2023

Tailored Out-of-Oven Energy Efficient Manufacturing of High-Performance Composites with Two-Stage Self-Regulating Heating via a Double Positive Temperature Coefficient Effect.

Kirigami-Inspired Organic and Inorganic Film-Based Flexible Thermoelectric Devices with Built-In Heat Sink.


Nonpolar Cosolvent Driving LUMO Energy Evolution of Methyl Acetate Electrolyte to Afford Lithium-Ion Batteries Operating at 60 °C.

Customized Electrolyte and Host Structures Enabling High-Energy-Density Anode-Free Potassium-Metal Batteries.

Simultaneous Increase in Dielectric Breakdown Strength and Thermal Conductivity of Oriented UHMWPE Containing Diamond Nanoparticles.

Energy efficient out-of-oven manufacturing of natural fibre composites with integrated sensing capabilities and improved water barrier properties.

Optimization of thermoelectric properties of carbon nanotube veils by defect engineering.

Cyclopentylmethyl Ether, a Non-Fluorinated, Weakly Solvating and Wide Temperature Solvent for High-Performance Lithium Metal Battery.

Nano-Engineered Carbon Fibre-Based Piezoelectric Smart Composites for Energy Harvesting and Self-Powered Sensing.
Sustainable nanocomposite coating for moulded pulp with enhanced barrier properties for food packaging applications.  
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A tug-of-war effect tunes Li-ion transport and enhances the rate capability of lithium metal batteries.  

Smart and repeatable easy-repairing and self-sensing composites with enhanced mechanical performance for extended components life.  

Juggling Formation of HF and LiF to Reduce Crossover Effects in Carbonate Electrolyte with Fluorinated Cosolvents for High-Voltage Lithium Metal Batteries.  

In-situ damage self-monitoring of fiber-reinforced composite by integrating self-powered ZnO nanowires decorated carbon fabric.  

High-safety and high-voltage lithium metal batteries enabled by nonflammable diluted highly concentrated electrolyte.  
2022

Dipole-dipole interactions for inhibiting solvent co-intercalation into a graphite anode to extend the horizon of electrolyte design.  

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Dielectric polymer composites with ultra-high thermal conductivity and low dielectric loss.  

High-performance prelithiated Si-S full cell enabled by trifluorobenzene modified diluted high-concentration electrolyte.  

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In-Situ Monitoring of Interlaminar Shear Damage in Carbon Fibre Composites.

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