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Graphene oxide coated graphene foam based chemical sensor

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ABSTRACT

Graphene derivatives are useful in sensing applications owing to the exciting electrical, chemical, mechanical and structural properties. In this regard, graphene foam (GF) might have fruitful influence for sensing applications due to its porous morphology. However, lack of surface functionalities bottleneck its use in gas sensors but graphene oxide (GO) contains surface functionalities which have already been very useful for sensing application point of view. Herein, we fabricated GF *via* Chemical Vapor Deposition and GO *via* Hummers method. Both GF and GO are accessed by using different characterization tools and GO coated GF is used for sensing different alcohols (i.e. Isopropanol, Ethanol, and Methanol). The GO/GF system is highly sensitive to isopropanol due to the presence of high/low energy binding sights on the surface and molecular structure of isopropanol.

KEYWORDS: Carbon materials; Chemical vapor deposition; Sensors

1. Introduction

Graphene is a purely sp^2 -hybridized two dimensional (2D) material that was discovered in 2004.[1] Nobel prize of physics in 2010 was awarded to graphene due to its exciting physical

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