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Polyethersulfone nanofibers for the removal of endocrine disruptors

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ABSTRACT

Polyethersulfone (PES) nanofibers were prepared by using electrospinning technique, and then were used for the removal of several endocrine disrupters from aqueous solutions. The structure of the nanofibers was characterized by scanning electron microscopy (SEM). The PES nanofibers could remove bisphenol A and other hydrophobic endocrine disrupters, and showed larger adsorption capacity and fast kinetics of uptaking target species than PES microfibers and PES particles reported in our earlier publications. Furthermore, the adsorbed endocrine disrupters could be effectively removed by ethanol, which indicated that the PES nanofibers could be reused. These results showed that the PES nanofibers have the potential to be used in the environmental application.

Keywords: Polyethersulfone nanofiber; Electrospinning; Adsorption; Endocrine disrupter; Hydrophobic interaction

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