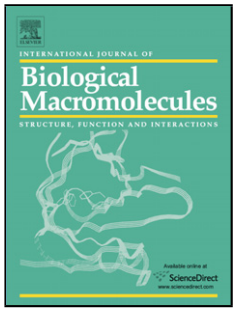

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Biosynthesis and physicochemical characterization of a bacterial polysaccharide/polyamide blend, applied for microfluidics study in porous media

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Abstract

Screening among some new isolated bacteria from oily samples, which were capable of producing extracellular polymeric substances (EPSs), one was selected and identified as *Bacillus sonorensis*. An efficient micro-total analysis approach was carried out to assay the produced EPSs by this bacterium. Sucrose and yeast concentrations as carbon and nitrogen sources, respectively, sodium salt concentration and initial pH were selected to be the variables in experimental design. Production of EPS in optimal condition was increased by 5.3 times. Further EPS purification was carried out to identify the biopolymers. The bacteria produced high molecular weight biopolymers with a number average molecular weight ($\bar{M}n$)