

Electronic Supplementary Information

Nanoporous Morphology Control of Polyethylene Membranes by Block Copolymer Blends

Hiroki Uehara,^a Makiko Kano,^a Hidekazu Tanaka,^a Satomi Kato,^a Hiroyasu Masunaga,^b and Takeshi Yamanobe^a

^a Division of Molecular Science, Faculty of Science and Technology, Gunma University, Kiryu, Gunma 376-8515, Japan

^b Japan Synchrotron Radiation Research Institute, Sayo, Hyogo 679-5198, Japan

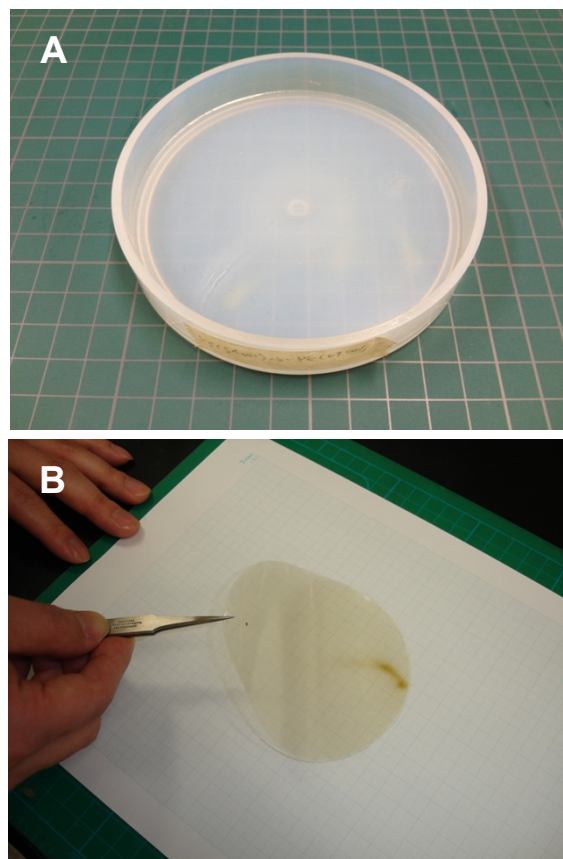


Fig S1 Typical appearances of the base copolymer film isothermally crystallized at 90 °C for three days. (A) Precursor film prepared on a Teflon dish and (B) free-standing film alone.

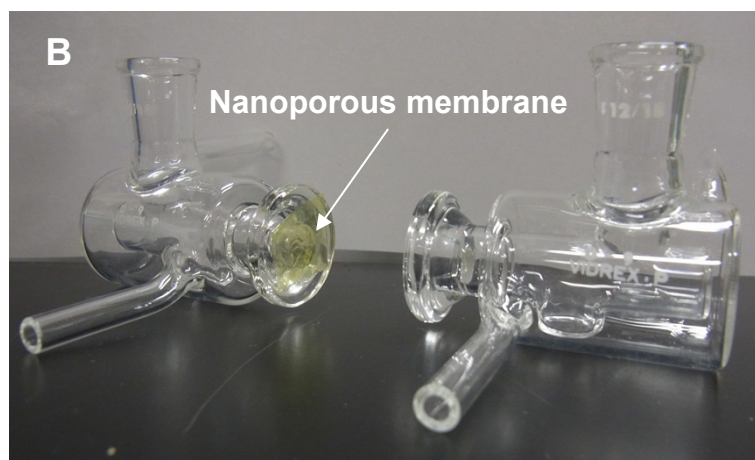
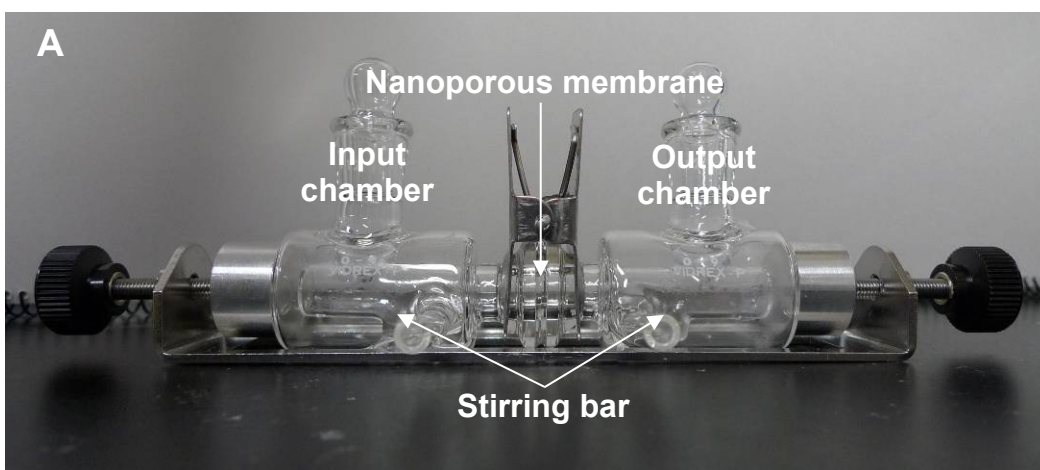


Fig S2 Experiment setup for the molecular permeation tests performed in this work. (A) Whole setup and (B) nanoporous membrane sandwiched between chambers.

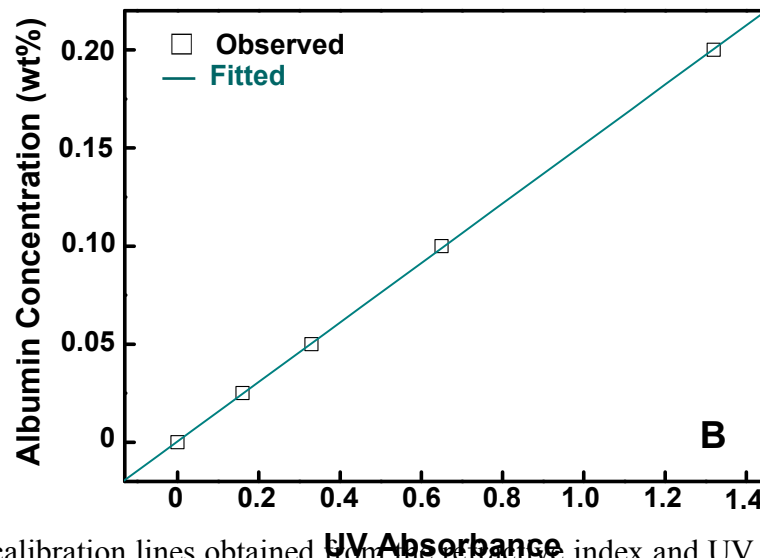
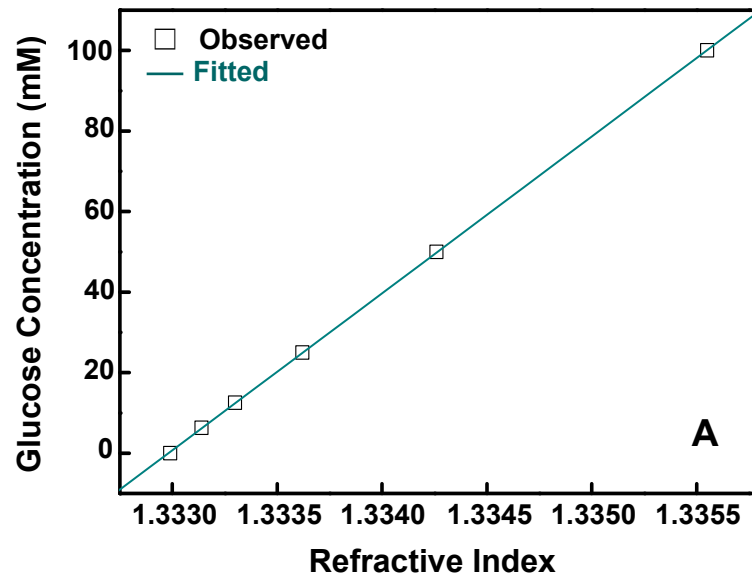


Fig S3 Standard calibration lines obtained from the refractive index and UV absorbance for (A) glucose and (B) BSA concentrations for known concentrations. The line produced by the least squares calculation is indicated in green.

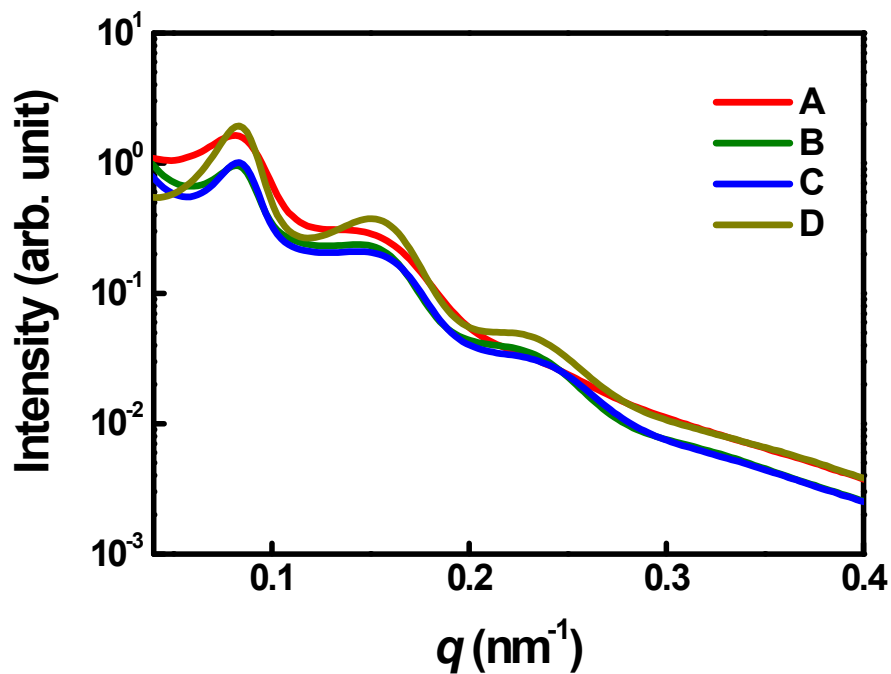


Fig S4 Comparison of SAXS profiles for a series of nanoporous membranes prepared from (A) base copolymer, and blend with (B) PS(10k), (C) PS(57k) and (D) PE(2.3k)-*b*-PS(50k). Etching time was always 1 min. SAXS line profile was extracted from each 2-dimensional pattern recorded at room temperature at SPring-8, Japan.