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Zhaozan Xu, Jiayou Liao, Hai Tang, Johnson E. Efome, Nanwen Li

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Preparation and antifouling property improvement of Tröger's base polymer ultrafiltration membrane

Zhaozan Xu,[1,2] Jiayou Liao,[1] Hai Tang, [3*]Johnson E. Efome,[4*] Nanwen Li[1*]

[1]State Key Laboratory of Coal Conversion, Institute of Coal Chemistry, Chinese Academy of Sciences, Taiyuan 030001, China.

[2] University of Chinese Academy of Sciences, Beijing 100049, China

3 School of Biochemical Engineering, Anhui Polytechnic University, Wuhu, Anhui 241000 China

[4]Industrial membrane research institute, Department of Chemical and Biochemical Engineering, University of Ottawa. 161 Louis Pasteur Ottawa ON Canada, K1N 6N5

E-mail: tanghai@ahpu.edu.cn

jefom061@uottawa.ca

linanwen@sxicc.ac.cn

*Corresponding authors.

Abstract

Tröger's base (TB) polymers have received increasing interest for different potential applicationsin the field of membrane techniques. In this study, a TB polymer wasused for the first timeto prepare ultrafiltration (UF) membrane and its antifouling property was enhanced through membrane quaternization process. The pure water flux of TB UF membrane prepared from NMP solution was 448 L m^{-2} h^{-1} with a high rejection for solute (97 % for bovine serum albumin (BSA) and 90 % for humica acid). The high permeability of TB UF membrane was related to itshigh overall porosity, while the high separation property was attributed to its small average pore size on