

2014

Hydrothermal Synthesis of Graphene

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Abstract : Nanomaterials containing carbon have open new ways for the development of interesting and innovator applications. Among these materials, the mother of all graphite shapes, the graphene, is becoming a material of a great interest because of their remarkable properties (physical, chemical and electrical ones). Currently, the graphene presents a great promise for potential applications in many technological fields such as: sensors, composites, transparent conducting films, solar cells, storage medium of gas, etc. The development of graphene is a technological challenge; the methods of current production are required with a balance between the facility of the production and the quality of materials. Our present work consists on a preparation of graphene oxide by Hummers method and its chemical reduction using an environmentally friendly reagent, namely, l-glutathione, under mild condition in aqueous solution. The resulting graphene was characterized by X-ray diffraction

Keywords : Graphene, graphene nanosheets, hydrothermal technique, Chemical reduction