

Designer porous antibacterial membranes derived from thermally induced phase separation of PS/PVME blends decorated with electrospun nanofiber scaffold

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Supporting Information

Evolution of Morphology

The evolution of morphology was assessed by *insitu* measurements in POM from homogeneous regime ~ 170 °C to 250 °C (See figure S1). It was observed that the size of the PVME domains is nearly 100 μm at temperature close to 210 °C. Hence, the temperature for annealing was chosen as 190 °C, well before the coarsening of the droplets. The samples were annealed for different times spans to obtain the optimum droplet size for the flux comparable to the commercial membranes.

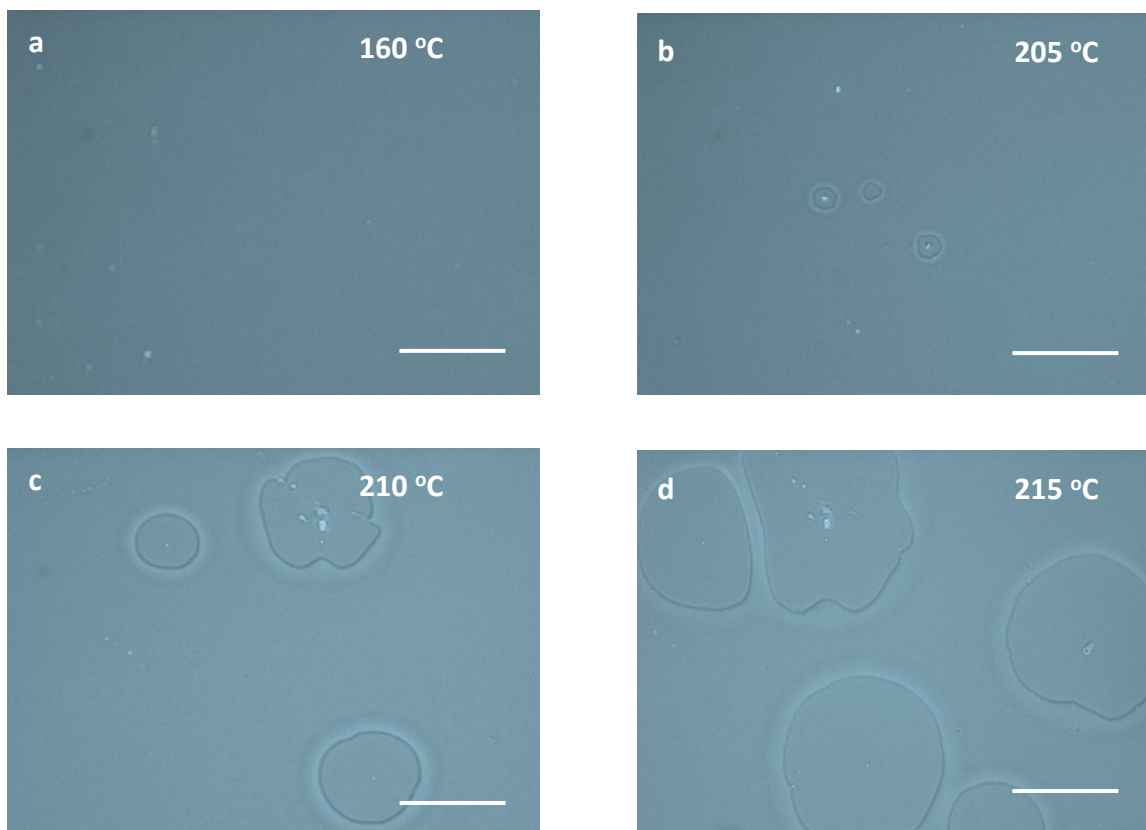


Figure S1: POM images for neat 90/10 PS/PVME blends at (a) 160 °C and (b) 205 °C. (The scale bar corresponds to 100µm).

The SEM image of the as pressed sample, where pores can not be seen, is shown in figure S2.

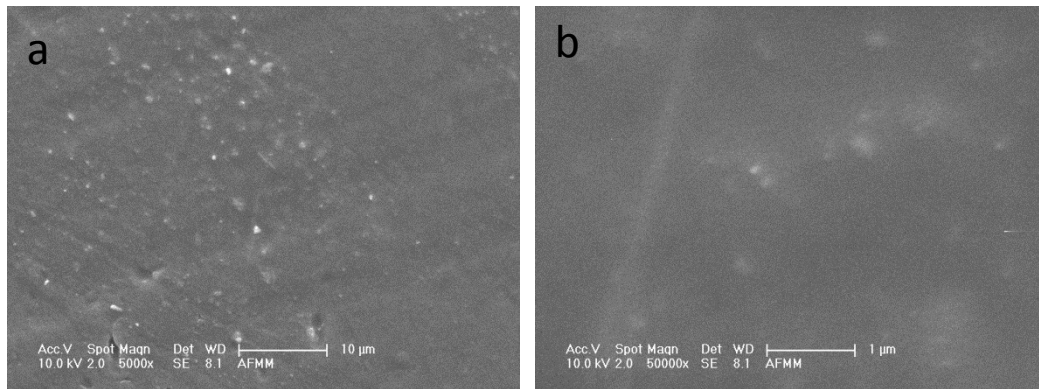


Figure S2: SEM images of the compression moulded sample without pores

The comparison of the trans-membrane flux in the case of the samples annealed for 45 minutes and 1 h has been shown in figure S3.

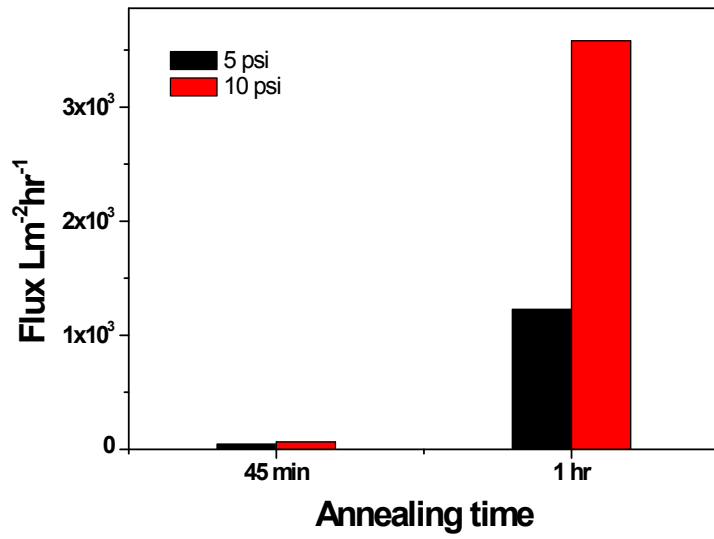


Figure S3: Comparison of the trans-membrane flux in the case of the samples annealed for 45 minutes and 1 hr.