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Synthesis of Graphene Oxide Via Microwave Assisted Eco-Friendly Method Versus Modified Hummer Method

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Abstract: *Using eco-friendly chemicals, a unique method for synthesizing graphene oxide (GO) by microwave radiation along with organic solvents is described. Microwave radiation was utilized to cause the graphite worm to expand significantly in all directions.SEM images were used to assess the morphology and structure of GO nanomaterials. X-ray diffraction, UV-Vis, and Fourier-transform infrared spectroscopies were used to identify the oxygenated groups on the GO surface. When compared to the conventional Hummer's technique, the new microwave-assisted approach significantly reduces reaction time and is much more eco-sustainable. Aside from being environmentally sustainable, the suggested approach has the appealing feature of producing a large number of graphene nano-sheets quickly. This article compares efficient and environmentally microwave-assisted and conventional modified hummer methods for graphene oxide preparation..*

Keywords: Eco-friendly, Eco-sustainable, Microwave radiation, Nanomaterials, conventional.

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