

## عنوان مقاله:

Preparation and Properties of Polystyrene Functionalized Graphene Nanosheets by In Situ Atom Transfer Radical Polymerization

## محل انتشار:

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## خلاصه مقاله:

Graphene, a two dimensional monoatomic thick building block of a carbon allotrope displays a unique combination of electronic, chemical and mechanical properties. Excellent properties and inexpensive sources (graphite) have spurred intensive interest in developing cost-effective, high performance polymer nanocomposites. However, the utilization of graphene in polymer nanocomposites inevitably depends on the ability to achieve homogeneous dispersion of graphene nanosheets in the matrix. Functionalization of graphene sheets makes them more soluble for their integration into different matrices [1,2]. Graphene oxide (GO) has been shown to function as an excellent precursor to various graphene-based materials. Herein we report an in situ atom transfer radical polymerization (ATRP) grafting from method to functionalize graphene oxide. Hydroxyl groups on the surface of GO were first functionalized with an ATRP initiator and then polystyrene were grown from initiator-functionalized GO.

## کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

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