Graphene aerogel solar container

Graphene-based aerogels have attracted considerable interest in recent years for their ability to remove toxic pollutants, due to their attractive properties, which include a sufficient number ...

This study prepares a graphene/natural latex aerogel (GA/NL) using a bubble-templating approach via mechanical stirring and ambient-pressure drying. The three-dimensional interconnected pore ...

Self-assembled cellulose nanofibers/graphene aerogel-supported phase change composites with a three-dimensional network structure for enhanced solar-thermal energy conversion and storage

Interfacial solar steam generation (ISSG) is essential for improving the energy conversion efficiency and evaporation rate of solar energy to water vapor. In this study, we prepared ...

The Janus structured CrGOA consists of a reduced graphene oxide (rGO) aerogel layer with excellent photothermal conversion properties, as well as hydrophobicity to promote water vapor ...

Aerogel-based solar interfacial evaporation (SIE) technology, which played a significant role in the water resource cycle, offered two primary applications: seawater desalination ...

By combining Ag and ZnO in a graphene oxide (GO) matrix, we can achieve efficient photothermal conversion, rapid heat conduction, and enhanced interface evaporation effects, thus ...

Herein, we designed a lightweight, recyclable, and light-absorbing graphene-based material coupled with semiconductor material for solar energy interfacial evaporator. By adding MoS ...

Graphene is an attractive material for many applications due to excellent inherent properties such as lower density, high mechanical strength, higher thermal conductivity, etc. ...

To overcome the limitations of traditional energy systems and enhance the energy utilization diversity, a multifunctional gradient aerogel composite system is designed in this study. This system integrates ...

The hybrid aerogel exhibited exceptional solar absorption, efficient solar-to-thermal conversion, and improved surface wettability. Inspired by tree structures, our design ensures rapid ...

Understanding the significance of alignment in graphene aerogels, researchers have endowed highly aligned graphene aerogel-based composites with multifunctionalities in various fields, ...

In this work, we developed a flexible Janus-like reduced graphene oxide aerogel with superelasticity and salt

resistance using a straightforward lyotropic plasticization foaming process.

An innovative graphene-based phase change composite constructed by syneresis with high thermal conductivity for efficient solar-thermal conversion and storage;Journal of Materials Science & ...

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