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## Novel Integration of Carbon Counter Electrode Based Perovskite Solar Cell with Thermoelectric Generator for Efficient Solar Energy Conversion

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### Abstract

We demonstrate a novel integration of carbon counter electrodes based perovskite solar cells (PSCs) and thermoelectric generators (TEs), which exhibits excellent thermal endurance and photo-electric conversion by use of good light-harvesting capabilities over the wide sunlight spectra. The carbon counter electrode based PSC owns a good prospect in development and commercialization, whereas photo-thermal effects induced thermal degradation will be more crucial due to notable photo-thermal conversion of the carbon. The photovoltaic performance of the PSCs will decline when the temperature increases and recover when decreasing. After integration with

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