

Kaolin Alleviates Graphene Oxide Toxicity

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Abstract

Copyright © 2018 American Chemical Society. With increased interest in the practical use of graphene-based materials, concerns about the remediation of the environmental nanotoxicity of graphene and graphene-related materials have grown. In this study, we report that kaolin nanoclay significantly alleviates the toxicity of graphene oxide in aqueous environments. We employed the *Paramecium caudatum* protozoan to demonstrate the effects of equal concentrations of kaolin on the remediation of graphene oxide toxicity on survival and growth rates, chemotaxis, galvanotaxis, DNA complexation, and food vacuole formation. Importantly, the toxicity of graphene oxide coagulated with kaolin is reduced without the aggregated particles being removed from the environment.

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