Electronic Supplementary Material (ESI) for RSC Advances.

Synergy of graphene oxide-silver nanocomposite and amphiphilic co-polymer F127 on antibacterial property and permeability of PVDF membrane

Gui-E Chen *[a], Qiong Wu [a], Wei-Guang Sun [a], Zhen-Liang Xu *[b], Sun-Jie Xu [a,b], Wei-Wei Zhu [a], and Xiao-Peng Zheng [a]

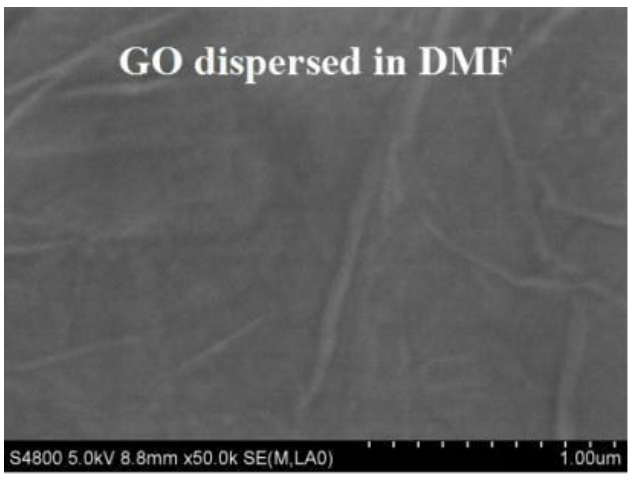
SI F1. SEM image of GO nanolamella dispersed in DMF

SI F2. ATR-FTIR spectra of the selected membranes during 4000 cm^{-1} ~ 2800 cm^{-1}.

SI F3. ATR-FTIR spectra of the selected membranes during 700 cm^{-1} ~ 1500 cm^{-1}

SI F4. XRD of the selected membranes

SI T1. The performance parameters comparison of modified membranes with reference researches.



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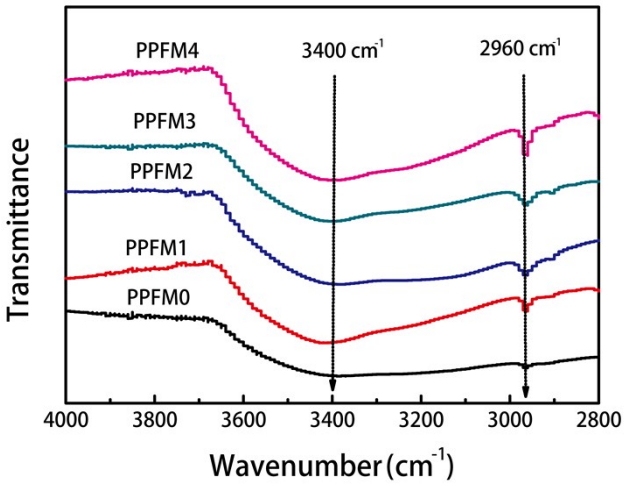

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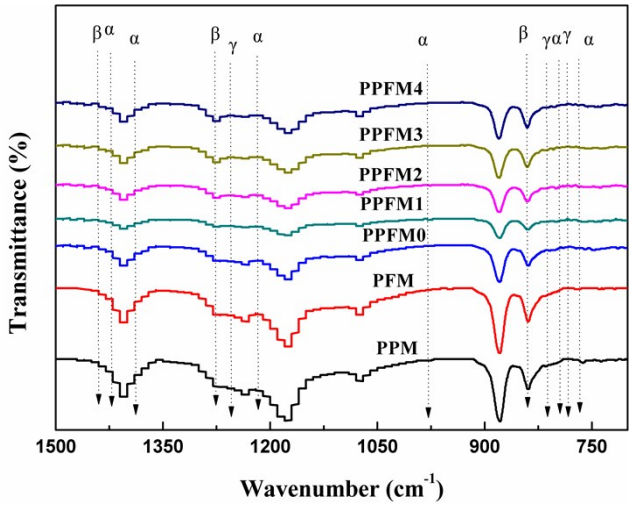
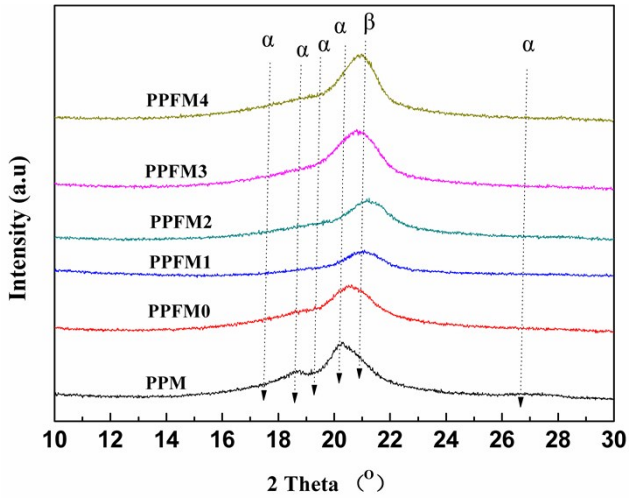


SI F3. ATR-FTIR spectra of the selected membranes during 700 cm^{-1} ~ 1500 cm^{-1}



SI F4. XRD of the selected membranes

SI T1. The performance parameters comparison of modified membranes with reference researches.

Membrane system	Additive	Contact angle/°	Pure water flux /($L \cdot m^{-2} \cdot h^{-1}$)	Optional ratio	Fouling test	Refs
PVDF/GO/DMAc	GO	~60.5	27 0.1 MPa	GO-2.0wt.% PVDF-13wt.%	BSA	[41]
PSF/GO/NMP	GO	~82.5	450 0.1 MPa	GO-1.3 wt.% PSF-15wt.%	P. aeruginosa	[37]
PSF/GO/NMP	GO	~53	52 1 MPa	GO-2000ppm PSF-25 wt.%	-	[38]
PES/F127/DMF	F127	~33	210 0.1 MPa	F127-18wt.% PES-18wt.%	BSA; Lysozyme	[18]
PVDF/F127/ DMAc	F127	~34	225 0.1 MPa	F127-15wt.% PES-15wt.%	BSA	[40]
PES/F127/DMF	F127	~43.3	22 0.1 MPa	F127-14.4wt.% PES-18wt.%	Dryes	[42]
PES/F127/PEG2000/DMF	PEG2000; F127	~45	132 0.1 MPa	PES-18 wt.% PEG200-15 wt.% F127-2.7 wt.%	oil	[43]
PES/F127/PEG200/DMF	PEG2000; F127	~47.9	190 0.1 MPa	PES-18 wt.% PEG200-15 wt.% F127-8.7 wt.%	BSA	[39]
PVDF/AgNPs/PVP/DMF	PVP; $AgNO_3$	~68	109 0.1 MPa	PVDF-19.5 wt. % PVP-1.5 wt.% AgNO3-2.36 wt.%	BSA; E. coli	[34]
GO-AgNPs CA membrane	GO-AgNPs	~71.8	5650 0.1 MPa	-	E. coli	[32]
PES/RGO-Ag/PVP/DMAc	PVP; RGO-Ag	~52.4	430 0.3 MPa	PES-18 wt.% PVP-1.0 wt.% RGO-Ag-0.2wt.%	BSA; E. coli; P. aeruginosa; S. aureus	[35]
PVDF/GO-Ag/F127/PVP/DMF	PVP; F127; GO; $AgNO_3$	~60	298 0.1 MPa	PVDF-18 wt.% PVP-1.8 wt.% F127-1.8 wt.% GO-0.2 wt.% AgNO3-1.0 wt.%	BSA; E. coli; S. aureus	This study