

Peng-Fei Cao

List of Publications by Year in descending order

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Version: 2024-02-01

67
papers

2,775
citations

159585

30
h-index

189892

50
g-index

69
all docs

69
docs citations

69
times ranked

3212
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 1 | Single-Ion Conducting Polymer Electrolytes for Solid-State Lithium-Metal Batteries: Design, Performance, and Challenges. <i>Advanced Energy Materials</i> , 2021, 11, 2003836. | 19.5 | 206 |
| 2 | Big Effect of Small Nanoparticles: A Shift in Paradigm for Polymer Nanocomposites. <i>ACS Nano</i> , 2017, 11, 752-759. | 14.6 | 177 |
| 3 | Superstretchable, Self-Healing Polymeric Elastomers with Tunable Properties. <i>Advanced Functional Materials</i> , 2018, 28, 1800741. | 14.9 | 162 |
| 4 | Mechanically Robust, Ultraelastic Hierarchical Foam with Tunable Properties via 3D Printing. <i>Advanced Functional Materials</i> , 2018, 28, 1800631. | 14.9 | 128 |
| 5 | 3D Printed Multifunctional, Hyperelastic Silicone Rubber Foam. <i>Advanced Functional Materials</i> , 2019, 29, 1900469. | 14.9 | 122 |
| 6 | Ionic conductive polymers as artificial solid electrolyte interphase films in Li metal batteries – A review. <i>Materials Today</i> , 2020, 40, 140-159. | 14.2 | 115 |
| 7 | Rational Design of a Multifunctional Binder for High-Capacity Silicon-Based Anodes. <i>ACS Energy Letters</i> , 2019, 4, 1171-1180. | 17.4 | 108 |
| 8 | Elastic vitrimers: Beyond thermoplastic and thermoset elastomers. <i>Matter</i> , 2022, 5, 1391-1422. | 10.0 | 90 |
| 9 | Smart cements and cement additives for oil and gas operations. <i>Journal of Petroleum Science and Engineering</i> , 2015, 129, 63-76. | 4.2 | 84 |
| 10 | Influence of Chain Rigidity and Dielectric Constant on the Glass Transition Temperature in Polymerized Ionic Liquids. <i>Journal of Physical Chemistry B</i> , 2017, 121, 11511-11519. | 2.6 | 82 |
| 11 | Effect of Binder Architecture on the Performance of Silicon/Graphite Composite Anodes for Lithium Ion Batteries. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 3470-3478. | 8.0 | 77 |
| 12 | Autonomous Self-Healing Elastomers with Unprecedented Adhesion Force. <i>Advanced Functional Materials</i> , 2021, 31, 2006298. | 14.9 | 64 |
| 13 | Stimuli-Responsive Polymers and their Potential Applications in Oil-Gas Industry. <i>Polymer Reviews</i> , 2015, 55, 706-733. | 10.9 | 60 |
| 14 | Ultra-efficient polymer binder for silicon anode in high-capacity lithium-ion batteries. <i>Nano Energy</i> , 2020, 73, 104804. | 16.0 | 57 |
| 15 | Core-shell type multiarm star poly(μ -caprolactone) with high molecular weight hyperbranched polyethylenimine as core: Synthesis, characterization and encapsulation properties. <i>European Polymer Journal</i> , 2008, 44, 1060-1070. | 5.4 | 56 |
| 16 | Utilizing Viral Nanoparticle/Dendron Hybrid Conjugates in Photodynamic Therapy for Dual Delivery to Macrophages and Cancer Cells. <i>Bioconjugate Chemistry</i> , 2016, 27, 1227-1235. | 3.6 | 53 |
| 17 | 4D Printing via an Unconventional Fused Deposition Modeling Route to High-Performance Thermosets. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 50052-50060. | 8.0 | 52 |
| 18 | Recent Developments and Challenges in Hybrid Solid Electrolytes for Lithium-Ion Batteries. <i>Frontiers in Energy Research</i> , 2020, 8, . | 2.3 | 52 |

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|----|---|------|-----------|
| 19 | A star-shaped single lithium-ion conducting copolymer by grafting a POSS nanoparticle. <i>Polymer</i> , 2017, 124, 117-127. | 3.8 | 45 |
| 20 | Highly Recyclable, Mechanically Isotropic and Healable 3D-Printed Elastomers via Polyurea Vitrimers. , 2021, 3, 1095-1103. | | 44 |
| 21 | Hydrogen-bond strength changes network dynamics in associating telechelic PDMS. <i>Soft Matter</i> , 2018, 14, 1235-1246. | 2.7 | 43 |
| 22 | The Role of Chain-End Association Lifetime in Segmental and Chain Dynamics of Telechelic Polymers. <i>Macromolecules</i> , 2018, 51, 8561-8573. | 4.8 | 42 |
| 23 | Polymer Binders Constructed through Dynamic Noncovalent Bonds for High-Capacity Silicon-Based Anodes. <i>Chemistry - A European Journal</i> , 2019, 25, 10976-10994. | 3.3 | 42 |
| 24 | Elastic Single-Ion Conducting Polymer Electrolytes: Toward a Versatile Approach for Intrinsically Stretchable Functional Polymers. <i>Macromolecules</i> , 2020, 53, 3591-3601. | 4.8 | 41 |
| 25 | Viscoelasticity in associating oligomers and polymers: experimental test of the bond lifetime renormalization model. <i>Soft Matter</i> , 2020, 16, 390-401. | 2.7 | 40 |
| 26 | Surpassing the stiffness-extensibility trade-off of elastomers via mastering the hydrogen-bonding clusters. <i>Matter</i> , 2022, 5, 237-252. | 10.0 | 40 |
| 27 | Modulating the guest encapsulation and release properties of multi-arm star polyethylenimine-block-poly(μ -caprolactone). <i>Journal of Polymer Science Part A</i> , 2009, 47, 5184-5193. ^{2,3} | | 37 |
| 28 | Adhesive Polymers as Efficient Binders for High-Capacity Silicon Electrodes. <i>ACS Applied Energy Materials</i> , 2020, 3, 3387-3396. | 5.1 | 34 |
| 29 | Robust and Elastic Polymer Membranes with Tunable Properties for Gas Separation. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 26483-26491. | 8.0 | 32 |
| 30 | Photoreduction of Graphene Oxide and Photochemical Synthesis of Graphene-Metal Nanoparticle Hybrids by Ketyl Radicals. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 24887-24898. | 8.0 | 32 |
| 31 | A Trefoil Knotted Polymer Produced through Ring Expansion. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 5127-5131. | 13.8 | 31 |
| 32 | Improved Single-Ion Conductivity of Polymer Electrolyte via Accelerated Segmental Dynamics. <i>ACS Applied Energy Materials</i> , 2020, 3, 12540-12548. | 5.1 | 31 |
| 33 | Grafted Carbazole-Assisted Electrodeposition of Graphene Oxide. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 10266-10274. | 8.0 | 30 |
| 34 | What dielectric spectroscopy can tell us about supramolecular networks†. <i>European Physical Journal E</i> , 2019, 42, 133. | 1.6 | 30 |
| 35 | From natural material to high-performance silicon based anode: Towards cost-efficient silicon based electrodes in high-performance Li-ion batteries. <i>Electrochimica Acta</i> , 2019, 327, 135058. | 5.2 | 28 |
| 36 | Catenated Poly(μ -caprolactone) and Poly(ϵ -lactide) via Ring-Expansion Strategy. <i>Macromolecules</i> , 2015, 48, 3825-3833. | 4.8 | 25 |

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|----|--|------|-----------|
| 37 | Unravelling the Mechanism of Viscoelasticity in Polymers with Phase-Separated Dynamic Bonds. ACS Nano, 2022, 16, 4746-4755. | 14.6 | 23 |
| 38 | Self-Healable, Highly Stretchable, Ionic Conducting Polymers as Efficient Protecting Layers for Stable Lithium-Metal Electrodes. ACS Applied Materials & Interfaces, 2022, 14, 26014-26023. | 8.0 | 23 |
| 39 | Critical Role of the Interfacial Layer in Associating Polymers with Microphase Separation. Macromolecules, 2021, 54, 4246-4256. | 4.8 | 22 |
| 40 | A supramolecularly templated catenane initiator and a controlled ring expansion strategy. Chemical Communications, 2012, 48, 12094. | 4.1 | 20 |
| 41 | Tailored CO ₂ -philic Gas Separation Membranes via One-Pot Thiol-ene Chemistry. Macromolecules, 2019, 52, 5819-5828. | 4.8 | 20 |
| 42 | Photoswitchable Nanocarrier with Reversible Encapsulation Properties. ACS Macro Letters, 2015, 4, 58-62. | 4.8 | 19 |
| 43 | A Supramolecular Polyethylenimine-Cored Carbazole Dendritic Polymer with Dual Applications. Macromolecules, 2015, 48, 6801-6809. | 4.8 | 19 |
| 44 | Rational Polymer Design of Stretchable Poly(ionic liquid) Membranes for Dual Applications. Macromolecules, 2021, 54, 896-905. | 4.8 | 19 |
| 45 | Unraveling the Role of Neutral Units for Single-Ion Conducting Polymer Electrolytes. ACS Applied Materials & Interfaces, 2021, 13, 51525-51534. | 8.0 | 18 |
| 46 | Covalently stabilized vesicles derived from amphiphilic multiarm star polymers: Preparation, characterization, and their capability of hosting different polarity of guests. Journal of Polymer Science Part A, 2012, 50, 227-236. | 2.3 | 17 |
| 47 | Are Porous Polymers Practical to Protect Li-Metal Anodes? -Current Strategies and Future Opportunities. Advanced Functional Materials, 2022, 32, . | 14.9 | 17 |
| 48 | Synthesizing a Trefoil Knotted Block Copolymer via Ring-Expansion Strategy. Macromolecules, 2017, 50, 1473-1481. | 4.8 | 15 |
| 49 | Highly Stretchable, Ultratough, and Multifunctional Poly(vinyl chloride)-Based Plastics <i>via</i> a Green, Star-Shaped Macromolecular Additive. Macromolecules, 2021, 54, 3169-3180. | 4.8 | 15 |
| 50 | Glass-fiber-reinforced polymeric film as an efficient protecting layer for stable Li metal electrodes. Cell Reports Physical Science, 2021, 2, 100534. | 5.6 | 15 |
| 51 | Star-like copolymer stabilized noble-metal nanoparticle powders. Nanoscale, 2016, 8, 7435-7442. | 5.6 | 14 |
| 52 | Turning Rubber into a Glass: Mechanical Reinforcement by Microphase Separation. ACS Macro Letters, 2021, 10, 197-202. | 4.8 | 12 |
| 53 | Facile Fabrication of Porous Si Microspheres from Low-Cost Precursors for High-Capacity Electrode. Advanced Materials Interfaces, 2020, 7, 1901726. | 3.7 | 11 |
| 54 | 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 |

| # | ARTICLE | IF | CITATIONS |
|----|---|------|-----------|
| 55 | Plasmonic Retrofitting of Membrane Materials: Shifting from Self-Regulation to On-Command Control of Fluid Flow. <i>Advanced Materials</i> , 2018, 30, 1707598. | 21.0 | 10 |
| 56 | On the Formation and Electropolymerization of a Star Copolymer With Peripheral Carbazoles. <i>Macromolecular Chemistry and Physics</i> , 2013, 214, 386-395. | 2.2 | 8 |
| 57 | Highly efficient reversible addition-fragmentation chain-transfer polymerization in ethanol/water via flow chemistry. <i>Polymer International</i> , 2017, 66, 1252-1258. | 3.1 | 8 |
| 58 | Demonstration of self-healing barrier films for vacuum insulation panels. <i>Vacuum</i> , 2019, 164, 132-139. | 3.5 | 8 |
| 59 | Highly Permeable Oligo(ethylene oxide)-co-poly(dimethylsiloxane) Membranes for Carbon Dioxide Separation. <i>Advanced Sustainable Systems</i> , 2018, 2, 1700113. | 5.3 | 6 |
| 60 | Core-Shell Gold Nanoparticle-Star Copolymer Composites with Gradient Transfer and Transport Properties: Toward Electro-Optical Sensors and Catalysis. <i>ACS Applied Nano Materials</i> , 2021, 4, 1394-1400. | 5.0 | 6 |
| 61 | Polymer Nanosheet Containing Star-Like Copolymers: A Novel Scalable Controlled Release System. <i>Small</i> , 2018, 14, e1800115. | 10.0 | 5 |
| 62 | Continuous Flow Fabrication of Block Copolymer-Grafted Silica Micro-Particles in Environmentally Friendly Water/Ethanol Media. <i>Macromolecular Materials and Engineering</i> , 2019, 304, 1800451. | 3.6 | 5 |
| 63 | Living Radical Polymerization from Colloidally-Templated Nanopatterned Surface. <i>ACS Symposium Series</i> , 2015, , 169-185. | 0.5 | 1 |
| 64 | Selective Plasticization of Poly (ethylene oxide) (PEO) Block in Nanostructured Polystyrene-PEO Polystyrene Triblock Copolymer Electrolytes. <i>Journal of the Electrochemical Society</i> , 2022, 169, 050506. | 2.9 | 1 |
| 65 | Frontispiece: Polymer Binders Constructed through Dynamic Noncovalent Bonds for High-Capacity Silicon-Based Anodes. <i>Chemistry - A European Journal</i> , 2019, 25, . | 3.3 | 0 |
| 66 | Elastic Single-Ion Conducting Polymer Electrolyte. <i>ECS Meeting Abstracts</i> , 2019, , . | 0.0 | 0 |
| 67 | The Impact of Selectively Plasticized Poly (ethylene oxide) (PEO) Block in Nanostructured Polystyrene-PEO Polystyrene Triblock Copolymer Electrolytes. <i>ECS Meeting Abstracts</i> , 2019, , . | 0.0 | 0 |