

Accepted Manuscript

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PII: S2213-3437(18)30593-1
DOI: <https://doi.org/10.1016/j.jece.2018.09.050>
Reference: JECE 2671

To appear in:

Received date: 20-7-2018
Revised date: 3-9-2018
Accepted date: 25-9-2018

Please cite this article as: Lapwanit S, Sooksimuang T, Trakulsujaritchok T, Adsorptive removal of cationic methylene blue dye by *kappa*-carrageenan/poly(glycidyl methacrylate) hydrogel beads: Preparation and Characterization, *Journal of Environmental Chemical Engineering* (2018), <https://doi.org/10.1016/j.jece.2018.09.050>

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Adsorptive removal of cationic methylene blue dye by *kappa*-carrageenan/poly(glycidyl methacrylate) hydrogel beads: Preparation and Characterization

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Graphical abstract



Highlights:

- A novel adsorbent was prepared from *kappa*-carrageenan/poly(glycidyl methacrylate)
- Blending of the homopolymers resulted in improvements required for adsorption
- The obtained blend hydrogel was used as an adsorbent for cationic dyes
- Adsorption efficiency of fabricated adsorbent was studied under several conditions
- κ -carrageenan/PGMA hydrogel beads were effective for dye- wastewater purification

Abstract

Kappa-carrageenan hydrogel containing numerous functional groups used as an environmental-friendly adsorbent shows limitations due to its high water solubility, low gel strength and low regeneration ability. In this work, a new biopolymeric-based hydrogel of κ -carrageenan/poly(glycidyl methacrylate)

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