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Authors: E. Bagheripour, A.R. Moghadassi, S.M. Hosseini, M.B. Ray, F. Parvizian, B. Van der Bruggen

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# Highly hydrophilic and antifouling nanofiltration membrane incorporated with water-dispersible composite activated carbon/chitosan nanoparticles

E. Bagheripour <sup>a</sup>, A. R. Moghadassi <sup>a</sup>, S. M. Hosseini <sup>a</sup>, M. B. Ray <sup>b</sup>, F. Parvizi <sup>a</sup>, B. Van der Bruggen <sup>c, d, \*</sup>

<sup>a</sup> Department of Chemical Engineering, Faculty of Engineering, Arak University, Arak 38156-8-8349, Iran

<sup>b</sup> Department of Chemical and Biochemical Engineering, University of Western Ontario, London, ON N6A 5B9, Canada

<sup>c</sup> Process Engineering for Sustainable Systems Section, Department of Chemical Engineering, University of Leuven, Celestijnenlaan 200F, 3001 Leuven, Belgium

<sup>d</sup> Faculty of Engineering and the Built Environment, Tshwane University of Technology, Private Bag X680, Pretoria 0001, South Africa

*\*Corresponding author.*

Tel: +32 16322340

E-mail addresses: Bart.VanderBruggen@cit.kuleuven.be

## **Highlights**

- Water-dispersible composite activated carbon/chitosan nanoparticles.
- PES based NF membrane was modified by incorporation of composite nanoparticles.
- Higher hydrophilicity/porosity obtained by utilizing composite nanoparticles.
- Water flux/salt rejection increased sharply by activated carbon/chitosan nanoparticles.
- Flux recovery in modified membrane found twice that of a pristine membrane.

## **Abstract**

Novel composite activated carbon/chitosan nanoparticles (ACh) were synthesized by dipping and incorporated into poly(ether)sulfone (PES) based nanofiltration membranes, to investigate their effect on the membrane properties and performance. The hydrophobic activated carbon

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