New progress in research on wood-based solar container materials

Zhang and co-workers [64] designed and produced an all-wood-based flexible electronic device, derived from the self-densification of balsa wood that was converted into self ...

Water scarcity has become one of the most serious global challenges facing modern society due to rapid population growth, urbanization, and climate change. As an emerging seawater desalination ...

Meanwhile, this paper looks forward to the development direction of advanced wood-based composites with new functions processed by green preparation technology. Furthermore, it will ...

It is possible to improve evaporation performance through wood structural optimization design. Inspired by the lotus stem, a novel bionic wood-based solar interfacial evaporator is proposed ...

In addition, the Wood@FA samples demonstrated excellent stability, adaptability to various water salinities, and effective seawater ion purification. This work presents a simple and cost ...

With increasing energy demand and requirements for environmental conservation, the replacement of petroleum-based materials with bio-based materials is an interesting opportunity. Transparent wood ...

Still, research is needed for fouling resistance, scalable and low-cost materials, and devices for solar interfacial evaporation. Recent research focuses on the materials for evaporation ...

In addition, the opportunities and challenges faced by the development of wood-based evaporators at present are prospected and the future research directions are analyzed. This review aims at providing ...

Promising alternative materials that enable carbon emission-free energy harvesting and conversion are gaining significant attention as substitutes for petroleum-based materials.

Solar-driven interfacial evaporation technology (TSDIE), which directly uses solar energy to evaporate and purify water, is an emerging solution to address the shortage of freshwater ...

Secondly, the latest progress of wood-based solar evaporators is summarized from the aspects of photothermal material decorative wood, carbonized wood, structural design, etc., and the recent ...

In recent years, there has been a fast proliferation of research regarding wood-derived monolithic carbon materials for environmental applications with tremendous progress achieved. The ...

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In this review, we highlight the optimization strategies for solar evaporator in solar absorption, energy management, water transport, salt treatment, water-existing forms and other ...

Recent research on wood-based solar evaporators has made great progress and significant breakthroughs have been made in using lignin as a photothermal material; however, the intensity ...

In summary, an efficient super-hydrophilic carbonized wood-based solar interface evaporation materials by carbonizing treated wood substrate at room temperature and uniformly ...

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