Supplementary Information for
Water-Soluble Organo-Silica Hybrid Nanowires

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Figure S-1. DSC curves of [APTS$_{20}$]$_{3200}$ CPB in (A), [OEGMA$_{67}$]$_{3200}$ CPB in (B) (solid line) and [APTS$_{20}$-b-OEGMA$_{57}$]$_{3200}$ in (B) (dashed line). All show rather low Tg, which indicates that the polymer chains are not frozen at RT and soft.
Figure S-2. TGA curve of bulk organo-silica hybrid nanowires. The measurements were carried out under air flow of ~50 ml min$^{-1}$ with a heating rate of 10 K min$^{-1}$. The weight loss remains constant above 530 °C, leaving a residue of 3.53%, very close to the theoretical calculated SiO$_2$ amount of 3.95%.

Figure S-3. (A) Fourier transform infrared spectrum of the residue of the organo-silica hybrid nanowires after TGA. It only shows the stretching and deformation of O–H bond in the Si–O–H group (3500–3100 cm$^{-1}$) and the asymmetric stretching vibration of the Si-O-Si group (1130-1040 cm$^{-1}$), which are typical bonds from pure silica. Meanwhile, the typical C-H bond representing the organic moiety disappears from the region between 2800 and 3000 cm$^{-1}$, proving that all polymer part is removed. (B) Energy dispersive X-ray analysis of the residue of bulk silica hybrid nanowires after TGA measurement. It reveals that the residue is pure silica with a Si/O ratio of 1:1.93. By combination of the Fourier transform infrared spectrum and energy dispersive X-ray analysis, the residue after the pyrolysis is verified to be pure inorganic silica.