

Electronic Supplementary Information

Highly permeable and antifouling reverse osmosis membrane with acidified graphitic carbon nitride nanosheets as nanofiller

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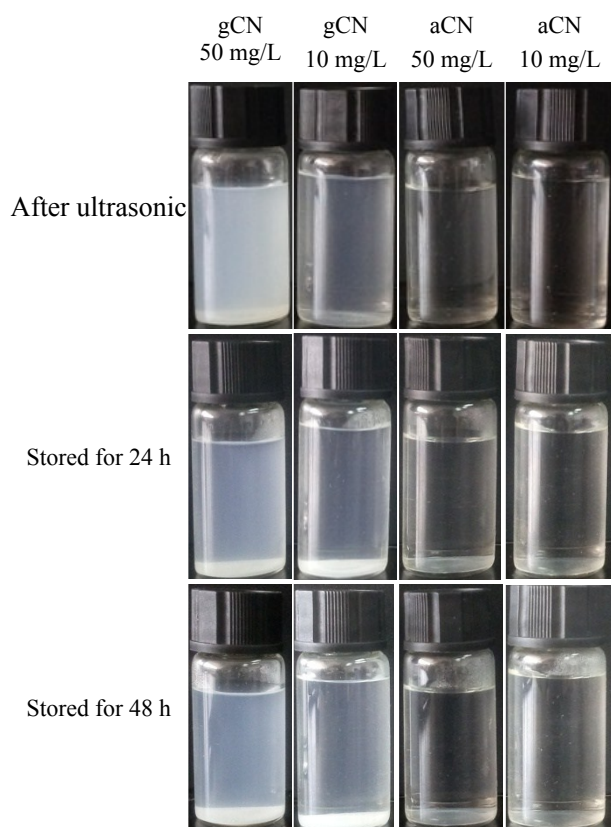


Fig. S1 Photographs of the gCN and aCN aqueous dispersions with different carbon nitride concentration and storage time

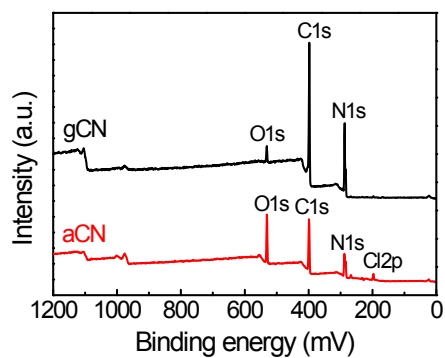


Fig. S2 XPS spectra of gCN and aCN.

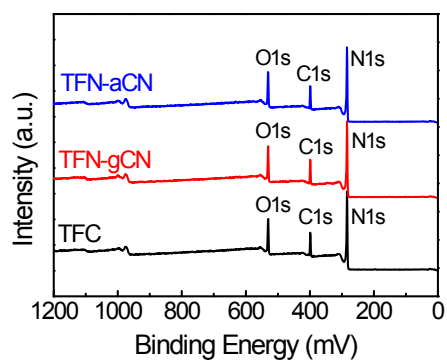


Fig. S3 XPS spectra of the prepared membranes.

Table S1. XPS results for gCN, aCN, TFC and TFN membranes.

Atomic %	gCN	aCN	TFC	TFN-aCN	TFN-gCN
Cl 2p	0.371	2.314	0	0	0
C 1s	46.568	38.467	72.935	72.569	72.433
N 1s	48.821	39.284	12.760	13.157	13.748
O 1s	4.239	19.935	14.305	14.274	13.819

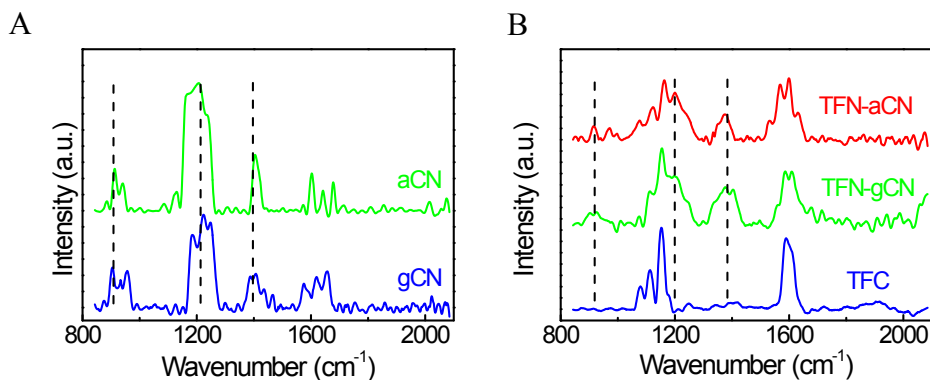


Fig. S4 Raman spectra of (A) gCN and aCN, and (B) PA layers of TFC, TFN-gCN and TFN-aCN membranes.

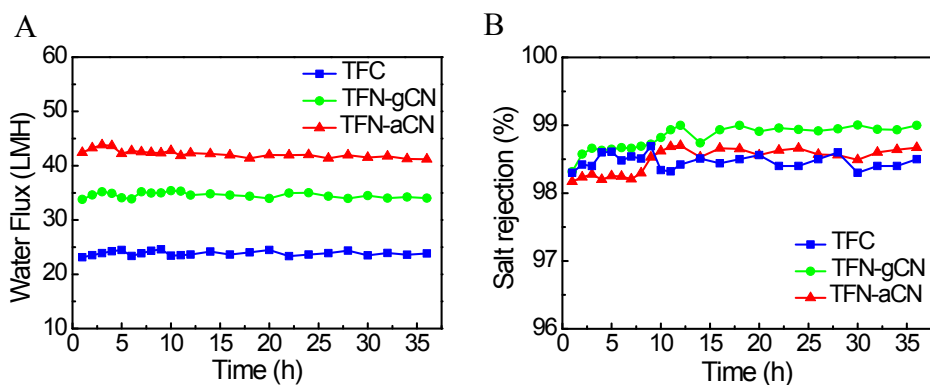


Fig. S5 Long-term separation performance of (A) water flux and (B) salt rejection of the TFC and TFN membranes as a function of time by using 2 g/l NaCl solution at 16 bar and 25 °C.

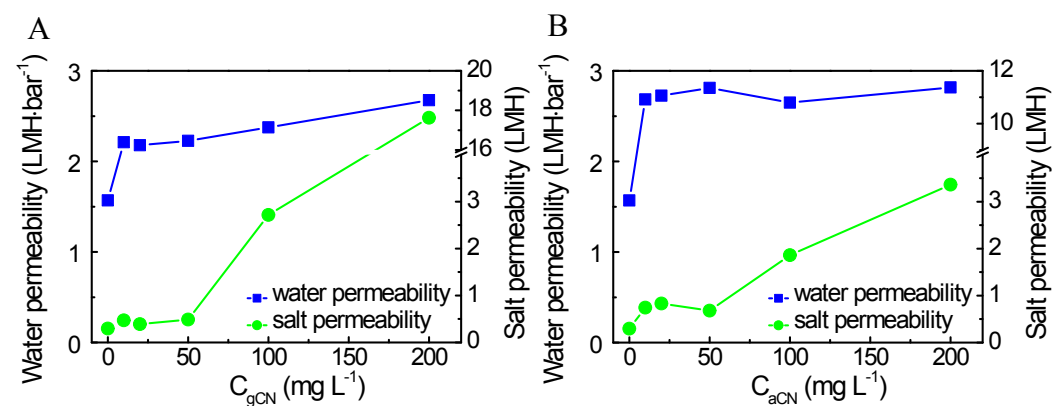


Fig. S6 Water permeability (A) and solute permeability (B) of the (A) TFN-gCN and (B) TFN-aCN membranes