Molecules Coupled with Photosynthetic Proteins for Ultra-Low-Intensity UV Detection. CheM, 2019, 5, 1847-1860.	5.8	28
60	Near-Instantaneously Self-Healing Coating toward Stable and Durable Electromagnetic Interference Shielding. Nano-Micro Letters, 2021, 13, 190.	14.4	28
61	Low toxicity environmentally friendly single component aqueous organic ionic conductors for high efficiency photoelectrochemical solar cells. Journal of Materials Chemistry A, 2018, 6, 1009-1016.	5.2	27
62	Biodegradable Protein-Based Photoelectrochemical Cells with Biopolymer Composite Electrodes That Enable Recovery of Valuable Metals. ACS Sustainable Chemistry and Engineering, 2019, 7, 8834-8841.	3.2	23
63	Optical Shading Induces an Inâ€Plane Potential Gradient in a Semiartificial Photosynthetic System Bringing Photoelectric Synergy. Advanced Energy Materials, 2019, 9, 1901449.	10.2	22
64	Self-powered all weather sensory systems powered by Rhodobacter sphaeroides protein solar cells. Biosensors and Bioelectronics, 2020, 165, 112423.	5.3	20
65	Augmenting Sensor Performance with Machine Learning Towards Smart Wearable Sensing Electronic Systems. Advanced Intelligent Systems, 2022, 4, .	3.3	20
66	Structural study of refractory-metal-free C40 TiSi2 and its transformation to C54 TiSi2. Applied Physics Letters, 2002, 80, 2266-2268.	1.5	19
67	Applications of bio-derived/bio-inspired materials in the field of interfacial solar steam generation. Nano Research, 2022, 15, 3122-3142.	5.8	19
68	Redox flow desalination based on the temperature difference as a driving force. Chemical Engineering Journal, 2021, 416, 127716.	6.6	17
69	Emerging Technologies for Green Energy Conversion and Storage. Advanced Sustainable Systems, 2021, 5, 2000152.	2.7	17
70	Intensifying the co-production of vapor and salts by a one-way brine-flowing structure driven by solar irradiation or waste heat. Desalination, 2022, 539, 115942.	4.0	17
71	Thickness dependence of X-ray absorption and photoemission in Fe thin films on Si(0â€‰0â€‰1). Journal of Electron Spectroscopy and Related Phenomena, 2006, 151, 199-203.	0.8	16
72	Water Harvesting: A Moistureâ€Hungry Copper Complex Harvesting Air Moisture for Potable Water and Autonomous Urban Agriculture (Adv. Mater. 39/2020). Advanced Materials, 2020, 32, 2070297.	11.1	16

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73	Solar-Driven Gas-Phase Moisture to Hydrogen with Zero Bias. ACS Nano, 2021, 15, 19119-19127.	7.3	16
74	Contribution in Light Harvesting by Solid Ionic Conductors for Efficient Photoelectrochemical Cells: An Effect of an Identical Donor Molecule in Sensitizers and Electrolytes. ACS Applied Energy Materials, 2020, 3, 7073-7082.	2.5	15
75	Reversible Hydration Composite Films for Evaporative Perspiration Control and Heat Stress Management. Small, 2022, 18, e2107636.	5.2	15
76	Organic ionic conductors infused aqueous inverse-melting electrolyte aiding crack recovery in flexible supercapacitors functional down toÂâ"30ÂÂ°C. Materials Today Energy, 2020, 17, 100428.	2.5	14
77	Hydroâ€Assisted Selfâ€Regenerating Brominated Nâ€Alkylated Thiophene Diketopyrrolopyrrole Dye Nanofibersâ€"A Sustainable Synthesis Route for Renewable Air Filter Materials. Small, 2020, 16, e1906319.	5.2	12
78	Introducing Normalized Centrifugation for a More Accurate Thermodynamic Analysis of Molybdenum Disulfide Dispersions: A Study on Mixed Solvents of Alcohols and Amines with Water. ACS Applied Materials & Interfaces, 2020, 12, 3096-3103.	4.0	11
79	1200% enhancement of solar energy conversion by engineering three dimensional arrays of flexible biophotoelectrochemical cells in a fixed footprint encompassed by Johnson solid shaped optical well. Nano Energy, 2021, 79, 105424.	8.2	10
80	Fabrication of high aspect ratio AFM probes with different materials inspired by TEM â€œlift-outâ€• method. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2016, 34, .	0.6	8
81	Bio-photoelectrochemical Cells. , 2018, , 141-159.		6
82	The Effect of Film Thickness on the C40 TiSi[sub 2] to C54 TiSi[sub 2] Transition Temperature. Journal of the Electrochemical Society, 2005, 152, G754.	1.3	4
83	Melded ceramic membranes: A novel fabrication method for ultrathin alumina membranes of high performance. Journal of the American Ceramic Society, 2022, 105, 6554-6569.	1.9	3
84	Investigating the Hydrothermal Growth of Zinc Oxide Nanostructures Through Seed Layer Control. Zeitschrift Fur Physikalische Chemie, 2011, 225, 341-350.	1.4	2
85	Sustainable Fuel Production: Sustainable Fuel Production from Ambient Moisture via Ferroelectrically Driven MoS₂ Nanosheets (Adv. Mater. 25/2020). Advanced Materials, 2020, 32, 2070188.	11.1	2
86	Augmenting Sensor Performance with Machine Learning Towards Smart Wearable Sensing Electronic Systems. Advanced Intelligent Systems, 2022, 4, .	3.3	2
87	Mechanism of simultaneous formation of refractory-metal free C40 and C49â€,TiSi[sub 2] induced by Q-switched Nd:Yttriumâ€"aluminumâ€"garnet laser irradiation. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2005, 23, 480.	1.6	1
88	Heterojunction photovoltaic devices utilizing single wall carbon nanotube thin films and silicon substrates. Conference Record of the IEEE Photovoltaic Specialists Conference, 2008, , .	0.0	1
89	Understanding the catalytic activity of heat treated carbon nanofibres: Investigation of their dielectric properties at THz frequencies. , 2008, , .		1
90	Tandem Solar Cells: Enhanced Output from Biohybrid Photoelectrochemical Transparent Tandem Cells Integrating Photosynthetic Proteins Genetically Modified for Expanded Solar Energy Harvesting (Adv. Energy Mater. 7/2017). Advanced Energy Materials, 2017, 7, .	10.2	1

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91	Solar Energy Harvesting with Photosynthetic Pigment-Protein Complexes. Green Energy and Technology, 2020, , .	0.4	1
92	Integrating the Light Reactions of a Photoprotein and a Semiconductor for Enhanced Photovoltage. Green Energy and Technology, 2020, , 65-77.	0.4	1
93	Reply to the â€˜Comment on â€œEnergy harvesting from shadow-effectâ€â€™ by A. K. Das, V. K. Sahu, R. S. Ajimshaa and P. Misra, Energy Environ. Sci., 2021, 10.1039/D0EE03214J. Energy and Environmental Science, 2021, 14, 4130-4131.	15.6	0
94	Interfacing Photoproteins with Mechanoresponsive Electrolytes for Enhancing Photocurrent and Stability. Green Energy and Technology, 2020, , 41-64.	0.4	0
95	Role of Band-Structure Approach in Biohybrid Photovoltaicsâ€”A Path Beyond Bioelectrochemistry. Green Energy and Technology, 2020, , 79-110.	0.4	0
96	Photoproteins Tapping Solar Energy to Power Sensors. Green Energy and Technology, 2020, , 127-140.	0.4	0
97	Prolonged Charge Trapping in Photoproteins and Its Implications for Bio-Photocapacitors. Green Energy and Technology, 2020, , 111-125.	0.4	0
98	Augmenting Photocurrent Using Photoproteins of Complementary Optical Characteristics. Green Energy and Technology, 2020, , 27-40.	0.4	0
99	Bio-Schottky Semi-Artificial Photosynthetic Devices. Green Energy and Technology, 2020, , 141-156.	0.4	0
100	Plasmonic protein electricity generator. Nanoscale Horizons, 2022, 7, 220-234.	4.1	0