Zhengcheng Zhang

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Fluorinated electrolytes for 5 V lithium-ion battery chemistry. Energy and Environmental Science, 2013, 6, 1806.	30.8	462
2	Differential scanning calorimetry material studies: implications for the safety of lithium-ion cells. Journal of Power Sources, 1998, 70, 16-20.	7.8	295
3	Polyanthraquinoneâ€Based Organic Cathode for Highâ€Performance Rechargeable Magnesiumâ€Ion Batteries. Advanced Energy Materials, 2016, 6, 1600140.	19.5	210
4	Fluorinated electrolytes for Li-ion battery: An FEC-based electrolyte for high voltage LiNi0.5Mn1.5O4/graphite couple. Electrochemistry Communications, 2013, 35, 76-79.	4.7	182
5	Bis(2,2,2-trifluoroethyl) Ether As an Electrolyte Co-solvent for Mitigating Self-Discharge in Lithium–Sulfur Batteries. ACS Applied Materials & Interfaces, 2014, 6, 8006-8010.	8.0	161
6	"Wine-Dark Sea―in an Organic Flow Battery: Storing Negative Charge in 2,1,3-Benzothiadiazole Radicals Leads to Improved Cyclability. ACS Energy Letters, 2017, 2, 1156-1161.	17.4	160
7	Application of Stabilized Lithium Metal Powder (SLMP®) in graphite anode – A high efficient prelithiation method for lithium-ion batteries. Journal of Power Sources, 2014, 260, 57-61.	7.8	153
8	Insight into lithium–metal anodes in lithium–sulfur batteries with a fluorinated ether electrolyte. Journal of Materials Chemistry A, 2015, 3, 14864-14870.	10.3	133
9	Improved performance of lithium–sulfur battery with fluorinated electrolyte. Electrochemistry Communications, 2013, 37, 96-99.	4.7	128
10	Understanding the Effect of a Fluorinated Ether on the Performance of Lithium–Sulfur Batteries. ACS Applied Materials & Interfaces, 2015, 7, 9169-9177.	8.0	121
11	Mechanistic Insight in the Function of Phosphite Additives for Protection of LiNi _{0.5} Co _{0.2} Mn _{0.3} O ₂ Cathode in High Voltage Li-Ion Cells. ACS Applied Materials & Interfaces, 2016, 8, 11450-11458.	8.0	121
12	Oxidatively stable fluorinated sulfone electrolytes for high voltage high energy lithium-ion batteries. Energy and Environmental Science, 2017, 10, 900-904.	30.8	119
13	Fluorinated Electrolytes for 5-V Li-Ion Chemistry: Probing Voltage Stability of Electrolytes with Electrochemical Floating Test. Journal of the Electrochemical Society, 2015, 162, A1725-A1729.	2.9	115
14	Cross-Linked Network Polymer Electrolytes Based on a Polysiloxane Backbone with Oligo(oxyethylene) Side Chains:Â Synthesis and Conductivity. Macromolecules, 2003, 36, 9176-9180.	4.8	109
15	Rational Design of a Multifunctional Binder for High-Capacity Silicon-Based Anodes. ACS Energy Letters, 2019, 4, 1171-1180.	17.4	108
16	Molecular engineering towards safer lithium-ion batteries: a highly stable and compatible redox shuttle for overcharge protection. Energy and Environmental Science, 2012, 5, 8204.	30.8	105
17	Next-generation lithium-ion batteries: The promise of near-term advancements. MRS Bulletin, 2014, 39, 407-415.	3.5	100
18	High Voltage LiNi _{0.5} Mn _{0.3} Co _{0.2} O ₂ /Graphite Cell Cycled at 4.6 V with a FEC/HEDECâ€Based Electrolyte, Advanced Energy Materials, 2017, 7, 1700109	19.5	98

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19	Computational Studies of Polysiloxanes: Oxidation Potentials and Decomposition Reactions. Journal of Physical Chemistry C, 2011, 115, 12216-12223.	3.1	89
20	Mechanism of capacity fade of MCMB/Li1.1[Ni1/3Mn1/3Co1/3]0.9O2 cell at elevated temperature and additives to improve its cycle life. Journal of Materials Chemistry, 2011, 21, 17754.	6.7	89
21	Effect of electrolyte composition on rock salt surface degradation in NMC cathodes during high-voltage potentiostatic holds. Nano Energy, 2019, 55, 216-225.	16.0	88
22	Fluorinated Electrolytes for Li-S Battery: Suppressing the Self-Discharge with an Electrolyte Containing Fluoroether Solvent. Journal of the Electrochemical Society, 2015, 162, A64-A68.	2.9	83
23	Compatibility of lithium salts with solvent of the non-aqueous electrolyte in Li–O2 batteries. Physical Chemistry Chemical Physics, 2013, 15, 5572.	2.8	76
24	Functionality Selection Principle for High Voltage Lithium-ion Battery Electrolyte Additives. ACS Applied Materials & Interfaces, 2017, 9, 30686-30695.	8.0	73
25	Effect of impurities and moisture on lithium bisoxalatoborate (LiBOB) electrolyte performance in lithium-ion cells. Journal of Power Sources, 2010, 195, 1698-1705.	7.8	72
26	Novel redox shuttle additive for high-voltage cathode materials. Energy and Environmental Science, 2011, 4, 2858.	30.8	70
27	The existence of optimal molecular weight for poly(acrylic acid) binders in silicon/graphite composite anode for lithium-ion batteries. Journal of Power Sources, 2018, 378, 671-676.	7.8	70
28	Surface-Functionalized Silicon Nanoparticles as Anode Material for Lithium-Ion Battery. ACS Applied Materials & Interfaces, 2018, 10, 44924-44931.	8.0	70
29	Ion conductive characteristics of cross-linked network polysiloxane-based solid polymer electrolytes. Solid State Ionics, 2004, 170, 233-238.	2.7	69
30	Understanding the redox shuttle stability of 3,5-di-tert-butyl-1,2-dimethoxybenzene for overcharge protection of lithium-ion batteries. Journal of Power Sources, 2010, 195, 4957-4962.	7.8	68
31	Electrochemical investigation of carbonate-based electrolytes for high voltage lithium-ion cells. Journal of Power Sources, 2013, 236, 175-180.	7.8	68
32	Reâ€Engineering Poly(Acrylic Acid) Binder toward Optimized Electrochemical Performance for Silicon Lithiumâ€Ion Batteries: Branching Architecture Leads to Balanced Properties of Polymeric Binders. Advanced Functional Materials, 2020, 30, 1908558.	14.9	60
33	Highly conductive trimethylsilyl oligo(ethylene oxide) electrolytes for energy storage applications. Journal of Materials Chemistry, 2008, 18, 3713.	6.7	59
34	The lightest organic radical cation for charge storage in redox flow batteries. Scientific Reports, 2016, 6, 32102.	3.3	59
35	Effect of the Hydrofluoroether Cosolvent Structure in Acetonitrile-Based Solvate Electrolytes on the Li ⁺ Solvation Structure and Li–S Battery Performance. ACS Applied Materials & Interfaces, 2017, 9, 39357-39370.	8.0	58
36	Synthesis and Characterization of Tetra- and Trisiloxane-Containing Oligo(ethylene glycol)s Highly Conducting Electrolytes for Lithium Batteries. Chemistry of Materials, 2006, 18, 1289-1295.	6.7	57

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37	Annulated Dialkoxybenzenes as Catholyte Materials for Nonâ€aqueous Redox Flow Batteries: Achieving High Chemical Stability through Bicyclic Substitution. Advanced Energy Materials, 2017, 7, 1701272.	19.5	57
38	Spatially Constrained Organic Diquat Anolyte for Stable Aqueous Flow Batteries. ACS Energy Letters, 2018, 3, 2533-2538.	17.4	56
39	Novel silane compounds as electrolyte solvents for Li-ion batteries. Electrochemistry Communications, 2006, 8, 429-433.	4.7	55
40	Understanding of pre-lithiation of poly(acrylic acid) binder: Striking the balances between the cycling performance and slurry stability for silicon-graphite composite electrodes in Li-ion batteries. Journal of Power Sources, 2019, 416, 125-131.	7.8	50
41	Design of High-Voltage Stable Hybrid Electrolyte with an Ultrahigh Li Transference Number. ACS Energy Letters, 0, , 1315-1323.	17.4	50
42	Fluorinated electrolytes for 5-V Li-ion chemistry: Dramatic enhancement of LiNi0.5Mn1.5O4/graphite cell performance by a lithium reservoir. Electrochemistry Communications, 2014, 44, 34-37.	4.7	49
43	Advanced electrolyte/additive for lithium-ion batteries with silicon anode. Current Opinion in Chemical Engineering, 2016, 13, 24-35.	7.8	49
44	Synthesis and Ionic Conductivity of Cyclosiloxanes with Ethyleneoxy-Containing Substituents. Chemistry of Materials, 2005, 17, 5646-5650.	6.7	45
45	Fluorinated Electrolytes for 5-V Li-Ion Chemistry: Synthesis and Evaluation of an Additive for High-Voltage LiNi _{0.5} Mn _{1.5} O ₄ /Graphite Cell. Journal of the Electrochemical Society, 2014, 161, A1777-A1781.	2.9	45
46	Thermal and overcharge abuse analysis of a redox shuttle for overcharge protection of LiFePO 4. Journal of Power Sources, 2014, 247, 1011-1017.	7.8	44
47	Redox Catalytic and Quasi-Solid Sulfur Conversion for High-Capacity Lean Lithium Sulfur Batteries. ACS Nano, 2019, 13, 14540-14548.	14.6	44
48	A high performance lithium–sulfur battery enabled by a fish-scale porous carbon/sulfur composite and symmetric fluorinated diethoxyethane electrolyte. Journal of Materials Chemistry A, 2017, 5, 6725-6733.	10.3	38
49	Molecular Design of a Highly Stable Single-Ion Conducting Polymer Gel Electrolyte. ACS Applied Materials & Interfaces, 2020, 12, 29162-29172.	8.0	38
50	Molecular Engineering to Enable High-Voltage Lithium-Ion Battery: From Propylene Carbonate to Trifluoropropylene Carbonate. ACS Energy Letters, 2021, 6, 371-378.	17.4	35
51	A high performance separator with improved thermal stability for Li-ion batteries. Journal of Materials Chemistry A, 2013, 1, 8538.	10.3	33
52	1,4-Bis(trimethylsilyl)-2,5-dimethoxybenzene: a novel redox shuttle additive for overcharge protection in lithium-ion batteries that doubles as a mechanistic chemical probe. Journal of Materials Chemistry A, 2015, 3, 7332-7337.	10.3	33
53	Redox Shuttles with Axisymmetric Scaffold for Overcharge Protection of Lithiumâ€lon Batteries. Advanced Energy Materials, 2016, 6, 1600795.	19.5	33
54	Enhancing the Electrocatalysis of LiNi _{0.5} Co _{0.2} Mn _{0.3} O ₂ by Introducing Lithium Deficiency for Oxygen Evolution Reaction. ACS Applied Materials & Interfaces, 2020, 12, 10496-10502.	8.0	33

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55	A study of tri(ethylene glycol)-substituted trimethylsilane (1NM3)/LiBOB as lithium battery electrolyte. Journal of Power Sources, 2011, 196, 2255-2259.	7.8	32
56	The Role of Additives in Improving Performance in High Voltage Lithium-Ion Batteries with Potentiostatic Holds. Journal of the Electrochemical Society, 2017, 164, A6366-A6372.	2.9	32
57	Substituted thiadiazoles as energy-rich anolytes for nonaqueous redox flow cells. Journal of Materials Chemistry A, 2018, 6, 6251-6254.	10.3	32
58	Understanding the Role of SEI Layer in Low-Temperature Performance of Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2022, 14, 11910-11918.	8.0	29
59	Oligo(ethylene glycol)-functionalized disiloxanes as electrolytes for lithium-ion batteries. Journal of Power Sources, 2010, 195, 6062-6068.	7.8	28
60	Transition-Metal Dissolution from NMC-Family Oxides: A Case Study. ACS Applied Energy Materials, 2020, 3, 2565-2575.	5.1	28
61	Regulating Interfacial Na-Ion Flux via Artificial Layers with Fast Ionic Conductivity for Stable and High-Rate Na Metal Batteries. , 2019, 1, 303-309.		27
62	Corrosion/Passivation Behavior of Concentrated Ionic Liquid Electrolytes and Its Impact on the Li-Ion Battery Performance. Journal of the Electrochemical Society, 2019, 166, A3959-A3964.	2.9	27
63	Fused ring and linking groups effect on overcharge protection for lithium-ion batteries. Journal of Power Sources, 2011, 196, 1530-1536.	7.8	26
64	Stabilized Electrode/Electrolyte Interphase by a Saturated Ionic Liquid Electrolyte for High-Voltage NMC532/Si-Graphite Cells. ACS Applied Materials & Interfaces, 2020, 12, 23035-23045.	8.0	26
65	The Impact of Different Substituents in Fluorinated Cyclic Carbonates in the Performance of High Voltage Lithium-Ion Battery Electrolyte. Journal of the Electrochemical Society, 2021, 168, 010505.	2.9	26
66	Network-Type Ionic Conductors Based on Oligoethyleneoxy-Functionalized Pentamethylcyclopentasiloxanes. Macromolecules, 2005, 38, 5714-5720.	4.8	25
67	Electrode Surface Film Formation in Tris(ethylene glycol)-Substituted Trimethylsilane–Lithium Bis(oxalate)borate Electrolyte. Journal of Physical Chemistry C, 2011, 115, 24013-24020.	3.1	25
68	Improved cyclability of a lithium–sulfur battery using POP–Sulfur composite materials. RSC Advances, 2014, 4, 27518-27521.	3.6	25
69	Evaluation of Electrolyte Oxidation Stability on Charged LiNi _{0.5} Co _{0.2} Mn _{0.3} O ₂ Cathode Surface through Potentiostatic Holds. Journal of the Electrochemical Society, 2016, 163, A1717-A1722.	2.9	25
70	An organophosphine oxide redox shuttle additive that delivers long-term overcharge protection for 4 V lithium-ion batteries. Journal of Materials Chemistry A, 2015, 3, 10710-10714.	10.3	24
71	Methodology for understanding interactions between electrolyte additives and cathodes: a case of the tris(2,2,2-trifluoroethyl)phosphite additive. Journal of Materials Chemistry A, 2018, 6, 198-211.	10.3	24
72	A disiloxane-functionalized phosphonium-based ionic liquid as electrolyte for lithium-ion batteries. Chemical Communications, 2011, 47, 11969.	4.1	23

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73	Additive Effect on the Electrochemical Performance of Lithium–Sulfur Battery. Electrochimica Acta, 2015, 154, 205-210.	5.2	23
74	Preformed Anodes for High-Voltage Lithium-Ion Battery Performance: Fluorinated Electrolytes, Crosstalk, and the Origins of Impedance Rise. Journal of the Electrochemical Society, 2018, 165, A3360-A3368.	2.9	23
75	Lithium–sulfur battery with partially fluorinated ether electrolytes: Interplay between capacity, coulombic efficiency and Li anode protection. Journal of Power Sources, 2019, 438, 226939.	7.8	23
76	Improving the Safety of Lithium-Ion Battery via a Redox Shuttle Additive 2,5-Di- <i>tert</i> -butyl-1,4-bis(2-methoxyethoxy)benzene (DBBB). ACS Applied Materials & Interfaces, 2018, 10, 9216-9219.	8.0	20
77	Enabling Silicon Anodes with Novel Isosorbide-Based Electrolytes. ACS Energy Letters, 2022, 7, 897-905.	17.4	20
78	Separator/Electrode Assembly Based on Thermally Stable Polymer for Safe Lithiumâ€Ion Batteries. Advanced Energy Materials, 2014, 4, 1301208.	19.5	19
79	Restorable Neutralization of Poly(acrylic acid) Binders toward Balanced Processing Properties and Cycling Performance for Silicon Anodes in Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2020, 12, 57932-57940.	8.0	19
80	Improved synthesis of a highly fluorinated boronic ester as dual functional additive for lithium-ion batteries. Journal of Power Sources, 2011, 196, 2171-2178.	7.8	18
81	Alkyl Substitution Effect on Oxidation Stability of Sulfoneâ€Based Electrolytes. ChemElectroChem, 2016, 3, 790-797.	3.4	18
82	Tailoring the Surface of Silicon Nanoparticles for Enhanced Chemical and Electrochemical Stability for Li-Ion Batteries. ACS Applied Energy Materials, 2019, 2, 6176-6183.	5.1	17
83	Unexpected electrochemical behavior of an anolyte redoxmer in flow battery electrolytes: solvating cations help to fight against the thermodynamic–kinetic dilemma. Journal of Materials Chemistry A, 2020, 8, 13470-13479.	10.3	17
84	Dual functionality of over-lithiated NMC for high energy silicon-based lithium-ion batteries. Journal of Materials Chemistry A, 2021, 9, 12818-12829.	10.3	16
85	A chemical switch enabled autonomous two-stage crosslinking polymeric binder for high performance silicon anodes. Journal of Materials Chemistry A, 2022, 10, 1380-1389.	10.3	15
86	Asymmetric Form of Redox Shuttle Based on 1,4-Di- <i>tert</i> -butyl-2,5-dimethoxybenzene. Journal of the Electrochemical Society, 2013, 160, A1711-A1715.	2.9	14
87	Decomposition of Phosphorus-Containing Additives at a Charged NMC Surface through Potentiostatic Holds. Journal of the Electrochemical Society, 2019, 166, A440-A447.	2.9	14
88	A fluorine-substituted pyrrolidinium-based ionic liquid for high-voltage Li-ion batteries. Chemical Communications, 2020, 56, 7317-7320.	4.1	14
89	Cross-linkable urethane acrylate oligomers as binders for lithium-ion battery. Electrochemistry Communications, 2013, 34, 86-89.	4.7	13
90	Highâ€Speed Fabrication of Lithiumâ€lon Battery Electrodes by UVâ€Curing. Energy Technology, 2015, 3, 469-475.	3.8	13

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91	Dual-Salt Electrolytes to Effectively Reduce Impedance Rise of High-Nickel Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2021, 13, 40502-40512.	8.0	13
92	Surface-enhanced Raman spectroscopy (SERS): a powerful technique to study the SEI layer in batteries. Chemical Communications, 2021, 57, 2253-2256.	4.1	13
93	Electrolytes for Lithium and Lithium-Ion Batteries. Green Energy and Technology, 2015, , 231-261.	0.6	12
94	Impact of Co-Solvent and LiTFSI Concentration on Ionic Liquid-Based Electrolytes for Li-S Battery. Journal of the Electrochemical Society, 2020, 167, 070528.	2.9	12
95	4-(Trimethylsilyl) Morpholine as a Multifunctional Electrolyte Additive in High Voltage Lithium Ion Batteries. Journal of the Electrochemical Society, 2020, 167, 070533.	2.9	12
96	Enhanced Raman Scattering from NCM523 Cathodes Coated with Electrochemically Deposited Gold. Journal of the Electrochemical Society, 2017, 164, A3000-A3005.	2.9	11
97	Facile in Situ Syntheses of Cathode Protective Electrolyte Additives for High Energy Density Li-Ion Cells. Chemistry of Materials, 2019, 31, 2459-2468.	6.7	11
98	Engineering the Si Anode Interface via Particle Surface Modification: Embedded Organic Carbonates Lead to Enhanced Performance. ACS Applied Energy Materials, 2021, 4, 8193-8200.	5.1	11
99	An <i>in situ</i> generated polymer electrolyte <i>via</i> anionic ring-opening polymerization for lithium–sulfur batteries. Journal of Materials Chemistry A, 2021, 9, 25927-25933.	10.3	11
100	Molecular Engineering toward Stabilized Interface: An Electrolyte Additive for High-Performance Li-Ion Battery. Journal of the Electrochemical Society, 2014, 161, A2262-A2267.	2.9	10
101	Structural underpinnings of cathode protection by in situ generated lithium oxyfluorophosphates. Journal of Power Sources, 2019, 438, 227039.	7.8	10
102	Communication—Effect of Lower Cutoff Voltage on the 1 st Cycle Performance of Silicon Electrodes. Journal of the Electrochemical Society, 2019, 166, A132-A134.	2.9	10
103	Competitive Pi-Stacking and H-Bond Piling Increase Solubility of Heterocyclic Redoxmers. Journal of Physical Chemistry B, 2020, 124, 10409-10418.	2.6	10
104	Materials and technologies for rechargeable lithium–sulfur batteries. , 2015, , 117-147.		9
105	Investigation of Clutaric Anhydride as an Electrolyte Additive for Graphite/LiNi _{0.5} Mn _{0.3} Co _{0.2} O ₂ Full Cells. Journal of the Electrochemical Society, 2017, 164, A173-A179.	2.9	9
106	Tri(ethylene glycol)-substituted trimethylsilane/lithium bis(oxalate)borate electrolyte for LiMn2O4/graphite system. Journal of Power Sources, 2011, 196, 8301-8306.	7.8	8
107	Redox Shuttle Additives for Lithium-Ion Battery. , 0, , .		8
108	Poly(4-vinylbenzoic acid): A Re-Engineered Binder for Improved Performance from Water-Free Slurry Processing for Silicon Graphite Composite Electrodes. ACS Applied Energy Materials, 2019, 2, 6348-6354.	5.1	8

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109	Smart Polymeric Cathode Material with Intrinsic Overcharge Protection Based on a 2,5â€Diâ€ <i>tert</i> â€butyl―1,4â€dimethoxybenzene Core Structure. Advanced Functional Materials, 2012, 22 4485-4492.	2,14.9	7
110	Improved performance through tight coupling of redox cycles of sulfur and 2,6-polyanthraquinone in lithium–sulfur batteries. Journal of Materials Chemistry A, 2017, 5, 24103-24109.	10.3	6
111	Communication—Ligand-Dependent Electrochemical Activity for Mn ²⁺ in Lithium-Ion Electrolyte Solutions. Journal of the Electrochemical Society, 2019, 166, A2264-A2266.	2.9	6
112	Understanding the Impact of a Nonafluorinated Ether-Based Electrolyte on Li-S Battery. Journal of the Electrochemical Society, 2019, 166, A3653-A3659.	2.9	6
113	Redox Shuttles for Overcharge Protection of Lithium-Ion Battery. ECS Transactions, 2013, 45, 57-66.	0.5	5
114	Tackling the Capacity Fading Issue of Li–S Battery by a Functional Additive—Hexafluorobenzene. ACS Applied Energy Materials, 2020, 3, 3198-3204.	5.1	5
115	An Environmentally Benign Electrolyte for High Energy Lithium Metal Batteries. ACS Applied Materials & Interfaces, 2021, 13, 58229-58237.	8.0	5
116	Challenges of Key Materials for Rechargeable Batteries. Green Energy and Technology, 2015, , 1-24.	0.6	4
117	Enabling High-Temperature and High-Voltage Lithium-Ion Battery Performance through a Novel Cathode Surface-Targeted Additive. ACS Applied Materials & Interfaces, 2021, 13, 59538-59545.	8.0	4
118	Additives for Functional Electrolytes of Li-Ion Batteries. Green Energy and Technology, 2015, , 263-290.	0.6	3
119	Design of a Scavenging Pyrrole Additive for High Voltage Lithium-Ion Batteries. Journal of the Electrochemical Society, 2022, 169, 040507.	2.9	3
120	Enabling Non-Carbonate Electrolytes for Silicon Anode Batteries Using Fluoroethylene Carbonate. Journal of the Electrochemical Society, 2022, 169, 040527.	2.9	3
121	Polysiloxane-Epoxide as Cross-Linkable Binders for Lithium-Ion Batteries. Journal of the Electrochemical Society, 2013, 160, A1819-A1823.	2.9	2
122	High Performance Lithium-Ion Batteries Using Fluorinated Compounds. , 2015, , 1-31.		2
123	NMR-Guided High-Temperature Electrolyte Design Using a Novel PF5 Marker. Journal of Physical Chemistry C, 2020, 124, 13602-13608.	3.1	2
124	Fluorination Enables Simultaneous Improvements of a Dialkoxybenzene-Based Redoxmer for Nonaqueous Redox Flow Batteries. ACS Applied Materials & Interfaces, 2022, 14, 28834-28841.	8.0	2