

Layer by layer decoration of graphene and carbon nanotubes with magnetic nanoparticles.

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Abstract

Functional nanocomposites of graphene and carbon nanotubes are of great interest for applications where temperature stability and alienation of the active component is necessary. These type of nanocomposites have been widely studied from graphene oxide (GO), however decoration of defect free graphene has proved challenging due to its unreactive surface. Here we present the successful decoration of graphene and carbon nanotubes using a combination of electrically active polymers that is reproducible to a variety of magnetic nanoparticles such as FeO_3 , CoFe_2O_4 and $\text{SrFe}_{11}\text{O}_{19}$.