Synthesis and Characterization of Graphene Sheets Covalently Functionalized with Polyaniline

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Abstract

Herein we report covalent functionalization of graphene oxide (GO) with conducting polymer polyaniline and aniline tetramer for the first time. The covalently functionalized RGO is electrically conducting; shows improved electrochemical properties and enhanced specific capacitance compared to RGO alone. We also observe enhanced thermal stability and antistatic properties that can be obtained on addition of these covalently functionalized composites into the polymer matrix such as PMMA.