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Graphene oxide-incorporated hydrogels for biomedical applications

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Abstract

Graphene and graphene derivatives (e.g., graphene oxide (GO)) have been incorporated into hydrogels to improve the properties for a wide range of biomedical strengths of conventional hydrogels and/or develop new functions (e.g., electrical conductivity and drug loading/release). Unique molecular interactions between graphene and various polymer chains in hydrogel networks enable the fabrication of various functional hydrogels appropriate for different biomedical applications. This review focuses on the recent advances in GO-incorporated hydrogels for biomedical applications while focusing the research trends in GO-based hydrogels for strong materials, electrically conductive scaffolds/electrodes, and high-performance drug delivery vehicles.

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The authors declare that they have no conflict of interest.

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