

Accepted Manuscript

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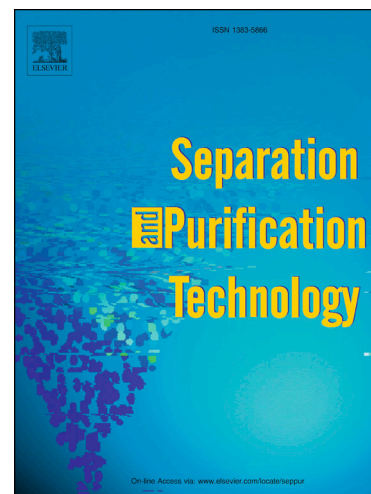
PII: S1383-5866(17)31329-1
DOI: <http://dx.doi.org/10.1016/j.seppur.2017.07.058>
Reference: SEPPUR 13915

To appear in: *Separation and Purification Technology*

Received Date: 27 April 2017
Revised Date: 16 July 2017
Accepted Date: 21 July 2017

Please cite this article as: A. Giwa, S. Chakraborty, M.O. Mavukkandy, H.A. Arafat, S.W. Hasan, Nanoporous hollow fiber polyethersulfone membranes for the removal of residual contaminants from treated wastewater effluent: Functional and molecular implications, *Separation and Purification Technology* (2017), doi: <http://dx.doi.org/10.1016/j.seppur.2017.07.058>

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Nanoporous hollow fiber polyethersulfone membranes for the removal of residual contaminants from treated wastewater effluent: Functional and molecular implications

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Abstract

Hollow fiber membranes consisting of polyethersulfone (PES) reformed with high proportions of –OH, aryl-N and alkyl-F groups in nonsolvent additives were compared for the removal of residual Cr (VI), COD, and bacteria from treated wastewater effluent by studying the underlying functional and molecular interactions during dope preparation and phase separation. These interactions were also studied and compared in the context of dope and membrane characteristics such as dope viscosity, membrane morphology, water contact angle, functionalities in the fabricated membranes, pure water permeability and rejection of residual solute. The membranes were characterized via Scanning Electron Microscopy (SEM), Fourier Transform Infrared (FT-

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