Curated Research Articles

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- **Deciphering Molecular Structural Effect on Redox-Mediated CO2 Reduction Reaction Mechanisms for Aprotic Li-CO2 Batteries** — score: 1.000 This study investigates the impact of molecular structure on the redox-mediated CO2 reduction mechanism in aprotic Li-CO2 batteries, highlighting how electron-withdrawing groups (EWGs) in quinone-based catalysts affect discharge efficiency. By optimizing EWG substitution, the research identifies a balance between enhanced discharge potential and reduced CO2 binding affinity, providing insights for designing improved redox mediators for future battery applications. Journal: *Wiley: Advanced Energy Materials: Table of Contents*
- **Investigation of the Lithium Extraction Mechanism from LiNi0.6Mn0.2Co0.2O2 by Using Operando Neutron Diffraction in an All-Solid-State Battery** — score: 1.000 This study utilizes operando neutron diffraction to investigate the lithium extraction mechanisms in a thick all-solid-state battery (ASSB) featuring LiNi0.6Mn0.2Co0.2O2 as the cathode. The findings highlight reversible Li+ insertion/extraction, revealing significant structural changes and the coexistence of H1-H2 phases in the cathode material while confirming the stability of the argyrodite solid electrolyte throughout battery operation. Journal: *Wiley: Advanced Energy Materials: Table of Contents*
- **Probing All-Solid-State Batteries with Real-Time Synchrotron and Neutron Techniques** — score: 1.000 The article reviews recent advancements in using synchrotron and neutron techniques to investigate all-solid-state batteries (ASSBs), emphasizing their capabilities in monitoring structural and morphological changes under operational conditions. It highlights the challenges ASSBs face, such as material design and interfacial stability, while proposing new characterization strategies to enhance their performance and guide future developments in energy storage technology. Journal: *Wiley: Advanced Energy Materials: Table of Contents*
- **Rich Se Vacancies MoxV1-xSe2 Nanosheets with Synergistic Optimization of Electronic and Lattice Structures for Accelerating Sulfur Redox Kinetics in Mg S Batteries** — score: 1.000 This article presents the synthesis of MoxV1-xSe2 nanosheets with rich selenium vacancies, specifically Mo0.075V0.925Se2, which demonstrate enhanced performance as a sulfur host in magnesium-sulfur (Mg S) batteries. The high density of selenium vacancies improves polysulfide binding and accelerates redox kinetics, resulting in a significant reversible capacity and exceptional cycling stability. The research highlights a quantitative relationship between defect concentration and catalytic properties, offering valuable insights for defect engineering in energy storage applications. Journal: *Wiley: Advanced Energy Materials: Table of Contents*
- **Electric-Field-Driven Bilayer Interphase from Oxygenated Nanodiamond-Carbon Nanoparticles for Dendrite-Free Lithium Metal Batteries** — score: 1.000 This study introduces an innovative electric field-driven method to create a bilayer interphase using an oxygenated nanodiamond-carbon composite in lithium metal batteries. This structure enhances lithium-ion flux and prevents dendritic growth, leading to long-lasting, stable battery performance with high Coulombic efficiency and minimal overpotential during operation, thus addressing critical limitations in energy density and safety. Journal: *Wiley: Advanced Energy Materials: Table of Contents*
- **Unraveling Failure Mechanism of Indium Anodes in all-Solid-State Batteries** — score: 0.900 This study investigates the failure mechanisms of indium anodes in all-solid-state lithium batteries, revealing a complex electro-chemo-mechanical coupling that limits performance under high current densities. By employing advanced characterization techniques, the authors identify strategies for enhancing anode stability through protective ALD coatings, significantly improving cycling capacity and paving the way for more durable, high-energy-density batteries. Journal: *Wiley: Advanced Energy Materials: Table of Contents*
- **Mitigating Structural Degradation in O3-Layered Sodium-Ion Cathodes: Insights from Mg Doping in NaNi0.2Fe0.4Mn0.4O2** — score: 0.900 This study demonstrates that selective magnesium doping in O3-layered NaNi0.2Fe0.4Mn0.4O2 cathodes significantly enhances sodium-ion transport and structural stability while reducing oxygen loss. The optimal 5% magnesium substitution

results in improved capacity retention and performance over 200 cycles, presenting a promising avenue for advancing sodium-ion batteries for high-energy, long-life applications in grid-scale energy storage. Journal: *Wiley: Advanced Energy Materials: Table of Contents*

- **Moisture-Tolerant, Lithiophilic Artificial Solid Electrolyte Interphase Enables Ambient-Processable Lithium Metal Anodes** — score: 0.900 The article presents a novel artificial solid electrolyte interphase (SEI) made from fluorinated polyethyleneimine, designed to enhance the stability and performance of lithium metal anodes by making them moisture-tolerant and facilitating ambient processing. This approach mitigates dendrite formation and interface instability, allowing for high-performance batteries that do not require energy-intensive dry room conditions, thus paving the way for more efficient and cost-effective battery production. Journal: *Wiley: Advanced Energy Materials: Table of Contents*
- **Engineering Na-Rich P2-Type Layered Oxides Through Li/Ti Dual Doping for Oxygen Redox Activation and Superior Structural Stability** — score: 0.900 This study explores the effects of co-doping sodium layered oxides with lithium and titanium, aiming to enhance their performance as cathodes in sodium-ion batteries. The authors demonstrate that this dual-doping approach increases capacity and cycling stability by activating reversible lattice oxygen redox reactions while also preventing structural degradation during operation, ultimately leading to improved energy density and efficiency. Journal: *Wiley: Advanced Energy Materials: Table of Contents*
- **Thermal Stability Assessment of Sodium Solid Electrolytes** — score: 0.800 The study investigates the thermal stability of sodium solid electrolytes (SEs) and their interactions with electrode materials, uncovering significant safety concerns for all-solid-state batteries (ASSBs). While the inorganic SEs themselves are thermally stable, their exothermic reactions with electrodes under heat can lead to thermal runaway, indicating that the compatibility between electrode and electrolyte materials is essential for ensuring battery safety. Journal: *Wiley: Advanced Energy Materials: Table of Contents*
- **Unlocking Superior Conductivity in MOF Electrodes via a MXene-Activated Electronic Inversion Layer** — score: 0.800 The study presents a novel approach to enhance the conductivity of metal-organic frameworks (MOFs) by creating an electronic inversion layer (EIL) at the interface of MIL-53(Fe) and MXene (Ti3C2Tx). This strategy significantly improves lithium-ion storage capacity and cycling stability, achieving a retention of 94% after 1000 cycles, with a capacity of 450.3 mAh/g at 1 A/g, addressing common conductivity issues in electrode materials. Journal: *Wiley: Advanced Energy Materials: Table of Contents*
- **Aligning electrons for speed** — score: 0.800 Researchers have developed a specialized electrolyte for Li-metal batteries that forms a planar Li –solvent complex, facilitating the alignment of electron channels. This innovation significantly improves charge transfer speeds at the anode, addressing the issue of parasitic interfacial reactions that previously hindered battery performance under demanding conditions. Journal: *Nature Energy*
- **Boosting Polysulfide Redox via Cobalt Spin-State Manipulation in Lithium-Sulfur Batteries** — score: 0.800 The article discusses a novel approach to enhance the redox activity of polysulfides in lithium-sulfur batteries through the manipulation of cobalt's spin state. This innovation aims to improve the overall performance and efficiency of these batteries, addressing common challenges related to polysulfide dissolution and sluggish redox kinetics. Journal: *ScienceDirect Publication: Energy Storage Materials*
- **Surfactant-mediated mesoscopic confinement and selective interfacial shielding for highly stable zinc anode** — score: 0.800 The article presents a novel approach using a surfactant-mediated mesoscopic electrolyte to enhance the stability of zinc anodes in battery applications. This method involves an amphipathic surfactant that effectively regulates both the solvation structure of zinc ions and their deposition behavior on the anode surface, contributing to improved electrochemical performance. Journal: *RSC - Energy Environ. Sci. latest articles*
- **Lattice Chemistry Damping Stabilization Enables Voltage Stability and Oxygen Redox Reversibility in Li-Rich Layered Oxides** — score: 0.800 The article discusses advancements in

stabilizing li-rich layered oxides (LLOs) for Li-ion batteries by employing lattice chemistry damping techniques. This approach enhances voltage stability and reversibility of oxygen redox reactions, addressing critical issues of voltage decay and structural degradation that currently limit the practical use of LLOs in high-energy-density batteries. Journal: *RSC - Energy Environ. Sci. latest articles*

- **Localized insight into potential-switched structure and hierarchical transport of water-in-salt electrolyte at electrified interfaces** — score: 0.800 The article explores the structure and transport properties of a water-in-salt electrolyte at electrified interfaces, emphasizing its potential-switched behavior. The authors provide localized insights into how these characteristics affect the performance of energy storage systems, highlighting the hierarchical organization within the electrolyte. Journal: *ScienceDirect Publication: Energy Storage Materials*
- **[ASAP] Pre-Disordering for Preserving Transition Metal–Oxygen Covalency in Lithium-Rich Layered Oxide Cathodes** — score: 0.800 The article discusses a novel approach, termed "pre-disordering," aimed at enhancing the covalency between transition metals and oxygen in lithium-rich layered oxide cathodes. This method seeks to improve electrochemical performance and stability in these materials, which are important for lithium-ion battery applications. Journal: *ACS Energy Letters: Latest Articles (ACS Publications)*
- **Molecular Engineering of Fluorinated Hybrid Gel Polymer Electrolytes Enables Ultra-Wide-Temperature Operation of High-Voltage Lithium Metal Batteries** — score: 0.800 This study introduces a fluorinated hybrid gel polymer electrolyte (FHPE) that enhances the performance of lithium metal batteries by ensuring high ionic conductivity and mechanical stability across a wide temperature range. The FHPE demonstrates excellent Li+ transport at low temperatures, forming protective LiF-rich interphases that prevent dendrite growth and side reactions, leading to significant capacity retention in cycling tests and improved safety during mechanical stress. Journal: *Wiley: Advanced Energy Materials: Table of Contents*
- **Polymer-Assisted Supercooled Lithium Salts: Nonflammable Single-Ion Conducting Liquid Electrolytes for Next-Generation Batteries** — score: 0.800 The article introduces a novel class of nonflammable, solvent-free liquid electrolytes made from supercooled lithium salts combined with polymer additives, achieving high ionic conductivity and near-unity lithium ion transference numbers. This approach enhances ion transport and stability, enabling the development of binder-free cathodes for high-energy-density lithium-metal batteries, while also mitigating safety risks associated with traditional electrolyte systems. Journal: *Wiley: Advanced Energy Materials: Table of Contents*
- **Bulletproof-Type Cathode Electrolyte Interphase Enabled by Additive-Guided Solvent Coordination for High-Voltage Sodium Metal Batteries** — score: 0.800 The article discusses the creation of a robust cathode electrolyte interphase (CEI) for high-voltage sodium metal batteries using an additive-guided solvent coordination method. This innovative approach enhances interfacial stability by reducing transition metal dissolution and preventing cathode structure collapse, leading to improved cycling stability and performance at elevated temperatures and voltages. Journal: *Wiley: Advanced Energy Materials: Table of Contents*
- **SnF2-Modified Thin Composite Electrolyte With Ultra-Stable Interface for Solid-State Sodium Batteries** — score: 0.800 The study introduces a SnF2-modified polymer electrolyte, integrated into a flexible polyethylene scaffold, to enhance the stability of solid-state sodium batteries by creating a robust solid electrolyte interphase (SEI). This innovative design not only suppresses dendrite formation but also allows for prolonged cycling life, yielding impressive results such as over 10,800 hours of cycling in Na symmetric cells and near-perfect capacity retention in full cells over 500 cycles. Journal: *Wiley: Advanced Energy Materials: Table of Contents*
- **Toward next-generation cathodes for lithium-ion batteries: progress and prospects of single-crystal lithium-rich manganese-based oxides** — score: 0.800 The review article discusses advancements in single-crystal lithium-rich manganese-based oxides for lithium-ion battery cathodes, emphasizing their performance improvements through insights into cationic and anionic redox processes. It also explores the role of advanced characterization techniques, solid-state system integration, and

AI in developing next-generation battery technologies. Journal: *RSC - EES Batteries latest articles*

- **Functionalized and Customized Electrolyte Enabling NCM811||Gr Pouch Cells Operation at 150°C** — score: 0.800 This article discusses the development of a high-temperature-resistant electrolyte system that enables NCM811||graphite pouch cells to operate safely and effectively at temperatures up to 150°C. Through the use of a propylene carbonate-based electrolyte with dual-anion engineering, the cells demonstrate impressive cycling durability of over 1000 cycles at 100°C, highlighting significant advancements in lithium-ion battery technology for high-temperature applications. Journal: *Wiley: Advanced Energy Materials: Table of Contents*
- **[ASAP] Strontium Trifluoroacetate Additive Enables a Fluorine-Rich Interphase for Highly Stable Lithium Metal Anodes** — score: 0.800 The article explores the use of strontium trifluoroacetate as an additive, which facilitates the formation of a fluorine-rich interphase on lithium metal anodes. This enhancement leads to significantly improved stability in lithium-ion batteries, potentially advancing their performance and lifespan. Journal: *ACS Applied Energy Materials: Latest Articles (ACS Publications)*
- **Research progress on molybdenum- and tungsten-based materials for sodium-ion batteries: Fundamental mechanism and optimizing strategy** — score: 0.700 The review article discusses the advancements in using molybdenum- and tungsten-based materials as anodes in sodium-ion batteries, highlighting their high theoretical capacity and the ability to adjust their layered structures. It focuses on the fundamental mechanisms underlying their performance and strategies for optimizing their effectiveness in energy storage applications. Journal: *RSC - EES Batteries latest articles*
- **Synergistic Enhancement of Oxygen Redox Activity and Structural Integrity through Li/F Doping in Layered Oxide Cathodes for Sodium-ion Batteries** — score: 0.700 The article investigates the effects of lithium and fluorine doping on layered oxide cathodes for sodium-ion batteries, demonstrating that this approach enhances both oxygen redox activity and structural stability. The findings suggest a promising strategy for improving the performance of sodium-ion batteries through tailored material modifications. Journal: *ScienceDirect Publication: Nano Energy*
- **Microstructure-tailored Ni-rich cathode with fast Li+ diffusion layer boosts high-rate and long-cycling all-solid-state batteries** — score: 0.600 This study introduces an innovative microstructure-engineered Ni-rich cathode for all-solid-state lithium batteries, incorporating a rapid Li+ diffusion layer and in situ Li2CO3 coating. These enhancements address key challenges such as slow lithium kinetics and interfacial instability, ultimately improving the battery's performance in terms of high-rate charging and longevity. Journal: *Joule*
- **Mechanistic understanding of interphase-driven ageing in silicon anodes** — score: 0.600 The article investigates the ageing processes affecting silicon anodes, which are known for their greater capacity but shorter lifespan in batteries. It uncovers crucial mechanisms behind this deterioration and proposes strategies to enhance their long-term stability. Journal: *Nature Energy*
- **[ASAP] Hydrogen-Bond-Mediated Interfacial Water-Masking Strategy for Facet-Controlled Zn Deposition in Aqueous Zn Metal Batteries** — score: 0.600 The article presents a novel strategy that utilizes hydrogen bonds to mask interfacial water, facilitating facet-controlled zinc deposition in aqueous zinc metal batteries. This method aims to enhance the performance and stability of the batteries by precisely controlling the deposition process. Journal: *ACS Energy Letters: Latest Articles (ACS Publications)*
- **[ASAP] Doping-Induced Surface Passivation Enables High-Voltage Cycling Capability of Ni-Rich Cathodes for Lithium-Ion Batteries** — score: 0.600 The article discusses how doping can enhance the surface passivation of nickel-rich cathodes in lithium-ion batteries, leading to improved cycling stability and high-voltage performance. This innovation addresses challenges in battery longevity and efficiency by mitigating degradation effects during high-voltage cycling. Journal: *ACS Applied Energy Materials: Latest Articles (ACS Publications)*
- **Potential Posolytes for Aqueous Organic Redox Flow Batteries** — score: 0.600 The article

discusses recent progress in the development of posolytes for aqueous organic redox flow batteries (AORFBs), highlighting advancements in molecular design and structural strategies that can enhance battery performance. It also outlines key achievements in the field, identifies ongoing challenges such as stability and redox potential, and suggests future research directions to improve the efficacy and application of AORFBs in grid-scale energy storage. Journal: *Wiley: Advanced Energy Materials: Table of Contents*

- **[ASAP] Field-Responsive Dynamic Monolayer Regulated Interphase for Enhanced Lithium Metal Batteries** — score: 0.600 The article discusses the development of a dynamic monolayer interphase that responds to environmental changes, aimed at improving the performance of lithium metal batteries. This innovative approach enhances battery stability and efficiency by regulating the interfacial reaction processes. Journal: *Journal of the American Chemical Society: Latest Articles (ACS Publications)*
- **[ASAP] Morphology-Dependent Stress Evolution and Capacity in Lithium-Ion Battery Anodes: A Chemo-Mechanical Study** — score: 0.500 The article investigates how the morphology of anodes in lithium-ion batteries affects their mechanical stress evolution and overall capacity. By conducting a chemo-mechanical study, the authors aim to elucidate the relationship between morphological characteristics and performance metrics, providing insights for optimizing battery design. Journal: *ACS Applied Energy Materials: Latest Articles (ACS Publications)*
- **[ASAP] Correction to "Online Mass Spectrometry Investigation of SEI Formation on Carbon Electrode Surfaces in Sodium-Ion Batteries: Oxygen and Additive Effects"** — score: 0.500 The article is a correction to a previous study on the effects of oxygen and additives on the formation of solid electrolyte interphase (SEI) on carbon electrodes in sodium-ion batteries. It addresses inaccuracies in the original findings published in "ACS Applied Energy Materials," ensuring the scientific community has accurate information regarding the electrochemical processes involved. Journal: *ACS Applied Energy Materials: Latest Articles (ACS Publications)*
- **Flash joule heating Driven In-Situ Dispersoid Synthesis: Mechanical-Interfacial-Conductive Coupling Mechanisms in Silicon-Based Anodes** — score: 0.400 The article explores the innovative method of flash joule heating to synthesize dispersoids in silicon-based anodes, examining the intricate coupling mechanisms among mechanical, interfacial, and conductive properties. This research highlights the potential enhancements in energy storage capacity and efficiency resulting from these synthesized materials. Journal: *ScienceDirect Publication: Energy Storage Materials*
- **Regulating rate performance of P2 layered oxide cathodes by transition metal ordering and phase transition** — score: 0.400 The article explores how the ordering of transition metals and the accompanying phase transitions in P2 layered oxide cathodes can significantly influence their rate performance. The findings suggest that optimizing these structural characteristics could enhance the efficiency of energy storage systems. Journal: *ScienceDirect Publication: Energy Storage Materials*
- **[ASAP] Rethinking the Four-Electron Iodine Redox Mechanism in Zn–I2 Batteries** — score: 0.400 The article delves into the iodine redox mechanism in zinc-iodine batteries, challenging the conventional understanding of a four-electron transfer process. The authors present new insights that could enhance the efficiency and performance of these energy storage systems, paving the way for improved battery technologies. Journal: *ACS Energy Letters: Latest Articles (ACS Publications)*
- **Discovery Learning predicts battery cycle life from minimal experiments** — score: 0.400 The article discusses a novel machine learning methodology called Discovery Learning, which combines active, physics-guided, and zero-shot learning to effectively predict the cycle life of batteries from limited experimental data. This approach facilitates faster design iterations by minimizing the need for extensive prototyping, thereby accelerating advancements in battery technology. Journal: *Nature*
- **Enhancing Power Density and Cycle Life of NMC811 Battery Cathodes via Combined Dense Calendering and Laser Patterning** — score: 0.400 The article investigates a novel approach to enhance the performance of NMC811 battery cathodes through a combination of dense calendering and laser patterning, which collectively improve power density and extend cycle life. This advancement

aims to address the limitations of current lithium-ion batteries, particularly their charging time, thereby supporting the broader adoption of electric vehicles. Journal: *RSC - Energy Environ. Sci. latest articles*

- **Frustrated Oxygen Loss Enabled by Magnesium Migration in O3-Type Anionic Redox Cathodes for Sodium-Ion Batteries** — score: 0.400 The article discusses a novel mechanism in O3-type anionic redox cathodes for sodium-ion batteries, highlighting how magnesium migration facilitates frustrated oxygen loss, potentially enhancing cathode performance. The findings suggest advancements in energy storage technology could be achieved by manipulating the structural properties of cathodes to optimize ion dynamics. Journal: *ScienceDirect Publication: Energy Storage Materials*
- **Tailoring electrochemical interface to regulate competition between Zn deposition and hydrogen evolution in aqueous rechargeable batteries** — score: 0.400 The article discusses advancements in optimizing the electrochemical interface of aqueous rechargeable batteries to control the competition between zinc deposition and hydrogen evolution, thereby improving battery efficiency and performance. It highlights how tailored electrochemical conditions can enhance energy storage capabilities. Journal: *ScienceDirect Publication: Energy Storage Materials*
- **[ASAP] Understanding Binding of Chitosan to Graphene in Li–Ion Battery Anodes from First-Principles** — score: 0.400 The article investigates the interactions between chitosan and graphene within lithium-ion battery anodes using first-principles calculations. It aims to elucidate the binding mechanisms that could enhance the performance of these batteries by improving charge storage capacity and stability. Journal: *ACS Applied Energy Materials: Latest Articles (ACS Publications)*
- **Effects of Mechanical Properties of Elastomeric Electrolytes for Stable Operation of Lithium Metal Batteries** — score: 0.400 This study explores how adjusting the crosslinking density of fluorinated elastomeric electrolytes enhances their mechanical properties, contributing to stable lithium metal battery operation. The optimized electrolytes exhibit high ionic conductivity and balanced toughness, enabling effective cycling performance even in low temperatures, while underscoring the importance of proper crosslinking to prevent degradation and improve capacity retention. Journal: *Wiley: Advanced Energy Materials: Table of Contents*
- **Mitigating Thermal Runaway in Lithium Metal Batteries With Flame-Retardant Magnesium Hydroxide Nanocomposite Gel Electrolytes** — score: 0.400 This study introduces a novel nanocomposite gel electrolyte using flame-retardant magnesium hydroxide, which enhances the safety and performance of lithium-ion batteries by preventing thermal runaway. The magnesium hydroxide matrix improves mechanical properties and ionic conductivity while providing thermal stability through endothermic reactions and combustion suppression, making it suitable for high-energy-density applications and scalable production. Notably, incorporating these gel electrolytes into bilayer configurations significantly improves the cycle life of lithium battery cells. Journal: *Wiley: Advanced Energy Materials: Table of Contents*
- **[ASAP] Proton-Fluid Preintercalation Topochemistry for High-Rate Capacity and Ultralow-Temperature Proton Storage** — score: 0.400 The article discusses a novel approach to proton storage using proton-fluid preintercalation topochemistry, which enhances high-rate capacity and performance at ultralow temperatures. This method offers significant advancements in the efficiency and effectiveness of proton storage systems. Journal: *Journal of the American Chemical Society: Latest Articles (ACS Publications)*
- **Electrostatic Repulsion Activates Durable Pt Catalysts for HT-PEMFCs** — score: 0.400 The article introduces an innovative electrostatic repulsion method to combat phosphoric acid (PA) poisoning in high-temperature proton exchange membrane fuel cells (HT-PEMFCs) by creating a localized negative charge around platinum (Pt) catalysts. This strategy, involving the incorporation of oxidized sulfur into carbon supports, significantly enhances the performance and durability of the Pt/C-SO catalyst, achieving a peak power density of 1166 mW cm−2 and demonstrating remarkable stability with a voltage decay of just 26 µV h−1 over 500 hours, far exceeding that of traditional Pt/C

catalysts. Journal: *Wiley: Advanced Energy Materials: Table of Contents*

- **Molecular Engineering of an Ether-Nitrile Constructs Robust Dual-interphases for Ultra-Stable 4.5 V Lithium Metal Batteries** — score: 0.400 The article discusses the development of novel ether-nitrile materials that create robust dual-interphases in lithium metal batteries, enhancing their stability at high voltages. This advancement addresses significant challenges related to interface stabilization, which is crucial for improving the performance and safety of these batteries. Journal: *RSC - Energy Environ. Sci. latest articles*
- **Vertically Orientated One-dimensional Titania Lepidocrocite Quasi Nanoflakes for Stabilized Lithium Deposition in Lithium Metal Anodes** — score: 0.400 The article presents innovative vertically oriented one-dimensional titania lepidocrocite quasi nanoflakes that enhance stability during lithium deposition in lithium metal anodes. This development addresses common issues such as dendrite growth and lithium loss in solid electrolyte interfaces (SEI), potentially improving the safety and efficiency of lithium metal batteries. Journal: *RSC - EES Batteries latest articles*
- **[ASAP] Solvation Sheath Exchange with Weak-Solvent Molecules Enables the Development of Sodium Dual-Ion Pouch Cells** — score: 0.400 The article discusses a novel approach to developing sodium dual-ion pouch cells by utilizing weak-solvent molecules to facilitate solvation sheath exchange. This advancement could improve the performance and efficiency of sodium-ion batteries, making them a more viable alternative to conventional lithium-ion systems. Journal: *ACS Energy Letters: Latest Articles (ACS Publications)*
- **[ASAP] Weakly Solvated Anions in Electrolytes Boost Cathode Performance for Dual-Ion Batteries and Hybrid Ion Capacitors** — score: 0.400 The research highlights how weakly solvated anions in electrolytes enhance the performance of cathodes in dual-ion batteries and hybrid ion capacitors. By optimizing the solvation dynamics, the study demonstrates significant improvements in energy storage efficiency and overall device performance. Journal: *ACS Energy Letters: Latest Articles (ACS Publications)*