Functionalization of Three-Dimensional
PS-b-P2VP Nanostructures with Deep Understanding

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Fabrication of three-dimensional (3D) nanostructure have garnered significant interest because of their various usage in nanoscience field and diverse geometry generation. For generating the 3D nanostructure, we implemented one-step fabrication method that can overcome the limitations of monolayer stacking method. Herein, we successfully fabricate the functionalized 3D structure with conventionally used polystyrene-b-poly(2-vinylpyridine) (PS-b-P2VP). Generated 3D structure was characterized by scanning electron microscopy (SEM), scanned probe microscope(SPM) transmission electron microscopy (TEM) electron energy loss spectroscopy (EELS) to reveal the exact structure of its. Especially, we prepared cross-sectional TEM sample by focused ion beam (FIB) sectioning technique that can allow us to characterize the internal structure of 3D structure. Our hypothesis is also stated in, which discuss about exact chemical formula of metal and etching effect of oxygen plasma. Our developed method provide the deep understanding of mechanism and possibility to improve the final structure to have potential applications.