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Fe₃O₄@polypyrrole core-shell composites applied as nanoenvironment for galacto-oligosaccharides production

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Abstract

The adequate functionalization of magnetic/organic nanocomposites with β -galactosidase provides adequate nanoenvironment for reaction media and improved production of galacto-oligosaccharide from lactose with additional advantage related with magnetic removal of enzyme derivative and reuse (our results indicated retention level of 76% after 10 cycles of application). In this work, we have explored different combination of parameters for enzyme action in order to improve the action of magnetic nanoparticles/polypyrrole/enzyme in the galacto-oligosaccharide production.

Keywords: galacto-oligosaccharide, polypyrrole, magnetic nanoparticles, enzyme action.

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