

# **Carbon Nanomaterials for Biomedical Applications: From Chemical Functionalization to Hydrogels**

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The relatively low-cost production of graphene oxide (GO) and its dispersibility in various solvents, including water, combined with its tunable surface chemistry, make GO an attractive building block to design multifunctional materials. There are many applications for which it is fundamental to preserve the intrinsic properties of GO, for instance in the biomedical field. As a consequence, the derivatization of GO to impart novel properties has to be well controlled and the characterization of the functionalized samples thoroughly done. Despite the great progress in the functionalization of GO, its chemistry is not always well controlled and not fully understood.[1] In this context, I will explain some strategies for the functionalization of GO through the selective derivatization of the epoxides and hydroxyl groups without alteration of its properties and with biomedical perspectives for anticancer therapy.[2,3] I will also present how the incorporation of carbon nanomaterials, such as carbon nanotubes and GO, in hydrogels formed by the self-assembly of aromatic amino acid derivatives can control drug release.[4,5]

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