SEPARATIONS: MATERIALS, DEVICES AND PROCESSES

AIChE JOURNAL

A graphene oxide membrane with self-regulated nanochannels for the exceptionally stable bio-oil dehydration

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Abstract

( ) 0. $^{-2}$ $^{-1}$, % 0 0° .

1 INTRODUCTION

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2 EXPERIMENTAL

2.1 Materials

2.2 Membrane preparation and testing

2.3 Characterization methods

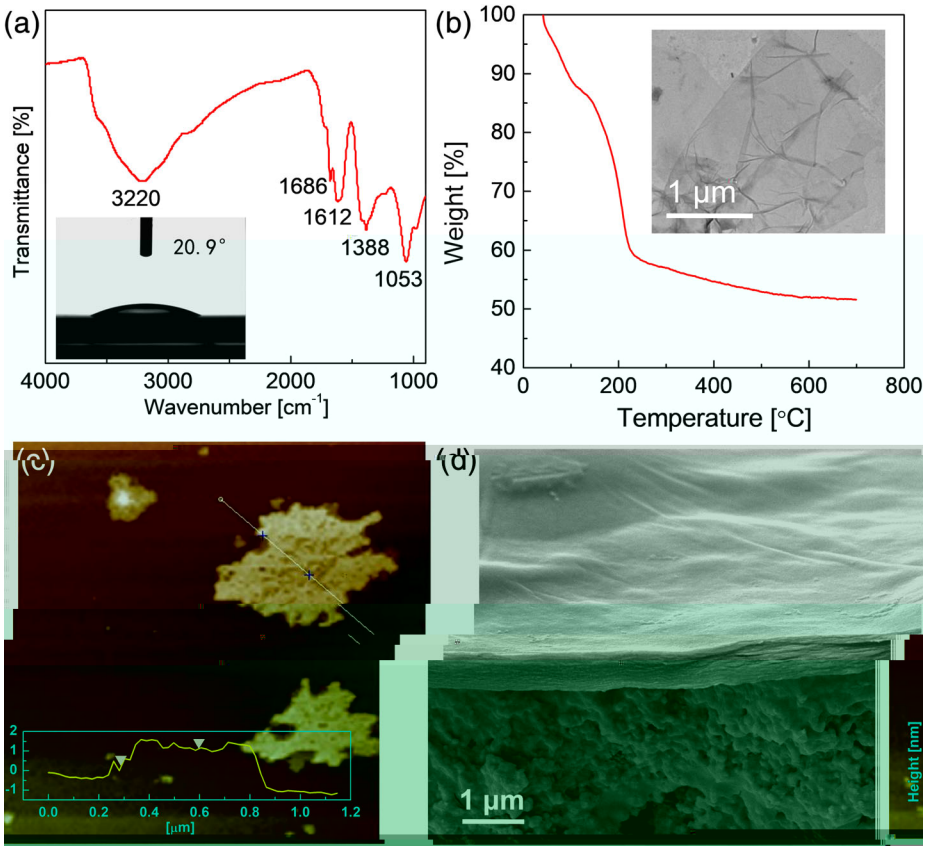

FIGURE 2

3.2 Transport behaviors of the GO membrane for bio-oil pervaporation dehydration

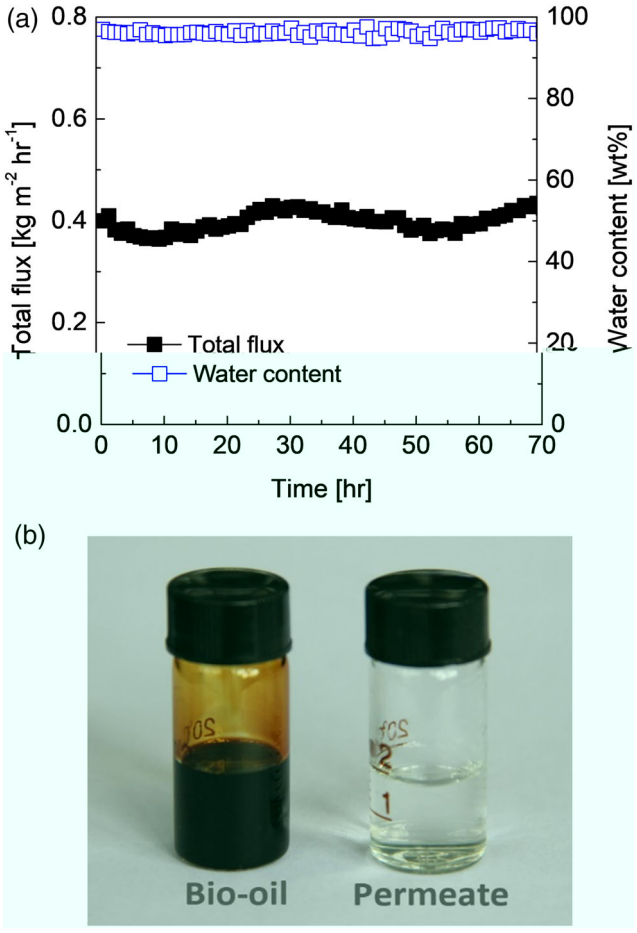

FIGURE 3

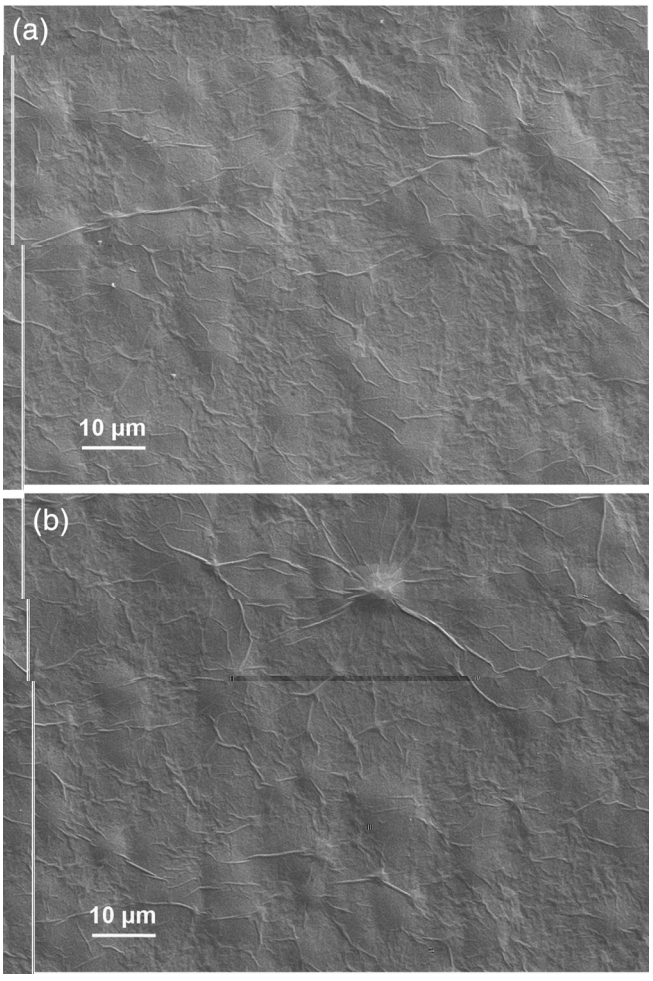

FIGURE 4

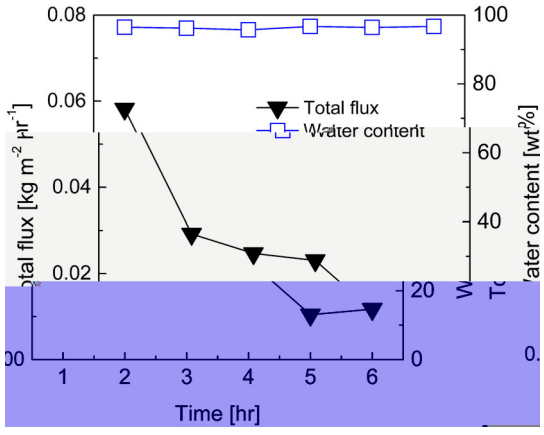

FIGURE 5

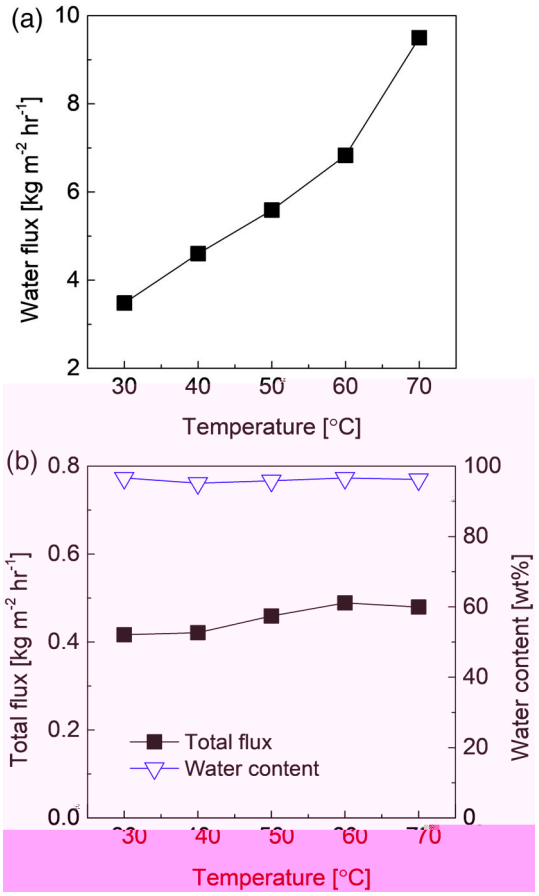

FIGURE 6

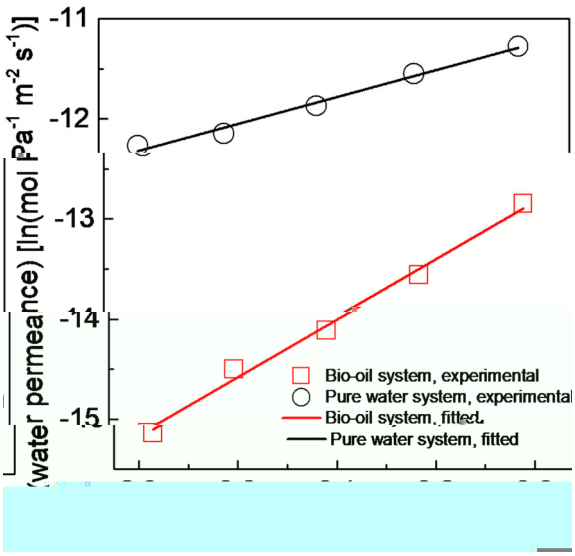

FIGURE 7

3.3 Insights into the nanochannel structures and antifouling mechanism of the GO membrane

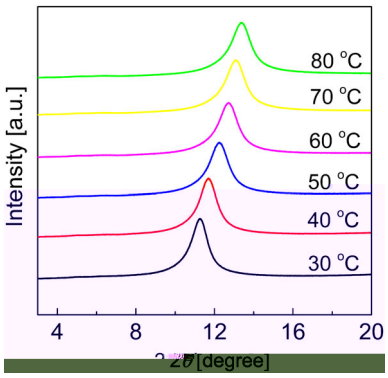

FIGURE 8 -

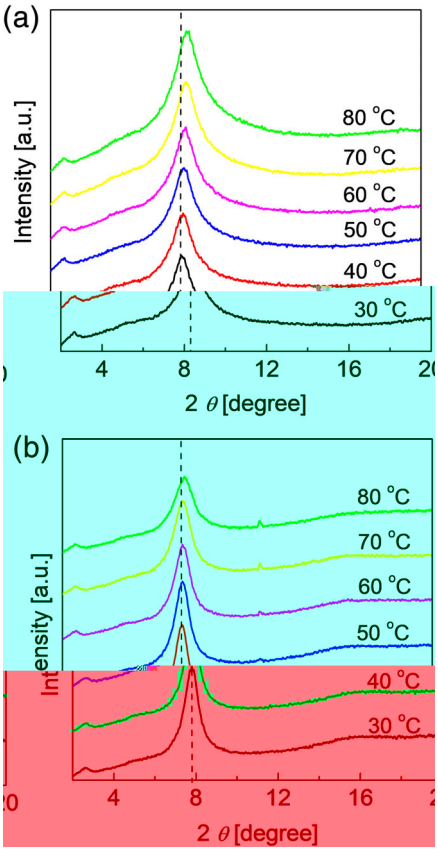

FIGURE 9 -

4 CONCLUSIONS

ACKNOWLEDGMENTS

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NOTATION

D_i
$D_{0,i}$ ( )
$E_{D,i}$ $^{-1}$
$E_{p,i}$ $^{-1}$
F_i $^{-1}$ $^{-1}$
J_i $^{-1}$
k_i ( ) $^{-1}$ $^{-1}$
L
$P_{f,i}$
$P_{p,i}$
R $^{-1}$
S_i $^{-1}$ –
$S_{0,i}$ (2), $^{-1}$ –
T
x_i
y_i

GREEK LETTERS

γ_i
$\triangle P_i$
$\triangle H_{s,i}$ $^{-1}$

ORCID

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