

Author's Accepted Manuscript

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PII: S0376-7388(18)30181-9
DOI: <https://doi.org/10.1016/j.memsci.2018.03.072>
Reference: MEMSCI16066

To appear in: *Journal of Membrane Science*

Received date: 23 January 2018
Revised date: 20 March 2018
Accepted date: 24 March 2018

Cite this article as: Li-Jing Zhu, Hai-Ming Song, Chen Li, Gang Wang, Zhi-Xiang Zeng and Qun-Ji Xue, Surface wormlike morphology control of polysulfone/poly(N-isopropylacrylamide) membranes by tuning the two-stage phase separation and their thermo-responsive permselectivity, *Journal of Membrane Science*, <https://doi.org/10.1016/j.memsci.2018.03.072>

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Surface wormlike morphology control of polysulfone/poly(*N*-isopropylacrylamide) membranes by tuning the two-stage phase separation and their thermo-responsive permselectivity

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Abstract

The preparation of thermo-responsive polymeric porous membranes with well-defined morphology and high mechanical strength is still a great challenge. In our work, high strength and self-supporting polysulfone/poly(*N*-isopropylacrylamide) (PSf/PNIPAm) membranes with tuning wormlike network morphology and thermo-responsibility were successfully prepared via the approach combining *in situ* cross-linking polymerization with vapor-liquid nonsolvent induced phase separation (V-LIPS). With increasing the NIPAm concentration and the exposure time during the VIPS process, the wormlike networks self-assembled on the membrane surfaces, and

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