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Porous amphiphilic biogel from a facile chemo-biosynthetic route (Article)

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Abstract

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Grafting of medium-chain-length poly-3-hydroxyalkanoates (mcl-PHA) with glycerol 1,3-diglycerolate diacrylate (GDD) in acetone was performed using benzoyl peroxide as the initiator. A detailed mechanism scheme provides significant improvement to previous literature. Radical-mediated grafting generated α - β carbon inter-linking of mcl-PHA and GDD, resulting in a macromolecular structure with gel properties. The thermal properties of the copolymer for different graft yields were investigated as a function of initiator concentration, GDD monomer concentration, incubation period and temperature. The water absorption and porosity of the gel were significantly improved relative to neat mcl-PHA. © 2020 Serbian Chemical Society. All rights reserved.

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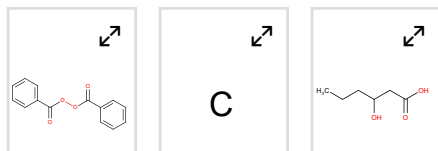
Topic: Poly(3-Hydroxybutyrate)-Co-(3-Hydroxyvalerate) | Poly-Beta-Hydroxybutyrate | 3-Hydroxyhexanoic Acid

Prominence percentile: 96.974



Chemistry database information

Substances



Author keywords

[Biogel](#) [Biopolymer](#) [Chemo-biosynthetic](#) [Radical grafting](#)

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