Supporting Information

Solvent vapor annealing for controlled pore expansion of block copolymer-assembled inorganic mesoporous films

Alberto Alvarez-Fernandez, Maximiliano J. Fornerod, Barry Reid and Stefan Guldin*

Department of Chemical Engineering, University College London, Torrington Place, London, WC1E 7JE, UK. E-mail: s.guldin@ucl.ac.uk

Figure S1. BCP film swelling during the SVA in cyclohexane (black line); THF (red line) and toluene (blue line) measured in-situ by ellipsometry.

Figure S2. Photography of the SVA chamber used during this work (A). SVA experiment consist in a continuous gas flow passing through a reservoir containing cyclohexane (1B) which is then introduced in the chamber containing the hybrid film (2B). Film thickness is followed in situ by ellipsometry.
**Figure S3.** Image analysis of the AFM micrographs for pore analysis: A) no SVA; B) 30 min SVA and C) 1h SVA. D-F) 2D correlation images of the corresponding AFM images.

**Figure S4.** AFM topographical images of the aluminosilicate mesoporous films obtained with no SVA (A) and after 1h SVA treatment (B). EP adsorption isotherms (C) with correlated pore size distributions (D) of aluminosilicate mesoporous films obtained with no SVA (black line) and after 1h SVA treatment (red line). FTIR spectra of the hybrid aluminosilicate-BCP samples before (black line) and after (red and blue line) SVA.