Chemical methods to produce graphene involve strong oxidation of graphite and its subsequent exfoliation and reduction to obtain reduced graphene oxide (rGO). Recently, a novel method to produce rGO was proposed, which consists on the exposure of suspensions of graphene oxide (GO) to microwave irradiation [1]. More recently, it was shown that when working with dry GO, which is a common commercial raw material whose shape includes, both powders and flakes, a certain amount of trapped water is necessary for a successful process [2]. In this work, we have reduced and exfoliated GO, starting dry flakes, via microwave irradiation and the resulting material was characterized by using different microscopic and spectroscopic techniques. Special attention was paid to the evaluation of the degree of exfoliation and electrical conductivity the rGO, by measurements of the BET specific surface area and the four-probe method, respectively. The results obtained are explained on the basis of existing defects in the rGO structure.


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