

Functionalization of Graphene Sheets During the Electrochemical Exfoliation of Graphite in Aqueous Media

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Abstract

Graphene^{1,2} is undoubtedly one of the most attractive material for researchers, consequently the most intensively studied material due to its potential applications in several different areas. Various approaches are being developed for its large-scale preparation by green and cost-effective method^{3,4}. One of the best methods is the electrochemical exfoliation of graphite in an aqueous solution⁵. However, for several applications graphene must be functionalized either non-covalently or covalently. In this work, graphene sheets produced electrochemically were functionalized during the exfoliation process. The resulting materials were characterized by several techniques such as Raman spectroscopy, thermogravimetric analysis, TEM, SEM, electronic conductivity measurements and electrochemical techniques

References

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Figures

