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In-Situ Hybridization of Polyaniline Nanofibers on Functionalized
Reduced Graphene Oxide Films for High-Performance Supercapacitor

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Abstract

High-performance hybrid supercapacitor is still hampered by lacking of proper electrode materials of desired nanostructures. However, the hybridization of polyaniline (PANI) on functionalized reduced graphene oxide (FrGO) could form such desired nanostructure with uniform graphene distribution, high carriers density and significantly improved cycling stability and rate capability of PANI. Here we report a facile process for the hybridization of polyaniline nanofibers (PANI NFs) on functionalized reduced graphene oxide (FrGO) films by filtering the hybrid suspension of graphene oxide (GO) and in-situ polymerized PANI NFs followed by hydrothermal treatment to reduce GO and sulfur functionalization of rGO. The

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