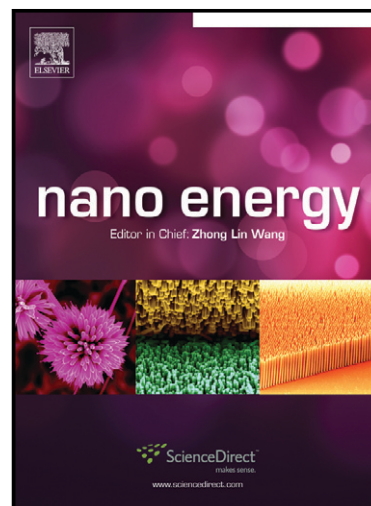


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## Solution Processed Flexible Hybrid Cell for Concurrently Scavenging Solar and Mechanical Energies

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**Abstract** Flexible device that can harvest renewable energy from environment is urgently needed nowadays. A satisfactory device should be able to harvest multi-type energies around the clock without any economic difficulties for mass production. Here we report an all solution processed flexible hybrid cell by integrating an organic solar cell and triboelectric nanogenerator into a thin film, which is capable to convert both of the solar and mechanical energies into electric power independently or simultaneously, the generated energy can be used either to charge an energy storage unit or as a primary energy source for wearable self-powered devices even in the weak light conditions. This work provides a feasible and scalable method to fabricate the hybrid energy devices within reasonable cost to overcome the environmental restrictions of the device with single energy harvesting mode.

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