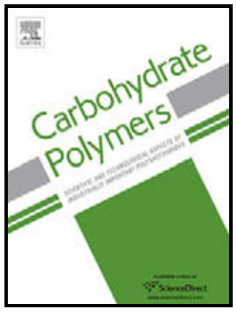

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Green synthesis of oriented xanthan gum–graphene oxide hybrid aerogels for water purification

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Highlights

- A facile three-dimensional xanthan gum/graphene oxide hybrid aerogel was fabricated by ice crystal templating.
- A network composed of co-aligned pore channels was obtained at a low freezing temperature (−40 ℃).
- The as-prepared hybrid aerogels exhibited stability and excellent adsorption capacity for organic dyes and heavy metal ions.

Abstract

Three-dimensional xanthan gum (XG)/graphene oxide (GO) hybrid aerogels were fabricated by ice crystal templating without using chemical modifiers. The hybrid aerogels were prepared by the stirring of xanthan gum-graphene oxide hybrid solution, followed by freezing at low temperature and finally by freeze-drying. The