

**Directed co-assembly of heme proteins with amphiphilic block copolymers toward  
functional biomolecular materials**

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**Supporting Information**

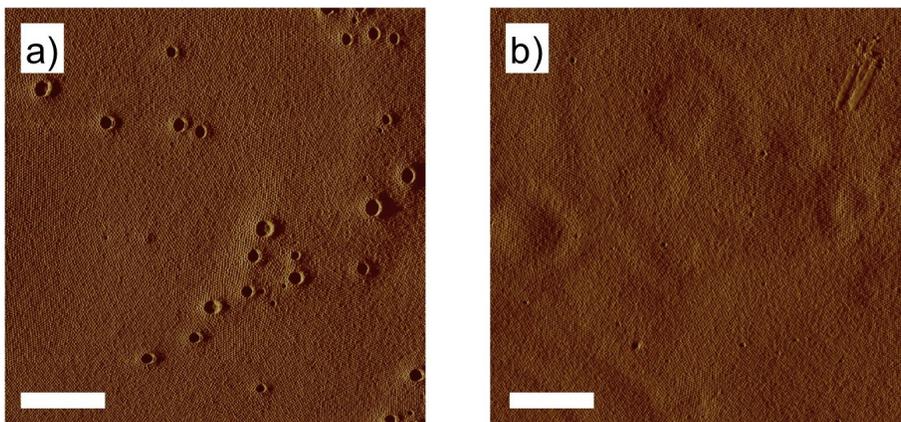


Figure S1. AFM phase images of PS-*b*-PEO thin films containing 12% (w/w) H10H24-P2K, cast from benzene solution containing: a) 33% (v/v) methanol, and b) 10% (v/v) H10H24-P2K. Scale bar = 1.5  $\mu\text{m}$ . Defects observed for thin films containing <20% (w/v) H10H24-P2K can be minimized by reducing the methanol content of the solution samples.

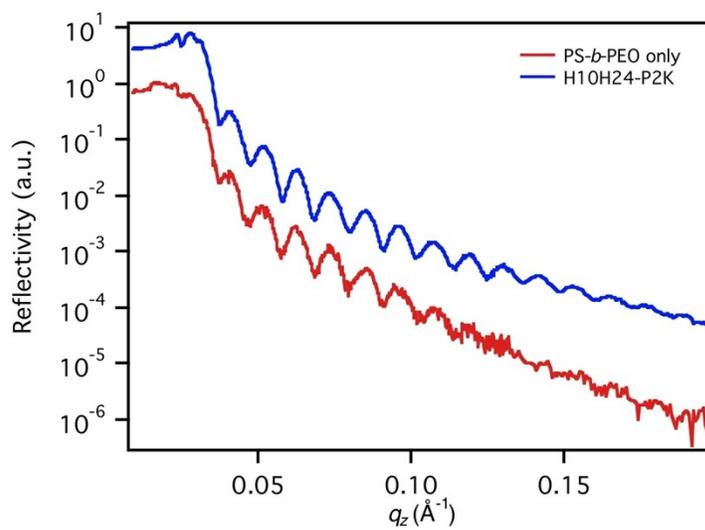


Figure S2. Comparison of X-ray reflectivity profiles for PS-*b*-PEO (red trace) and PS-*b*-PEO plus 12% (w/w) H10H24-P2K (blue trace). Traces are offset for clarity. The similarity of the traces indicates that H10H24-P2K does not partition as a discrete layer at the silicon/ PS-*b*-PEO interface.

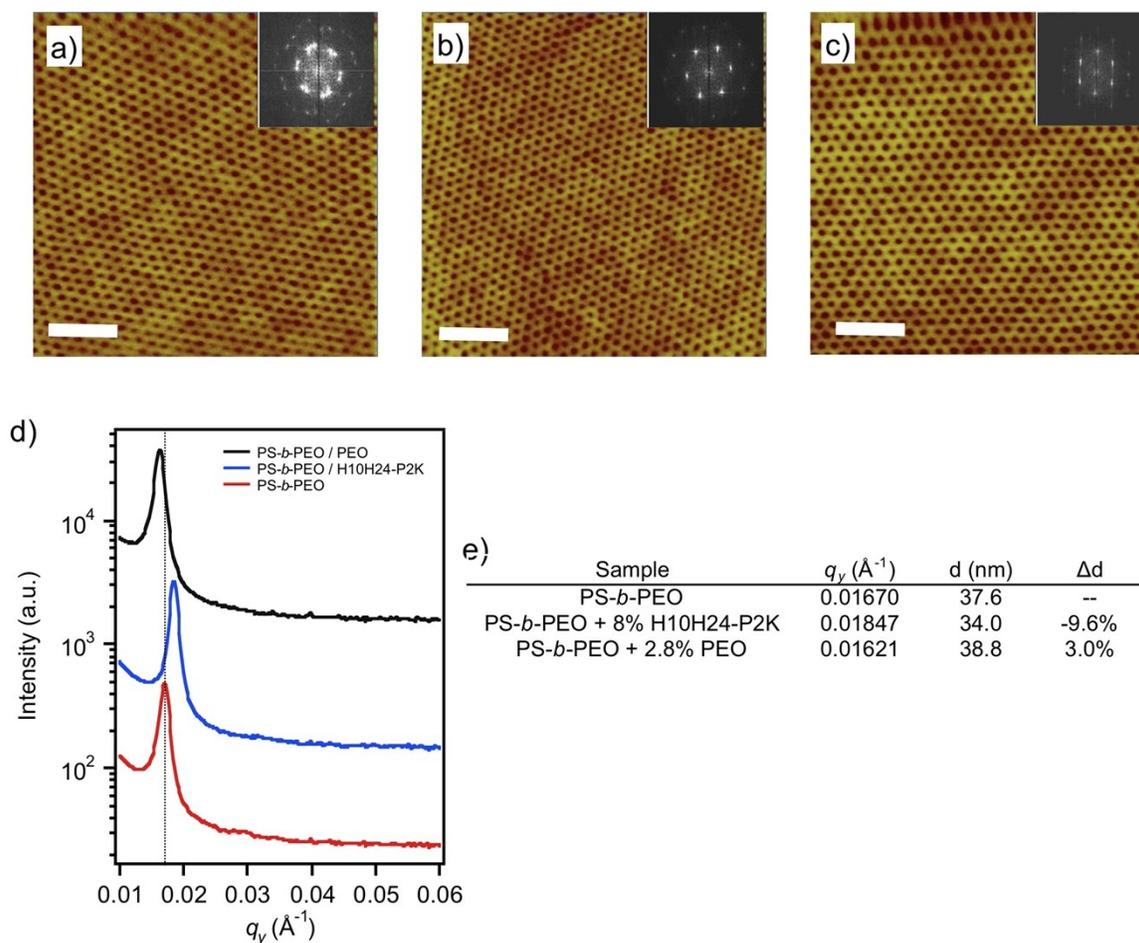


Figure S3. Analysis of PS-*b*-PEO blends in thin films. AFM height images of PS-*b*-PEO thin films containing: a) no additive; b) 8% (w/w) H10H24-P2K; c) 2.8% (w/w) PEO, MW = 2000 g/mol. Scale bar = 400 nm in all images. Films in b) and c) contain equimolar amounts of added PEO, and all samples were annealed under identical conditions. As visible in the images and inset FFT patterns, addition of the peptide conjugate causes PEO cylinder spacing to decrease while addition of homopolymer PEO causes spacing to increase. d) GISAXS profiles for PS-*b*-PEO thin films containing the various additives. e) PEO cylinder periodicities calculated from the GISAXS profiles.

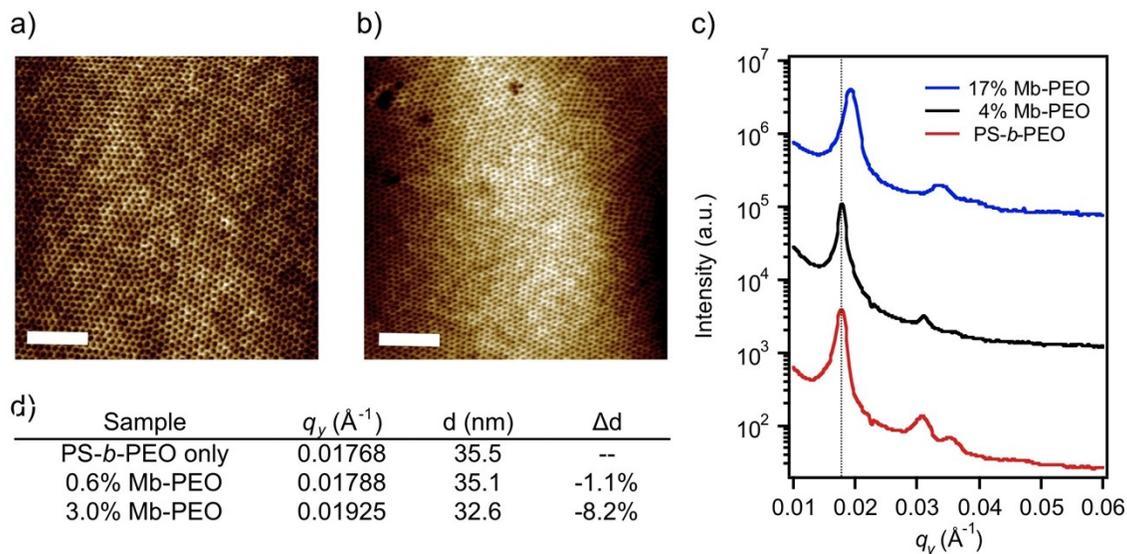


Figure S4. Analysis of PS-*b*-PEO /Mb-PEO thin films. a) AFM height image of a PS-*b*-PEO thin film, scale bar = 400 nm. b) AFM height image of a PS-*b*-PEO thin film containing 3% (w/w) Mb-PEO, scale bar = 400 nm. The two samples were annealed under identical conditions. PEO cylinder periodicity is clearly reduced upon addition of Mb-PEO. c) GISAXS profiles for PS-*b*-PEO thin films containing varying amounts of Mb-PEO. d) PEO cylinder periodicities calculated from the GISAXS profiles.