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Effect of Embedded Sodium Polyacrylate Chains on the Adsorption Mechanism of Neutral Red by Magnetic Particles

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Highlights:

- Magnetic material MHPMs embedded with stretched chains of PAAS and MHPMs-C embedded without PAAS are prepared.
- The rate constant of pseudo-second-order by MHPMs is much higher than other reported materials including MHPMs-C.
- The effect of PAAS on adsorption performance is investigated.
- The rapid adsorption process and mechanism by MHPMs are clarified.

Abstract

Monodisperse hollow porous magnetic particles (MHPMs for short) embedded with sodium polyacrylate (PAAS) and the calcinated product of MHPMs (referred to as MHPMs-C, embedded without PAAS) were prepared and evaluated as an adsorbent for the removal of neutral red from water. Both of the adsorption kinetics followed pseudo-

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