

Organo-Functionalization: An Effective Method in Enhancing the Separation and Antifouling Performance of Thin-Film Nanocomposite Membranes by Improving the Uniform Dispersion of Palygorskite Nanoparticles

Liu Yang ¹, Qianwen Zhang ², Qikun Wang ¹, Wande Ding^{1,3,*}, Kefeng Zhang ¹

¹ School of Municipal and Environmental Engineering, Shandong Jianzhu University, Jinan 250101, China; 15665888192@163.com (L.Y.); qikunwang12@gmail.com (Q.W.); kfz@sdjzu.edu.cn (K.Z.)

² School of Water Resources & Environment, China University of Geosciences, Beijing 100083, China; zhangqw@caep.org.cn

³ Shandong Shuifa Environmental Technology Co., Ltd., Jining 272000, China

* Correspondence: dingwande18@sdjzu.edu.cn

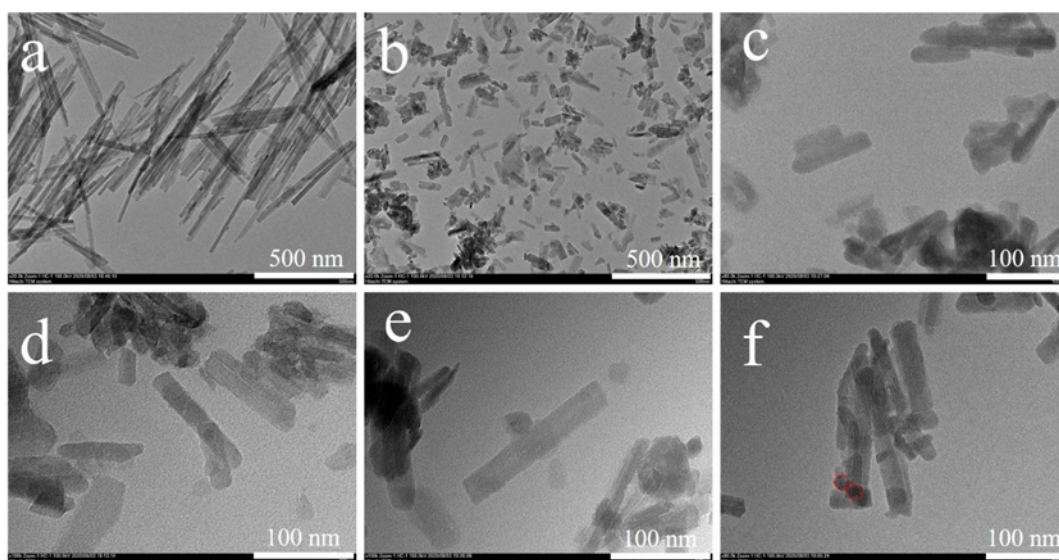


Figure S1. TEM images of different Pal nanoparticles. (a) Pal, (b) g-Pal, (c) K-Pal_{0.25}, (d) K-Pal_{0.75}, (e) K-Pal_{1.5} and (f) K-Pal_{3.0}.

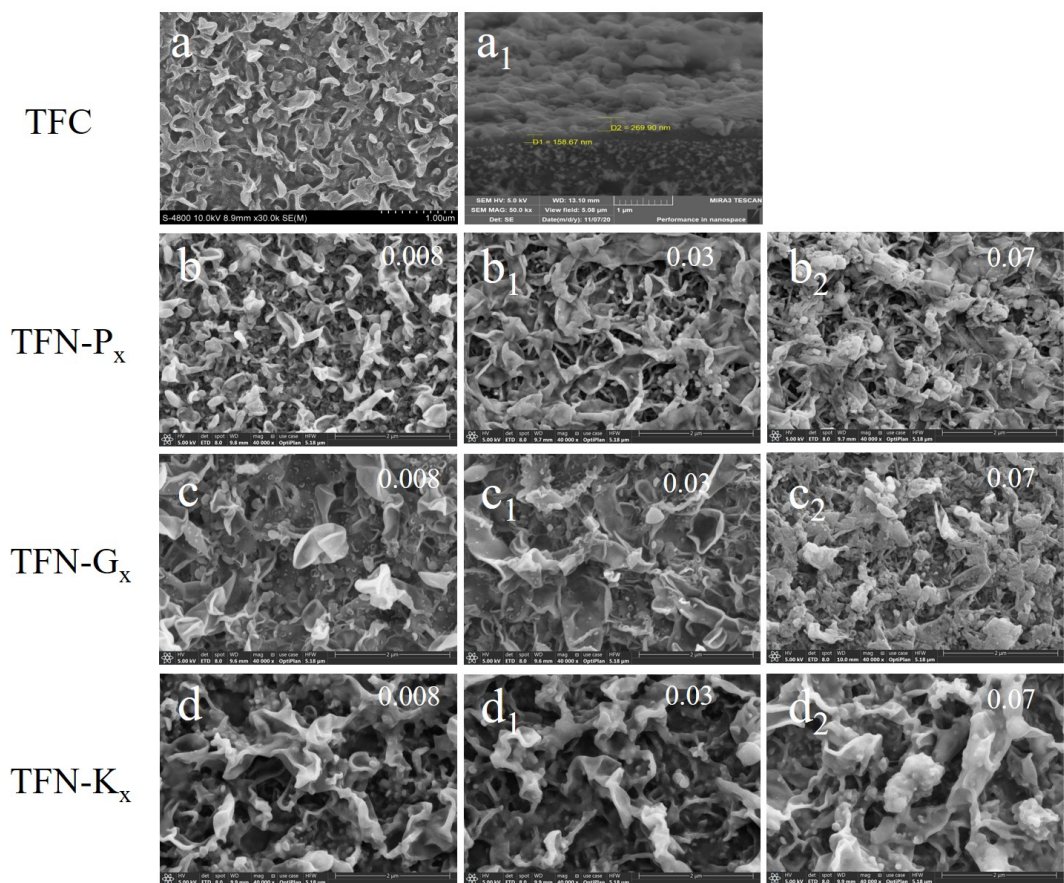


Figure S2. SEM images of TFC (a, a₁), TFN-P_x (b-b₂), TFN-G_x (c-c₂) and TFN-K_x (d-d₂) membranes.

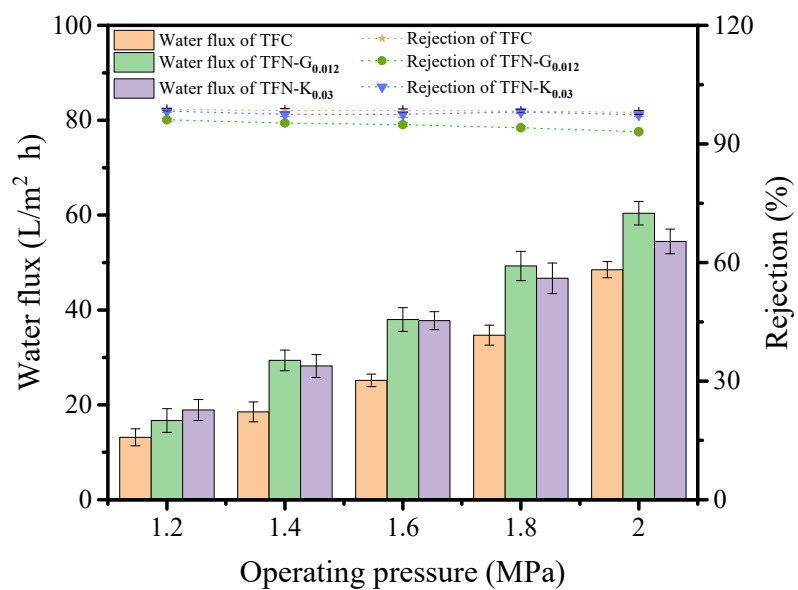


Figure S3. Water flux and NaCl rejection of TFC, TFN-G_{0.012} and TFN-K_{0.03} membranes under different operation pressure.