

David G Mackanic

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

73
papers

15,991
citations

49
h-index

78
g-index

78
ext. papers

20,316
ext. citations

25.2
avg, IF

7.09
L-index

#	Paper	IF	Citations
73	Liquid electrolyte: The nexus of practical lithium metal batteries. <i>Joule</i> , 2022 ,	27.8	19
72	Capturing the swelling of solid-electrolyte interphase in lithium metal batteries.. <i>Science</i> , 2022 , 375, 66-70,	39.3	40
71	Rational solvent molecule tuning for high-performance lithium metal battery electrolytes. <i>Nature Energy</i> , 2022 , 7, 94-106	62.3	49
70	Reprocessable and Recyclable Polymer Network Electrolytes via Incorporation of Dynamic Covalent Bonds. <i>Chemistry of Materials</i> , 2022 , 34, 2393-2399	9.6	7
69	Effects of Polymer Coating Mechanics at Solid-Electrolyte Interphase for Stabilizing Lithium Metal Anodes. <i>Advanced Energy Materials</i> , 2022 , 12, 2103187	21.8	3
68	Steric Effect Tuned Ion Solvation Enabling Stable Cycling of High-Voltage Lithium Metal Battery. <i>Journal of the American Chemical Society</i> , 2021 , 143, 18703-18713	16.4	40
67	Biomimetic Impact Protective Supramolecular Polymeric Materials Enabled by Quadruple H-Bonding. <i>Journal of the American Chemical Society</i> , 2021 , 143, 1162-1170	16.4	24
66	Corrosion of lithium metal anodes during calendar ageing and its microscopic origins. <i>Nature Energy</i> , 2021 , 6, 487-494	62.3	49
65	Dual-Solvent Li-Ion Solvation Enables High-Performance Li-Metal Batteries. <i>Advanced Materials</i> , 2021 , 33, e2008619	24	39
64	A design strategy for high mobility stretchable polymer semiconductors. <i>Nature Communications</i> , 2021 , 12, 3572	17.4	27
63	Potentiometric Measurement to Probe Solvation Energy and Its Correlation to Lithium Battery Cyclability. <i>Journal of the American Chemical Society</i> , 2021 , 143, 10301-10308	16.4	21
62	Standalone real-time health monitoring patch based on a stretchable organic optoelectronic system. <i>Science Advances</i> , 2021 , 7,	14.3	40
61	A Design Strategy for Intrinsically Stretchable High-Performance Polymer Semiconductors: Incorporating Conjugated Rigid Fused-Rings with Bulky Side Groups. <i>Journal of the American Chemical Society</i> , 2021 , 143, 11679-11689	16.4	16
60	Polymers in Lithium-Ion and Lithium Metal Batteries. <i>Advanced Energy Materials</i> , 2021 , 11, 2003239	21.8	45
59	Efficient Lithium Metal Cycling over a Wide Range of Pressures from an Anion-Derived Solid-Electrolyte Interphase Framework. <i>ACS Energy Letters</i> , 2021 , 6, 816-825	20.1	25
58	A Cation-Tethered Flowable Polymeric Interface for Enabling Stable Deposition of Metallic Lithium. <i>Journal of the American Chemical Society</i> , 2020 , 142, 21393-21403	16.4	24
57	F4-TCNQ as an Additive to Impart Stretchable Semiconductors with High Mobility and Stability. <i>Advanced Electronic Materials</i> , 2020 , 6, 2000251	6.4	18

56	Electrode Design with Integration of High Tortuosity and Sulfur-Philicity for High-Performance Lithium-Sulfur Battery. <i>Matter</i> , 2020 , 2, 1605-1620	12.7	48
55	Stretchable electrochemical energy storage devices. <i>Chemical Society Reviews</i> , 2020 , 49, 4466-4495	58.5	110
54	Molecular design for electrolyte solvents enabling energy-dense and long-cycling lithium metal batteries. <i>Nature Energy</i> , 2020 , 5, 526-533	62.3	258
53	Enabling Deformable and Stretchable Batteries. <i>Advanced Energy Materials</i> , 2020 , 10, 2001424	21.8	58
52	A New Class of Ionically Conducting Fluorinated Ether Electrolytes with High Electrochemical Stability. <i>Journal of the American Chemical Society</i> , 2020 , 142, 7393-7403	16.4	89
51	Tortuosity Effects in Lithium-Metal Host Anodes. <i>Joule</i> , 2020 , 4, 938-952	27.8	69
50	Multifunctional materials for implantable and wearable photonic healthcare devices. <i>Nature Reviews Materials</i> , 2020 , 5, 149-165	73.3	206
49	Design Principles of Artificial Solid Electrolyte Interphases for Lithium-Metal Anodes. <i>Cell Reports Physical Science</i> , 2020 , 1, 100119	6.1	58
48	Artificial multimodal receptors based on ion relaxation dynamics. <i>Science</i> , 2020 , 370, 961-965	33.3	141
47	Interfacial Speciation Determines Interfacial Chemistry: X-ray-Induced Lithium Fluoride Formation from Water-in-salt Electrolytes on Solid Surfaces. <i>Angewandte Chemie - International Edition</i> , 2020 , 59, 23180-23187	16.4	12
46	Interfacial Speciation Determines Interfacial Chemistry: X-ray-Induced Lithium Fluoride Formation from Water-in-salt Electrolytes on Solid Surfaces. <i>Angewandte Chemie</i> , 2020 , 132, 23380-23387	3.6	6
45	Concentration and velocity profiles in a polymeric lithium-ion battery electrolyte. <i>Energy and Environmental Science</i> , 2020 , 13, 4312-4321	35.4	17
44	Nonpolar Alkanes Modify Lithium-Ion Solvation for Improved Lithium Deposition and Stripping. <i>Advanced Energy Materials</i> , 2019 , 9, 1902116	21.8	49
43	Materials and structural designs of stretchable conductors. <i>Chemical Society Reviews</i> , 2019 , 48, 2946-2966	58.5	189
42	Thermodynamically stable whilst kinetically labile coordination bonds lead to strong and tough self-healing polymers. <i>Nature Communications</i> , 2019 , 10, 1164	17.4	155
41	Designing polymers for advanced battery chemistries. <i>Nature Reviews Materials</i> , 2019 , 4, 312-330	73.3	333
40	Pathways for practical high-energy long-cycling lithium metal batteries. <i>Nature Energy</i> , 2019 , 4, 180-186	62.3	1202
39	A wireless body area sensor network based on stretchable passive tags. <i>Nature Electronics</i> , 2019 , 2, 361-368	36.8	258

38	High-Transconductance Stretchable Transistors Achieved by Controlled Gold Microcrack Morphology. <i>Advanced Electronic Materials</i> , 2019 , 5, 1900347	6.4	33
37	Electronic Skin: Recent Progress and Future Prospects for Skin-Attachable Devices for Health Monitoring, Robotics, and Prosthetics. <i>Advanced Materials</i> , 2019 , 31, e1904765	24	498
36	Decoupling of mechanical properties and ionic conductivity in supramolecular lithium ion conductors. <i>Nature Communications</i> , 2019 , 10, 5384	17.4	126
35	Soft and elastic hydrogel-based microelectronics for localized low-voltage neuromodulation. <i>Nature Biomedical Engineering</i> , 2019 , 3, 58-68	19	284
34	Stretchable temperature-sensing circuits with strain suppression based on carbon nanotube transistors. <i>Nature Electronics</i> , 2018 , 1, 183-190	28.4	180
33	Skin electronics from scalable fabrication of an intrinsically stretchable transistor array. <i>Nature</i> , 2018 , 555, 83-88	50.4	1089
32	Tough and Water-Insensitive Self-Healing Elastomer for Robust Electronic Skin. <i>Advanced Materials</i> , 2018 , 30, e1706846	24	523
31	Ionic Conductive Self-Healing Binder for Low Cost Si Microparticles Anodes in Li-Ion Batteries. <i>Advanced Energy Materials</i> , 2018 , 8, 1703138	21.8	153
30	Quadruple H-Bonding Cross-Linked Supramolecular Polymeric Materials as Substrates for Stretchable, Antitearing, and Self-Healable Thin Film Electrodes. <i>Journal of the American Chemical Society</i> , 2018 , 140, 5280-5289	16.4	312
29	Crosslinked Poly(tetrahydrofuran) as a Loosely Coordinating Polymer Electrolyte. <i>Advanced Energy Materials</i> , 2018 , 8, 1800703	21.8	95
28	Mechanically tunable conductive interpenetrating network hydrogels that mimic the elastic moduli of biological tissue. <i>Nature Communications</i> , 2018 , 9, 2740	17.4	194
27	Concentrated mixed cation acetate water-in-salt solutions as green and low-cost high voltage electrolytes for aqueous batteries. <i>Energy and Environmental Science</i> , 2018 , 11, 2876-2883	35.4	198
26	An integrated self-healable electronic skin system fabricated via dynamic reconstruction of a nanostructured conducting network. <i>Nature Nanotechnology</i> , 2018 , 13, 1057-1065	28.7	510
25	Effects of Polymer Coatings on Electrodeposited Lithium Metal. <i>Journal of the American Chemical Society</i> , 2018 , 140, 11735-11744	16.4	204
24	A Dual-Crosslinking Design for Resilient Lithium-Ion Conductors. <i>Advanced Materials</i> , 2018 , 30, e1804142	24	80
23	A stretchable and biodegradable strain and pressure sensor for orthopaedic application. <i>Nature Electronics</i> , 2018 , 1, 314-321	28.4	275
22	Highly stretchable polymer semiconductor films through the nanoconfinement effect. <i>Science</i> , 2017 , 355, 59-64	33.3	651
21	A highly stretchable, transparent, and conductive polymer. <i>Science Advances</i> , 2017 , 3, e1602076	14.3	674

20	Stretchable and ultraflexible organic electronics. <i>MRS Bulletin</i> , 2017 , 42, 93-97	3.2	97
19	Lithium Metal Anodes with an Adaptive "Solid-Liquid" Interfacial Protective Layer. <i>Journal of the American Chemical Society</i> , 2017 , 139, 4815-4820	16.4	352
18	Enhanced Cycling Stability of Sulfur Electrodes through Effective Binding of Pyridine-Functionalized Polymer. <i>ACS Energy Letters</i> , 2017 , 2, 2454-2462	20.1	22
17	Stretchable Lithium-Ion Batteries Enabled by Device-Scaled Wavy Structure and Elastic-Sticky Separator. <i>Advanced Energy Materials</i> , 2017 , 7, 1701076	21.8	120
16	Bring on the bodyNET. <i>Nature</i> , 2017 , 549, 328-330	50.4	90
15	High-Performance Lithium Metal Negative Electrode with a Soft and Flowable Polymer Coating. <i>ACS Energy Letters</i> , 2016 , 1, 1247-1255	20.1	218
14	Fast and reversible thermoresponsive polymer switching materials for safer batteries. <i>Nature Energy</i> , 2016 , 1,	62.3	190
13	A Stretchable Graphitic Carbon/Si Anode Enabled by Conformal Coating of a Self-Healing Elastic Polymer. <i>Advanced Materials</i> , 2016 , 28, 2455-61	24	163
12	3D Porous Sponge-Inspired Electrode for Stretchable Lithium-Ion Batteries. <i>Advanced Materials</i> , 2016 , 28, 3578-83	24	199
11	The Effects of Cross-Linking in a Supramolecular Binder on Cycle Life in Silicon Microparticle Anodes. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 2318-24	9.5	73
10	Analysis of Photothermal Release of Oligonucleotides from Hollow Gold Nanospheres by Surface-Enhanced Raman Scattering. <i>Journal of Physical Chemistry C</i> , 2016 , 120, 20677-20683	3.8	6
9	High-Areal-Capacity Silicon Electrodes with Low-Cost Silicon Particles Based on Spatial Control of Self-Healing Binder. <i>Advanced Energy Materials</i> , 2015 , 5, 1401826	21.8	166
8	Assembly of viral hydrogels for three-dimensional conducting nanocomposites. <i>Advanced Materials</i> , 2014 , 26, 5101-7	24	44
7	A flexible bimodal sensor array for simultaneous sensing of pressure and temperature. <i>Advanced Materials</i> , 2014 , 26, 796-804	24	312
6	Skin-inspired electronic devices. <i>Materials Today</i> , 2014 , 17, 321-331	21.8	380
5	Side Chain Engineering in Solution-Processable Conjugated Polymers. <i>Chemistry of Materials</i> , 2014 , 26, 604-615	9.6	798
4	Self-healing chemistry enables the stable operation of silicon microparticle anodes for high-energy lithium-ion batteries. <i>Nature Chemistry</i> , 2013 , 5, 1042-8	17.6	856
3	Stable Li-ion battery anodes by in-situ polymerization of conducting hydrogel to conformally coat silicon nanoparticles. <i>Nature Communications</i> , 2013 , 4, 1943	17.4	971

- 2 Stretchable, elastic materials and devices for solar energy conversion. *Energy and Environmental Science*, **2011**, 4, 3314 35.4 322
- 1 Improving the performance of lithium-sulfur batteries by conductive polymer coating. *ACS Nano*, **2011**, 5, 9187-93 16.7 756