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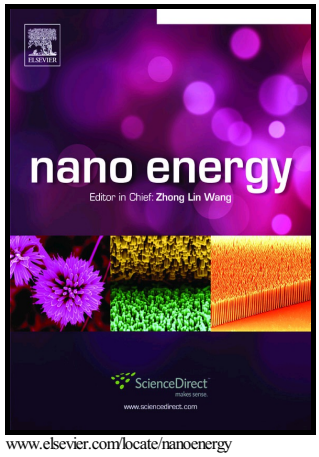

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All-in-one Fiber for Stretchable Fiber-Shaped Tandem Supercapacitors

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ABSTRACT:

Stretchable fiber-shaped supercapacitors (SFSSs) with high energy density and high-voltage output are becoming increasingly critical for powering wearable electronics. However, challenges still exist in the pursuit of combination of mechanical stretchability and excellent electrochemical performance due to the limitation of the fiber electrode. Here we circumvent these problems by developing a new type of “internal tandem” stretchable fiber-shaped supercapacitors based on high crystalline “all-in-one” polymer fiber. This polymer fiber has the combined properties of high conductivity, high flexibility, high specific capacitance and wide