Photothermal energy storage new energy project

The obtained PCM microcapsules have good thermal stability and durability, with a PCM core content of up to 88.9% and a phase change enthalpy of 214.3 J g- 1, which is expected to be used in thermal ...

In this study, we prepared CNT-BN-SA-1, a photothermal phase change energy storage material with excellent stability, long life, and high enthalpy value. The Hm of CNT-BN-SA-1 is 143.5 J/g, which ...

To meet the demands of the global energy transition, photothermal phase change energy storage materials have emerged as an innovative solution. These materials, utilizing various photothermal ...

Photothermal phase change energy storage materials (PTCPCESMs), as a special type of PCM, can store energy and respond to changes in illumination, enhancing the efficiency of energy ...

Photothermal phase change energy storage materials show immense potential in the fields of solar energy and thermal management, particularly in addressing the intermittency issues of solar power.

Outdoor testing of the scaled-up system confirms stable freshwater production (?15.5 kg m -2 daily) and scalable power generation. This work offers new insights into energy input design ...

The global energy transition requires new technologies for the efficient management and storage of renewable energy. Photothermal phase change energy storage materials have emerged ...

Expanded graphite/hydrated salt composites for energy storage at 120 °C were prepared. They achieved photothermal conversion and reduced energy transfer times and losses. E ...

Photothermal phase change energy storage materials show immense potential in the fields of solar energy and thermal management, particularly in addressing the intermittency issues of ...

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These multifunctional composites demonstrate significant potential for next-generation thermal energy management systems, particularly in addressing critical energy storage challenges in ...

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