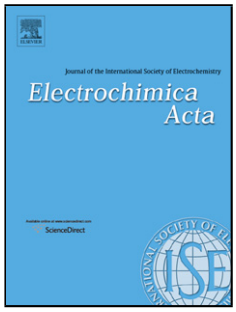

Title: Novel platinum nanoparticles/vapor grown carbon fibers composite counter electrodes for high performance dye sensitized solar cells

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Research Highlights

► The Pt nanoparticles (PtNPs) are highly dispersed on vapor grown carbon fibers (VGCFs). ► The power conversion efficiency of DSSCs depends substantially on the relative content of VGCFs to PtNPs. ► Electrocatalytic activities of PtNPs/VGCFs are examined using impedance, cyclic voltammetry, and Tafel polarization techniques. ► Moderate combination of PtNPs and VGCFs exhibits higher power conversion efficiency of DSSCs than that of PtNPs or VGCFs alone.