David G Mackanic

List of Publications by Year
in descending order

77 papers	25,253 citations	18436 62 h-index	69108 77 g-index
78 all docs	78 docs citations	78 times ranked	22760 citing authors

#	Article	IF	Citations
1	Liquid electrolyte: The nexus of practical lithium metal batteries. Joule, 2022, 6, 588-616.	11.7	191
2	Capturing the swelling of solid-electrolyte interphase in lithium metal batteries. Science, 2022, 375, 66-70.	6.0	183
3	Rational solvent molecule tuning for high-performance lithium metal battery electrolytes. Nature Energy, 2022, 7, 94-106.	19.8	336
4	Suspension electrolyte with modified Li+ solvation environment for lithium metal batteries. Nature Materials, 2022, 21, 445-454.	13.3	155
5	Reprocessable and Recyclable Polymer Network Electrolytes via Incorporation of Dynamic Covalent Bonds. Chemistry of Materials, 2022, 34, 2393-2399.	3.2	43
6	Effects of Polymer Coating Mechanics at Solidâ€Electrolyte Interphase for Stabilizing Lithium Metal Anodes. Advanced Energy Materials, 2022, 12, .	10.2	30
7	Tuning Fluorination of Linear Carbonate for Lithium-Ion Batteries. Journal of the Electrochemical Society, 2022, 169, 040555.	1.3	24
8	An X-ray Photoelectron Spectroscopy Primer for Solid Electrolyte Interphase Characterization in Lithium Metal Anodes. ACS Energy Letters, 2022, 7, 2540-2546.	8.8	46
9	Polymers in Lithiumâ€ion and Lithium Metal Batteries. Advanced Energy Materials, 2021, 11, 2003239.	10.2	160
10	Efficient Lithium Metal Cycling over a Wide Range of Pressures from an Anion-Derived Solid-Electrolyte Interphase Framework. ACS Energy Letters, 2021, 6, 816-825.	8.8	46
11	Corrosion of lithium metal anodes during calendar ageing and its microscopic origins. Nature Energy, 2021, 6, 487-494.	19.8	124
12	Dualâ€Solvent Liâ€Ion Solvation Enables Highâ€Performance Liâ€Metal Batteries. Advanced Materials, 2021, 33, e2008619.	11.1	123
13	A design strategy for high mobility stretchable polymer semiconductors. Nature Communications, 2021, 12, 3572.	5.8	94
14	Potentiometric Measurement to Probe Solvation Energy and Its Correlation to Lithium Battery Cyclability. Journal of the American Chemical Society, 2021, 143, 10301-10308.	6.6	83
15	Standalone real-time health monitoring patch based on a stretchable organic optoelectronic system. Science Advances, 2021, 7, .	4.7	144
16	A Design Strategy for Intrinsically Stretchable High-Performance Polymer Semiconductors: Incorporating Conjugated Rigid Fused-Rings with Bulky Side Groups. Journal of the American Chemical Society, 2021, 143, 11679-11689.	6.6	65
17	Biomimetic Impact Protective Supramolecular Polymeric Materials Enabled by Quadruple H-Bonding. Journal of the American Chemical Society, 2021, 143, 1162-1170.	6.6	85
18	Steric Effect Tuned Ion Solvation Enabling Stable Cycling of High-Voltage Lithium Metal Battery. Journal of the American Chemical Society, 2021, 143, 18703-18713.	6.6	205

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19	Multifunctional materials for implantable and wearable photonic healthcare devices. Nature Reviews Materials, 2020, 5, 149-165.	23.3	403
20	Design Principles of Artificial Solid Electrolyte Interphases for Lithium-Metal Anodes. Cell Reports Physical Science, 2020, 1, 100119.	2.8	133
21	Artificial multimodal receptors based on ion relaxation dynamics. Science, 2020, 370, 961-965.	6.0	343
22	Interfacial Speciation Determines Interfacial Chemistry: Xâ€rayâ€Induced Lithium Fluoride Formation from Waterâ€inâ€salt Electrolytes on Solid Surfaces. Angewandte Chemie - International Edition, 2020, 59, 23180-23187.	7.2	28
23	Interfacial Speciation Determines Interfacial Chemistry: Xâ€rayâ€Induced Lithium Fluoride Formation from Waterâ€inâ€salt Electrolytes on Solid Surfaces. Angewandte Chemie, 2020, 132, 23380-23387.	1.6	9
24	Concentration and velocity profiles in a polymeric lithium-ion battery electrolyte. Energy and Environmental Science, 2020, 13, 4312-4321.	15.6	43
25	A Cation-Tethered Flowable Polymeric Interface for Enabling Stable Deposition of Metallic Lithium. Journal of the American Chemical Society, 2020, 142, 21393-21403.	6.6	65
26	F4â€TCNQ as an Additive to Impart Stretchable Semiconductors with High Mobility and Stability. Advanced Electronic Materials, 2020, 6, 2000251.	2.6	54
27	Electrode Design with Integration of High Tortuosity and Sulfur-Philicity for High-Performance Lithium-Sulfur Battery. Matter, 2020, 2, 1605-1620.	5.0	83
28	Stretchable electrochemical energy storage devices. Chemical Society Reviews, 2020, 49, 4466-4495.	18.7	209
29	Molecular design for electrolyte solvents enabling energy-dense and long-cycling lithium metal batteries. Nature Energy, 2020, 5, 526-533.	19.8	642
30	Enabling Deformable and Stretchable Batteries. Advanced Energy Materials, 2020, 10, 2001424.	10.2	136
31	A New Class of Ionically Conducting Fluorinated Ether Electrolytes with High Electrochemical Stability. Journal of the American Chemical Society, 2020, 142, 7393-7403.	6.6	225
32	Tortuosity Effects in Lithium-Metal Host Anodes. Joule, 2020, 4, 938-952.	11.7	150
33	A wireless body area sensor network based on stretchable passive tags. Nature Electronics, 2019, 2, 361-368.	13.1	421
34	Highâ€Transconductance Stretchable Transistors Achieved by Controlled Gold Microcrack Morphology. Advanced Electronic Materials, 2019, 5, 1900347.	2.6	70
35	Electronic Skin: Recent Progress and Future Prospects for Skinâ€Attachable Devices for Health Monitoring, Robotics, and Prosthetics. Advanced Materials, 2019, 31, e1904765.	11.1	936
36	Nonpolar Alkanes Modify Lithiumâ€Ion Solvation for Improved Lithium Deposition and Stripping. Advanced Energy Materials, 2019, 9, 1902116.	10.2	86

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37	Materials and structural designs of stretchable conductors. Chemical Society Reviews, 2019, 48, 2946-2966.	18.7	367
38	Thermodynamically stable whilst kinetically labile coordination bonds lead to strong and tough self-healing polymers. Nature Communications, 2019, 10, 1164.	5.8	258
39	Designing polymers for advanced battery chemistries. Nature Reviews Materials, 2019, 4, 312-330.	23.3	579
40	Pathways for practical high-energy long-cycling lithium metal batteries. Nature Energy, 2019, 4, 180-186.	19.8	2,101
41	Decoupling of mechanical properties and ionic conductivity in supramolecular lithium ion conductors. Nature Communications, 2019, 10, 5384.	5.8	249
42	Soft and elastic hydrogel-based microelectronics for localized low-voltage neuromodulation. Nature Biomedical Engineering, 2019, 3, 58-68.	11.6	499
43	Stretchable temperature-sensing circuits with strain suppression based on carbon nanotube transistors. Nature Electronics, 2018, 1, 183-190.	13.1	263
44	Skin electronics from scalable fabrication of an intrinsically stretchable transistor array. Nature, 2018, 555, 83-88.	13.7	1,588
45	Tough and Waterâ€Insensitive Selfâ€Healing Elastomer for Robust Electronic Skin. Advanced Materials, 2018, 30, e1706846.	11.1	798
46	Ionically Conductive Selfâ€Healing Binder for Low Cost Si Microparticles Anodes in Liâ€Ion Batteries. Advanced Energy Materials, 2018, 8, 1703138.	10.2	224
47	Quadruple H-Bonding Cross-Linked Supramolecular Polymeric Materials as Substrates for Stretchable, Antitearing, and Self-Healable Thin Film Electrodes. Journal of the American Chemical Society, 2018, 140, 5280-5289.	6.6	464
48	A Dualâ€Crosslinking Design for Resilient Lithiumâ€Ion Conductors. Advanced Materials, 2018, 30, e1804142.	11.1	128
49	A stretchable and biodegradable strain and pressure sensor for orthopaedic application. Nature Electronics, 2018, 1, 314-321.	13.1	469
50	Crosslinked Poly(tetrahydrofuran) as a Loosely Coordinating Polymer Electrolyte. Advanced Energy Materials, 2018, 8, 1800703.	10.2	177
51	Mechanically tunable conductive interpenetrating network hydrogels that mimic the elastic moduli of biological tissue. Nature Communications, 2018, 9, 2740.	5.8	344
52	Concentrated mixed cation acetate â€œwater-in-saltâ€•solutions as green and low-cost high voltage electrolytes for aqueous batteries. Energy and Environmental Science, 2018, 11, 2876-2883.	15.6	315
53	An integrated self-healable electronic skin system fabricated via dynamic reconstruction of a nanostructured conducting network. Nature Nanotechnology, 2018, 13, 1057-1065.	15.6	736
54	Effects of Polymer Coatings on Electrodeposited Lithium Metal. Journal of the American Chemical Society, 2018, 140, 11735-11744.	6.6	307

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55	Highly stretchable polymer semiconductor films through the nanoconfinement effect. Science, 2017, 355, 59-64.	6.0	897
56	A highly stretchable, transparent, and conductive polymer. Science Advances, 2017, 3, e1602076.	4.7	962
57	Stretchable and ultraflexible organic electronics. MRS Bulletin, 2017, 42, 93-97.	1.7	125
58	Lithium Metal Anodes with an Adaptive â€œSolid-Liquidâ€•Interfacial Protective Layer. Journal of the American Chemical Society, 2017, 139, 4815-4820.	6.6	460
59	Enhanced Cycling Stability of Sulfur Electrodes through Effective Binding of Pyridine-Functionalized Polymer. ACS Energy Letters, 2017, 2, 2454-2462.	8.8	23
60	Stretchable Lithiumâ€Ion Batteries Enabled by Deviceâ€Scaled Wavy Structure and Elasticâ€Sticky Separator. Advanced Energy Materials, 2017, 7, 1701076.	10.2	158
61	Bring on the bodyNET. Nature, 2017, 549, 328-330.	13.7	121
62	Analysis of Photothermal Release of Oligonucleotides from Hollow Gold Nanospheres by Surface-Enhanced Raman Scattering. Journal of Physical Chemistry C, 2016, 120, 20677-20683.	1.5	6
63	High-Performance Lithium Metal Negative Electrode with a Soft and Flowable Polymer Coating. ACS Energy Letters, 2016, 1, 1247-1255.	8.8	281
64	Fast and reversible thermoresponsive polymer switching materials for safer batteries. Nature Energy, 2016, 1, .	19.8	253
65	A Stretchable Graphitic Carbon/Si Anode Enabled by Conformal Coating of a Selfâ€Healing Elastic Polymer. Advanced Materials, 2016, 28, 2455-2461.	11.1	197
66	3D Porous Spongeâ€Inspired Electrode for Stretchable Lithiumâ€Ion Batteries. Advanced Materials, 2016, 28, 3578-3583.	11.1	247
67	The Effects of Cross-Linking in a Supramolecular Binder on Cycle Life in Silicon Microparticle Anodes. ACS Applied Materials & Interfaces, 2016, 8, 2318-2324.	4.0	90
68	Highâ€Arealâ€Capacity Silicon Electrodes with Lowâ€Cost Silicon Particles Based on Spatial Control of Selfâ€Healing Binder. Advanced Energy Materials, 2015, 5, 1401826.	10.2	207
69	Skin-inspired electronic devices. Materials Today, 2014, 17, 321-331.	8.3	487
70	Side Chain Engineering in Solution-Processable Conjugated Polymers. Chemistry of Materials, 2014, 26, 604-615.	3.2	932
71	Assembly of Viral Hydrogels for Threeâ€Dimensional Conducting Nanocomposites. Advanced Materials, 2014, 26, 5101-5107.	11.1	49
72	A Flexible Bimodal Sensor Array for Simultaneous Sensing of Pressure and Temperature. Advanced Materials, 2014, 26, 796-804.	11.1	375

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73	Self-healing chemistry enables the stable operation of silicon microparticle anodes for high-energy lithium-ion batteries. Nature Chemistry, 2013, 5, 1042-1048.	6.6	1,031
74	Stable Li-ion battery anodes by in-situ polymerization of conducting hydrogel to conformally coat silicon nanoparticles. Nature Communications, 2013, 4, 1943.	5.8	1,138
75	Stretchable, elastic materials and devices for solar energy conversion. Energy and Environmental Science, 2011, 4, 3314.	15.6	356
76	Improving the Performance of Lithiumâ€“Sulfur Batteries by Conductive Polymer Coating. ACS Nano, 2011, 5, 9187-9193.	7.3	815
77	Development of a Software-In-The-Loop Model for a Parallel Plug-In Hybrid Electric Vehicle. , 0, , .		3