

Abstract Submitted
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From blood dialysis to desalination: A one-size fits all block copolymer based membrane system NATARAJ SANNA KOTRAPPAVAR, Univeristy of Cambridge, PAUL ZAVALA-RIVERA, KEVIN CHONNON, University of Cambridge, SHAHEEN S.A. ALMUHTASEB, Qatar University, EASAN SIVANIAH, University of Cambridge, UNIVERSITY OF CAMBRIDGE TEAM, QATAR UNIVERSITY COLLABORATION — Asymmetric membrane with ultra-high selective self-assembled nanoporous block copolymer layer were developed successfully on polyimide (PI) support, which demonstrated excellent thermal, chemical and mechanical stability. Membranes with specific nano- structural architectures and optimized cascades of block assemblies on the top selective skin have been used largely for separation of colour from aqueous streams, wastewater treatment, desalination, blood filtration and gas separation with dense layer transformation. A consistent and reliable method of membrane preparation and measuring separation performance has been adopted. A homologous series of ethylene oxide oligomers covering a large range was used to characterise MWCO of Membrane and were able to provide many points to give a comprehensive description of the membrane performance in the nanofiltration range.

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