nanomaterials

Supplementary Materials

Chitin-Derived Nitrogen-Doped Carbon Nanopaper with Subwavelength Nanoporous Structures for Solar Thermal Heating

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Supporting Figures

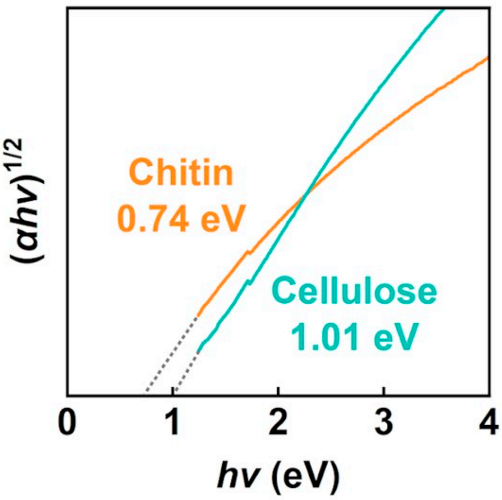

Figure S1. Tauc plots and estimated optical bandgap values of the carbonized chitin and cellulose nanopapers. Carbonization temperature: 400 °C.

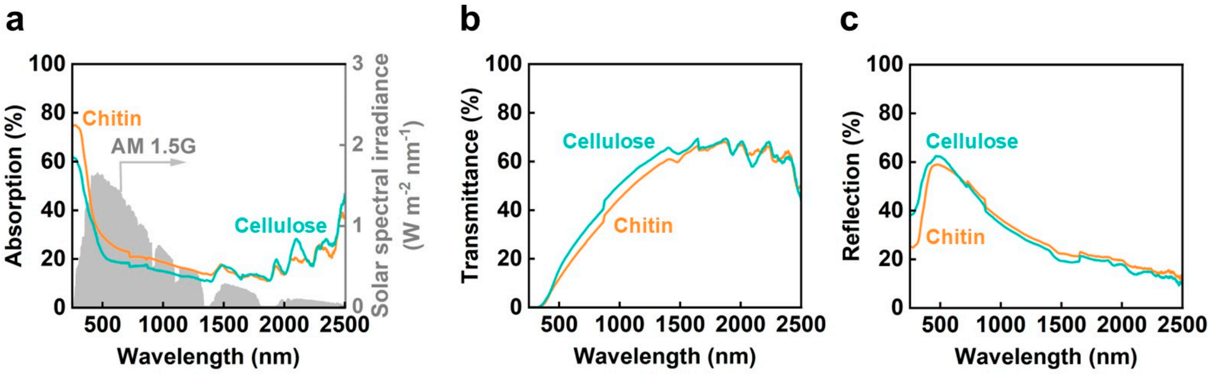

Figure S2. Light absorption properties of the original chitin and cellulose nanopapers before carbonization. (**a**) Solar spectral irradiance (AM1.5G) and UV−vis−NIR absorption, (**b**) transmittance, and (**c**) reflection spectra.

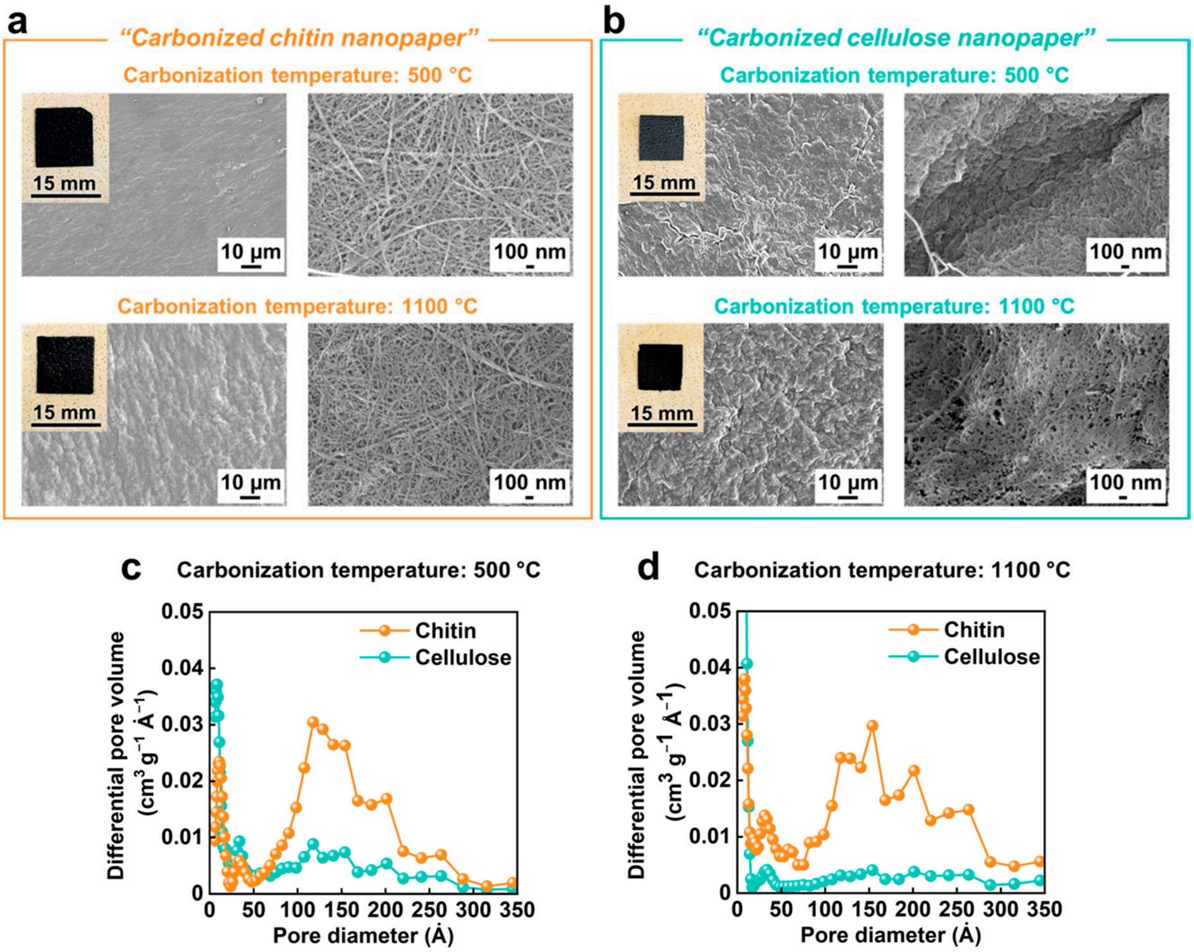

Figure S3. Morphologies of the carbonized chitin and cellulose nanopapers. Optical and field-emission scanning electron microscopy images of the carbonized (**a**) chitin and (**b**) cellulose nanopapers, and pore size distribution curves of the chitin and cellulose nanopapers carbonized at (**c**) 500 and (**d**) 1100 °C. Carbonization temperature: 500 or 1100 °C.

The carbonized chitin nanopaper could retain the subwavelength nanoporous structures even at 1100 °C, while microscale wrinkles were gradually formed on its surfaces with increasing carbonization temperatures.

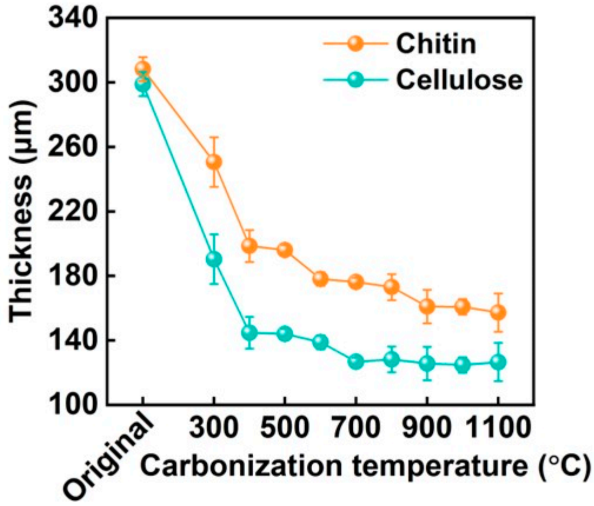

Figure S4. Thickness of the chitin and cellulose nanopapers carbonized at different temperatures.