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Method of synthesis of reduced graphene oxide with naringenin

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The development of new materials, processes and technologies are configured as essential elements for economic progress and socio-environmental well-being. Current research has focused on methods that enable the production of high-quality materials performance in a sustainable and less costly way, ensuring the preservation of nature. This study focused on the design of a methodology environmentally friendly to obtain reduced graphene oxide using naringenin on the synthesis of this material, an antioxidant substance that can be found in waste agro-industrial. The samples were synthesized under 3 different conditions comparing pure RGO, RGO reduced with Ascorbic Acid and RGO reduced with naringenin. The samples were characterized and analyzed using Scanning electron microscopy, X-ray diffraction and Fourier transformed infrared spectroscopy. From the results it is observed that the naringenin promoted the removal of oxygenated functional groups from the basal plane of the of graphene, the reduction of graphene oxide with naringenin configures itself as an alternative and effective method for obtaining graphene oxide reduced, thus supporting development and, therefore, implementation of a new RGO sustainable synthesis route.