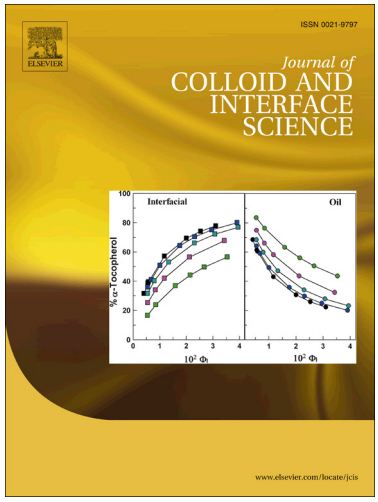

Facile and fast synthesis of graphene oxide nanosheets via bath ultrasonic irradiation

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PII: S0021-9797(14)00474-3
DOI: http://dx.doi.org/10.1016/j.jcis.2014.06.055
Reference: YJCIS 19678

To appear in: *Journal of Colloid and Interface Science*

Received Date: 15 March 2014
Accepted Date: 24 June 2014

Please cite this article as: A. Esmaeili, M.H. Entezari, Facile and fast synthesis of graphene oxide nanosheets via bath ultrasonic irradiation, *Journal of Colloid and Interface Science* (2014), doi: http://dx.doi.org/10.1016/j.jcis.2014.06.055

Facile and fast synthesis of graphene oxide nanosheets via bath ultrasonic irradiation

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Abstract

For the first time, this work reports a facile sonochemical route in the synthesis of graphene oxide nanosheets (GO) via oxidation of graphite (G). The synthesis of GO was carried out in a fast way under ultrasonic bath irradiation (GO-U). In comparison, the synthesis of GO via classical method (GO-C) was done under the same conditions as ultrasonic method. The products were completely different and the oxidation did not happen the same as way as ultrasonic method. Furthermore, GO was synthesized based on classical approach that most commonly used (GO-C´), not under the same conditions as ultrasonic method. The GO sheets were characterized using UV–vis, Fourier transform infrared (FT-IR), X-ray diffraction (XRD), transmission electron microscope (TEM), thermal gravimetry (TG), and Raman spectroscopy techniques. The XRD confirms that the spaces between GO-U and GO-C´

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