Supplementary Information

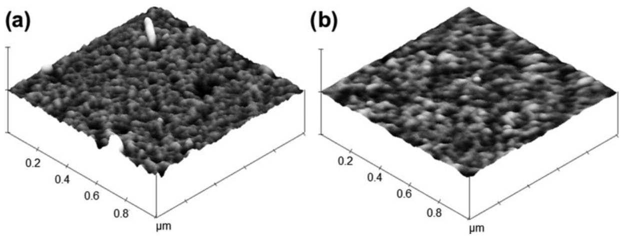

Figure S1. AFM images of the 1:14:35:50 C18/TDF/C8/TEOS xerogel. Panel (a) is prior to immersion in deionized water. Panel (b) is post-immersion for 24 h in deionized water and air-dried for 1 h. (Image size: 1 μm $\times$ 1 μm, Z-range: $\pm$100 nm.) Both AFM images were acquired in air.

Atomic Force Microscopy (AFM) measurements

The samples were imaged by atomic force microscopy (AFM) using a Nanoscope® Dimension 3100 scanning probe microscope (Bruker AXS) in an environmentally controlled laboratory with the relative humidity set at 25%. Photomicrographs were acquired using TappingMode™ Atomic Force Microscopy (TM-AFM) under ambient conditions with a single crystal silicon Nanoprobe™ with a spring constant of *ca* 17-43 N m^{-1} and resonance frequencies in the 262-359 kHz range. TappingMode™ AFM images were acquired at a 1-μm scan size with the z-scale set to 100-nm. Nanoindentation experiments yielded force-indentation curves, which were analyzed with custom-programmed analysis software (Igor Pro, Wavemetrics) allowing the calculation of the Young's modulus for the 1:4:45:50 and 1:14:35:50 C18/TDF/C8/TEOS xerogels. The Young's modulus (Table 1) was determined by considering load-indentation dependence for a paraboloidal tip shape given by Equation (1):

$$F = \frac{4E\sqrt{R}}{3(1-\nu^2)}\delta^{3/2} \quad (1)$$

where F is the loading force in nN, E is Young's modulus in Pa, R is the radius of curvature of the tip in nm, δ is the indentation in nm, and ν is the Poisson's ratio (0.3).