

## Author's Accepted Manuscript

Advanced Charged Porous Membranes with Ultrahigh Selectivity and Permeability for Acid Recovery

Liang Ge, Abhishek N. Mondal, Xiaohe Liu, Bin Wu, Dongbo Yu, Qiuhua Li, Jibin Miao, Qianqian Ge, Tongwen Xu



www.elsevier.com/locate/memsci

PII: S0376-7388(16)31270-4  
DOI: <http://dx.doi.org/10.1016/j.memsci.2017.04.055>  
Reference: MEMSCI15219

To appear in: *Journal of Membrane Science*

Received date: 10 August 2016  
Revised date: 17 December 2016  
Accepted date: 20 April 2017

Cite this article as: Liang Ge, Abhishek N. Mondal, Xiaohe Liu, Bin Wu, Dongbo Yu, Qiuhua Li, Jibin Miao, Qianqian Ge and Tongwen Xu, Advanced Charged Porous Membranes with Ultrahigh Selectivity and Permeability for Acid Recovery, *Journal of Membrane Science*, <http://dx.doi.org/10.1016/j.memsci.2017.04.055>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain

# Advanced Charged Porous Membranes with Ultrahigh Selectivity and Permeability for Acid Recovery

Liang Ge<sup>#</sup>, Abhishek N. Mondal<sup>#</sup>, Xiaohe Liu, Bin Wu, Dongbo Yu, Qiuhua Li, Jibin Miao, Qianqian Ge, Tongwen Xu<sup>\*</sup>

CAS Key Laboratory of Soft Matter Chemistry, Collaborative Innovation Center of Chemistry for Energy Materials, School of Chemistry and Materials Science, University of Science and Technology of China, Hefei 230026, P.R. China.

\*Corresponding author. Email: twxu@ustc.edu.cn; Tel: +86-551-63601587; Fax: +86-551-63602171.

## Abstract

In this work, a novel approach is explored to achieve a combination of separation performance and a suitable membrane fabrication procedure for anion exchange membranes (AEMs). Porous brominated poly(2,6-dimethyl-1,4-phenylene oxide) (BPPO) membranes with tunable morphologies were prepared exclusively via the nonsolvent induced phase separation technique (NIPS) and were investigated for acid recovery via the diffusion dialysis (DD) technique. The physiochemical and electrochemical properties of the prepared membranes were well characterized and could be adjusted according to their porous structure. The prepared membranes

---

<sup>#</sup>These authors contributed equally to this work.

Download English Version:

<https://daneshyari.com/en/article/4988930>

Download Persian Version:

<https://daneshyari.com/article/4988930>

[Daneshyari.com](https://daneshyari.com)