Electronic Supplementary Material (ESI) for Journal of Materials Chemistry

Supporting Information

Hairy Polymer Nanofibers via Self-assembly of Block Copolymers

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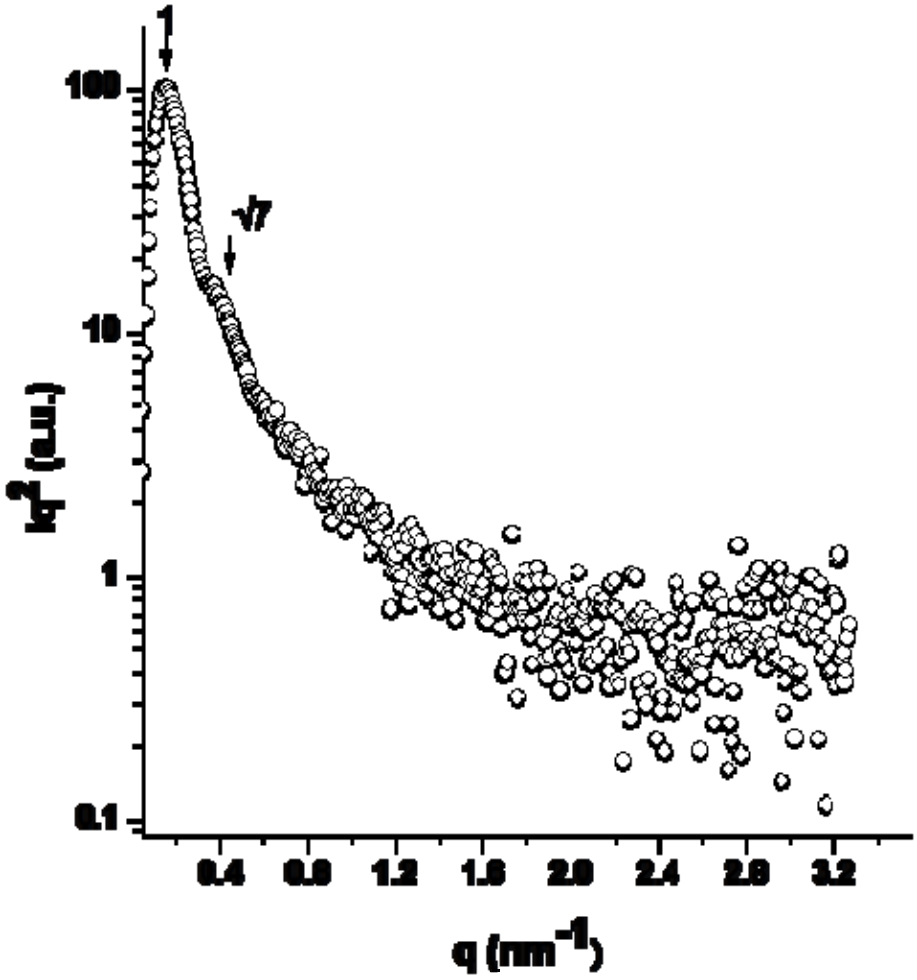


Figure 1S: SAXS plot of neat PS-*b*-P4VP block copolymer obtained at room temperature.

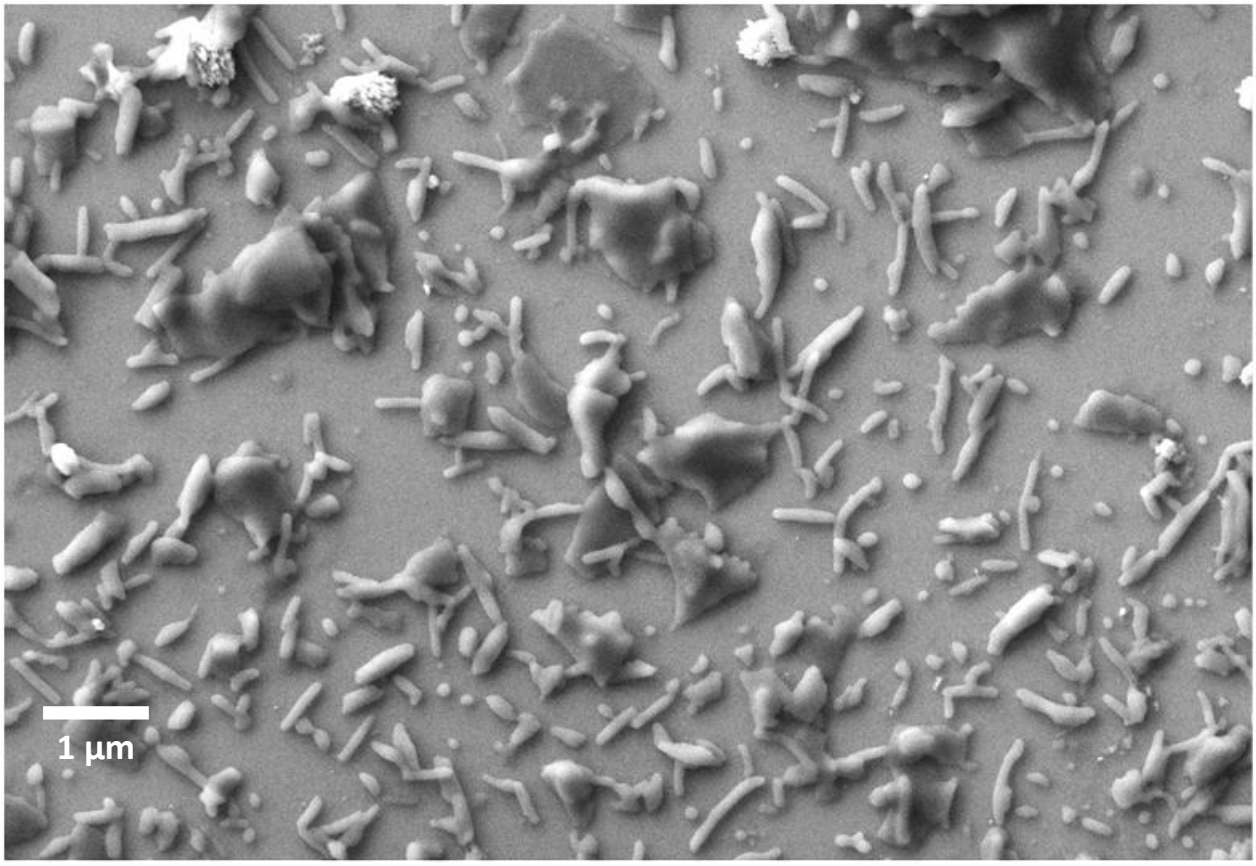


Figure 2S: SEM image of polymer nanofibres immobilized on the silicon wafer obtained by drop casting.

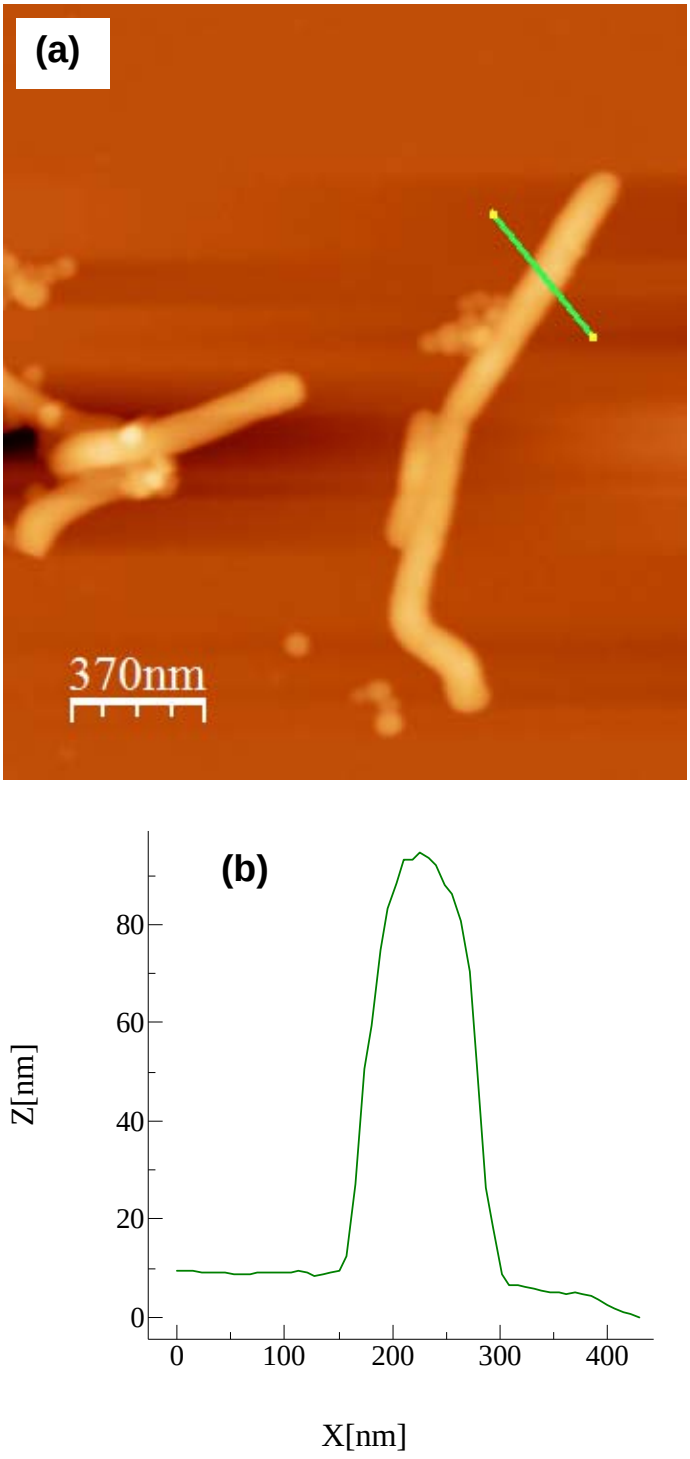
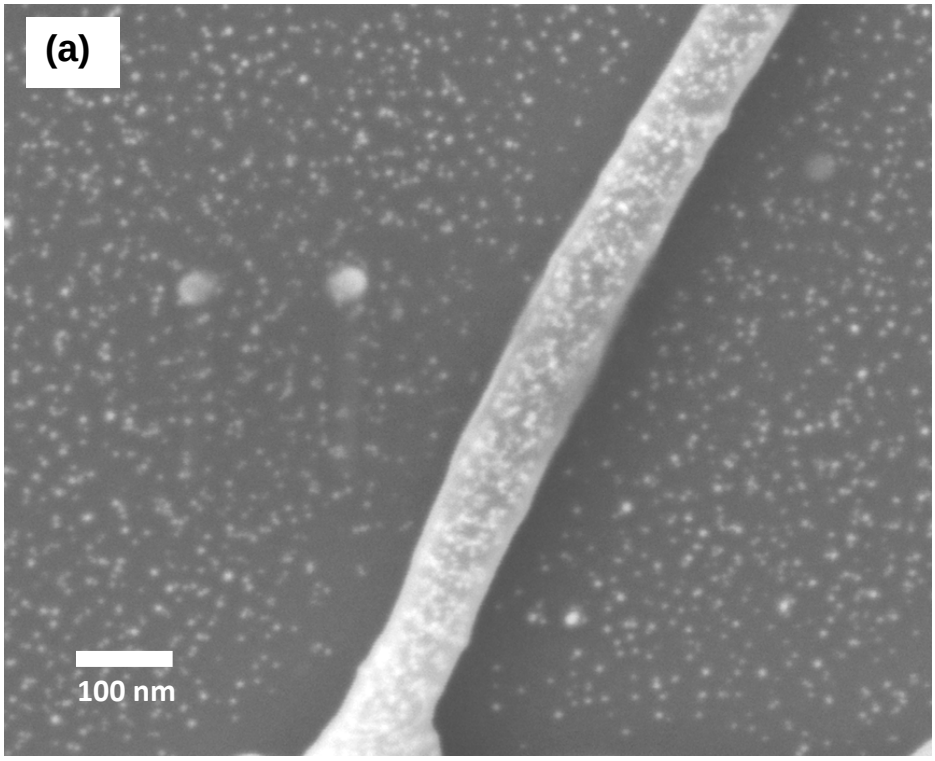
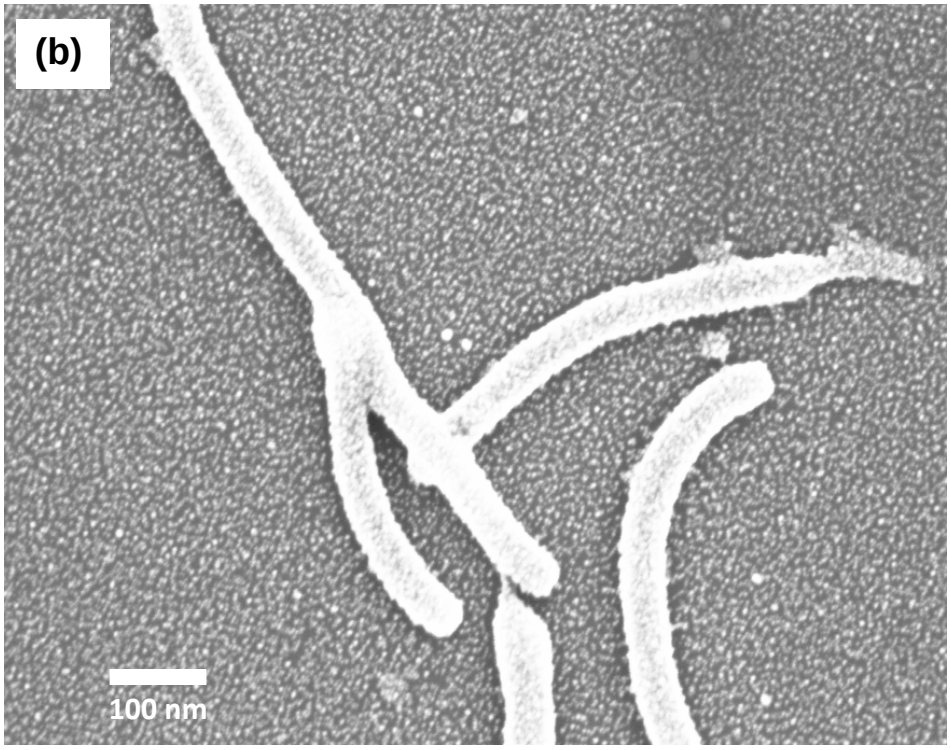


Figure 3S: AFM topography image of spin-coated polymer nanofibres prepared from PS-*b*-P4VP on the silicon wafer a) Height image and (b) corresponding cross-sectional profile of the nanofibre across the line marked on (a).





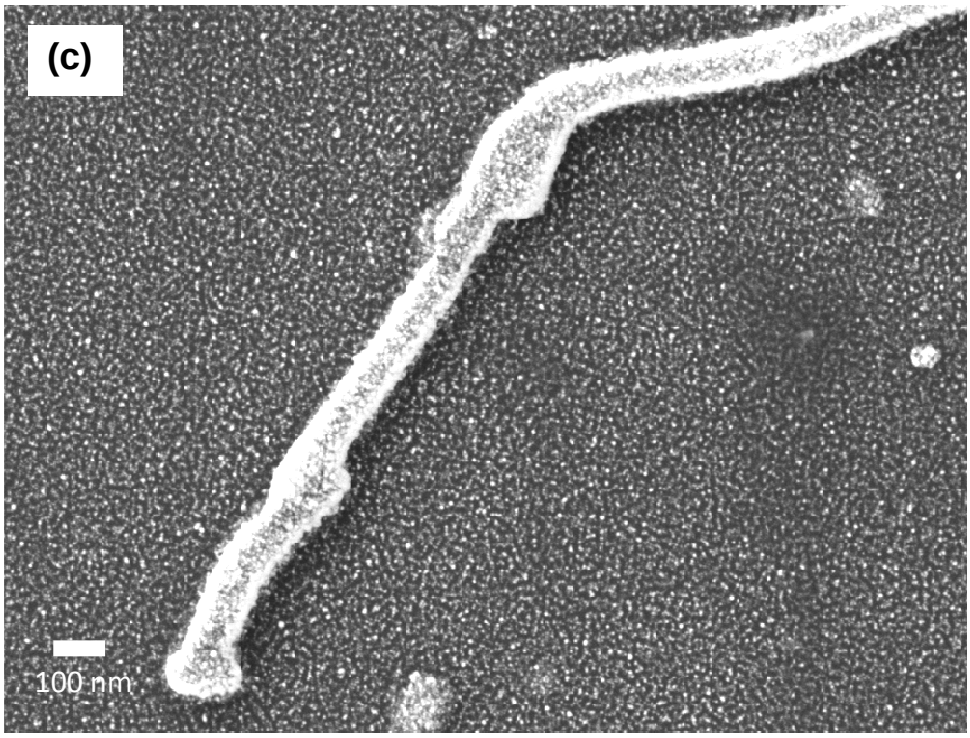


Figure 4S: SEM images of gold/polymer hybrid nanofibres prepared using ex-situ approach and obtained after different exposure time of the nanofibres to the Au nanoparticle dispersion a) 1 min; b) 10 min; c) 2 hours

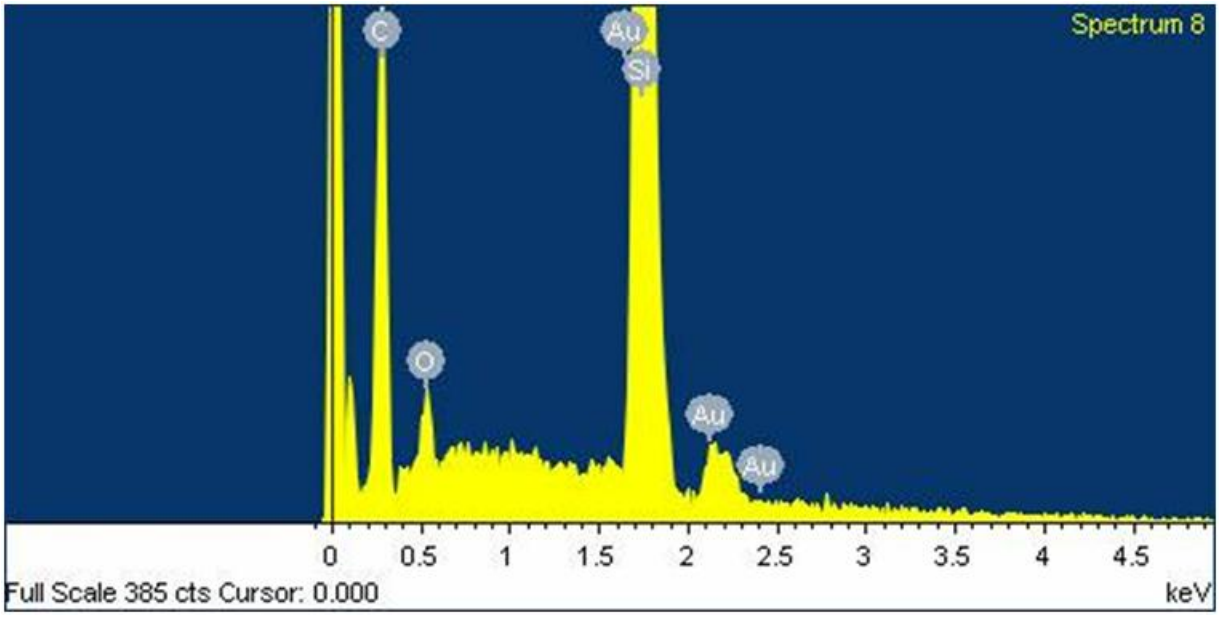


Figure 5S: EDX spectra of gold-polymer hybrid nanorods obtained from the sample where gold salt was first coordinated with the P4VP chains in the solution before depositing the polymer nanofibres on the substrate. The EDX spectra clearly show the presence of Au on the nanofibres.

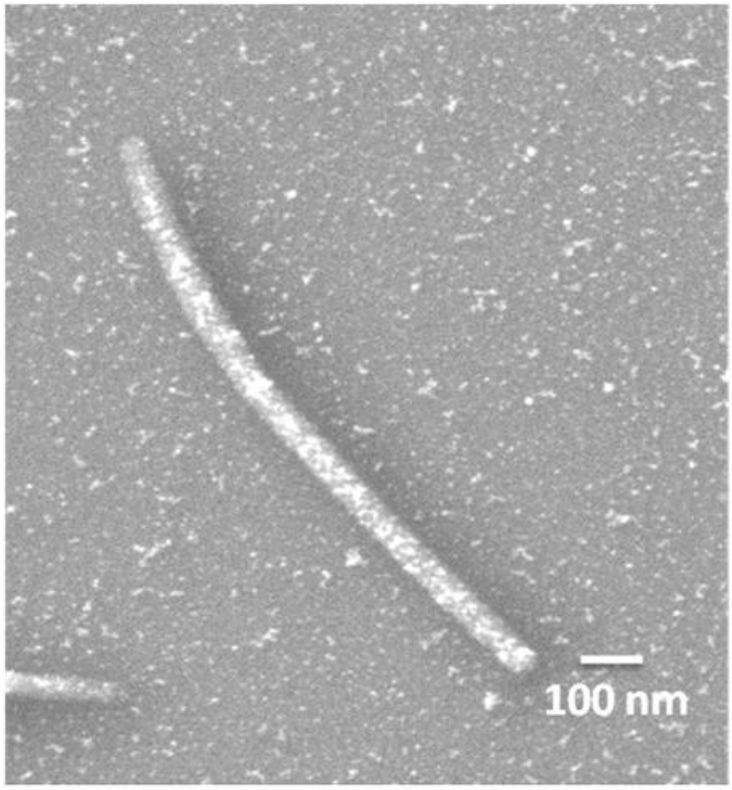


Figure 6S: SEM image of gold/polymer hybrid nanofibres obtained using the *ex-situ* approach where the polymer nanofibres were cross-linked with UV before exposing it to Au nanoparticle dispersion.

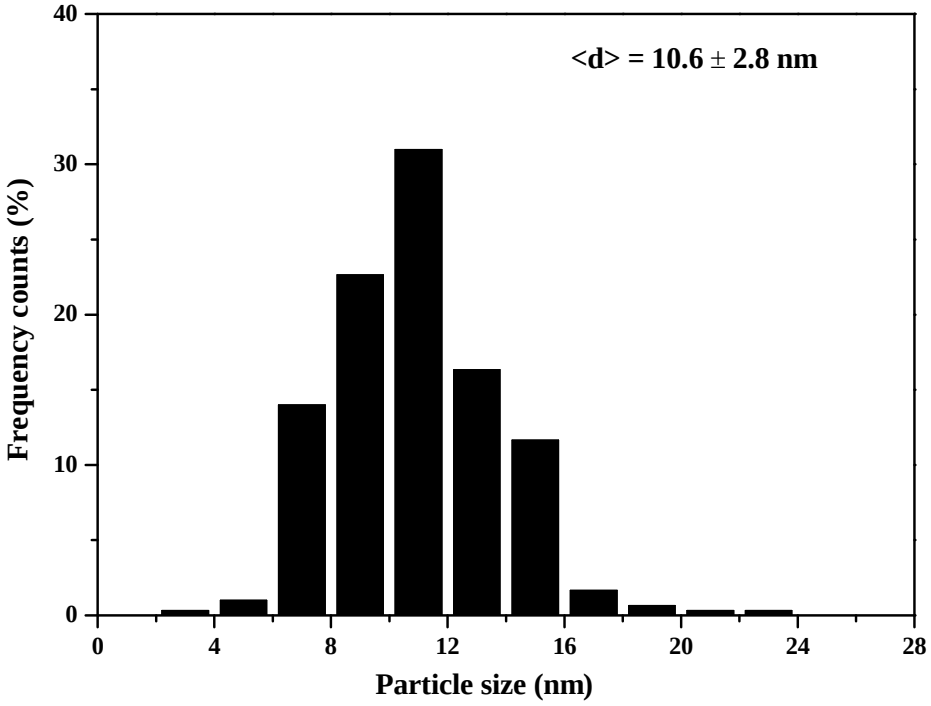


Figure 7S: Size-distribution histogram of gold nanoparticles prepared using the in-situ approach on the P4VP hairy shell of the PS nanofibres (corresponding to TEM image shown in Figure 5 of the manuscript).

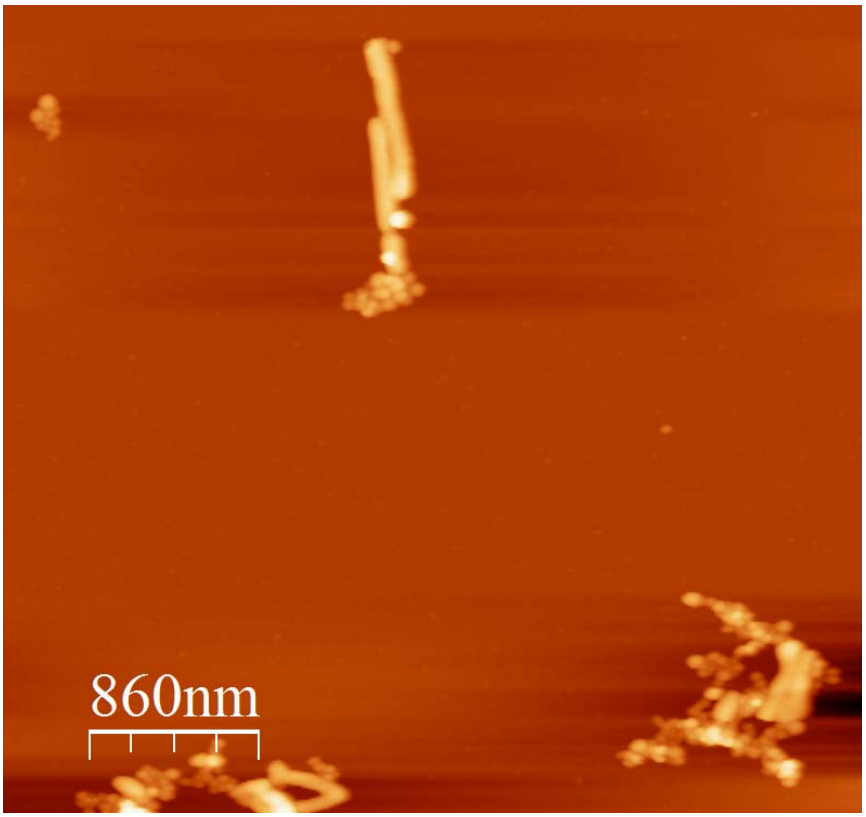


Figure 8S: AFM topography image of spin-coated polymer nanofibres on the silicon wafer. The sample was prepared from the methanol dispersion of PS-b-P4VP copolymer aged for more than four weeks. The image clearly shows the presence of spherical structures apart from nanofibres which suggest that the nanofibres formed spherical micelles when kept in methanol for long time.