

Supplementary information

Different dimensional silica materials prepared using shaped block copolymer nanoobjects as catalytic templates

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SEC data for diblock copolymers

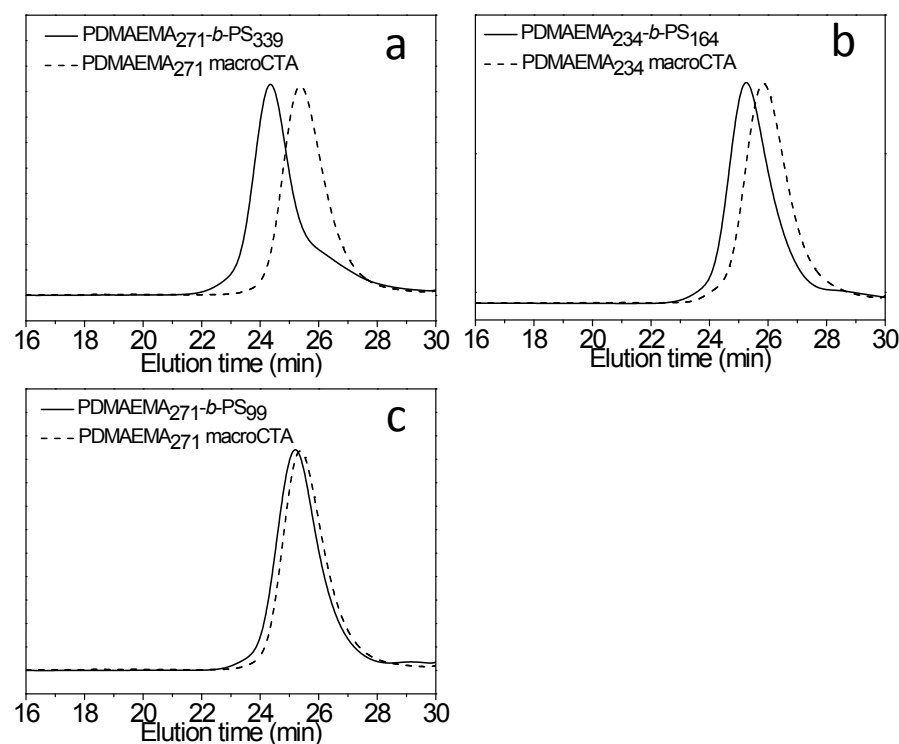


Fig. S1 SEC traces of PDMAEMA macroCTA (---) and PDMAEMA-*b*-PS diblock copolymers (—): (a) PDMAEMA₂₇₁-CTA, PDMAEMA₂₇₁-*b*-PS₃₃₉; (b) PDMAEMA₂₃₄-CTA, PDMAEMA₂₃₄-*b*-PS₁₆₄; and (c) PDMAEMA₂₇₁-CTA, PDMAEMA₂₇₁-*b*-PS₉₉ with DMF containing LiBr of 1 g L⁻¹ as eluent.

^1H NMR data for diblock copolymer

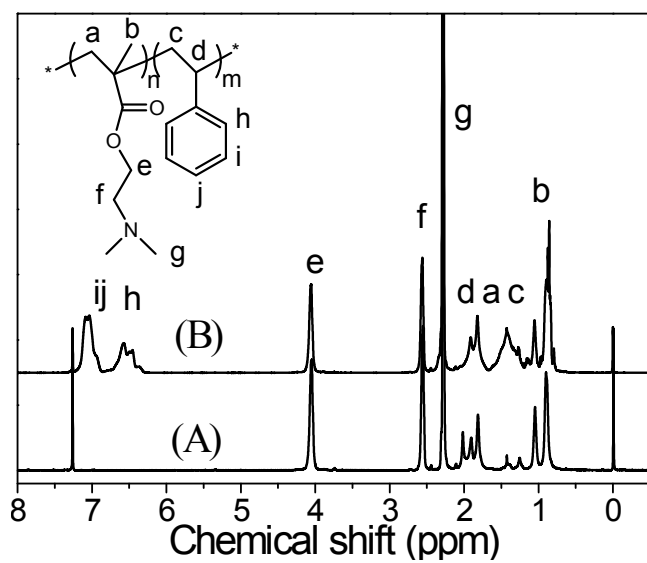


Fig. S2 Typical ^1H NMR spectra of (A) PDMAEMA₂₃₄ macroCTA and (B) PDMAEMA₂₃₄-b-PS₁₆₄ diblock copolymer as an example in CDCl_3 .

SAXS data for microphase-separated samples

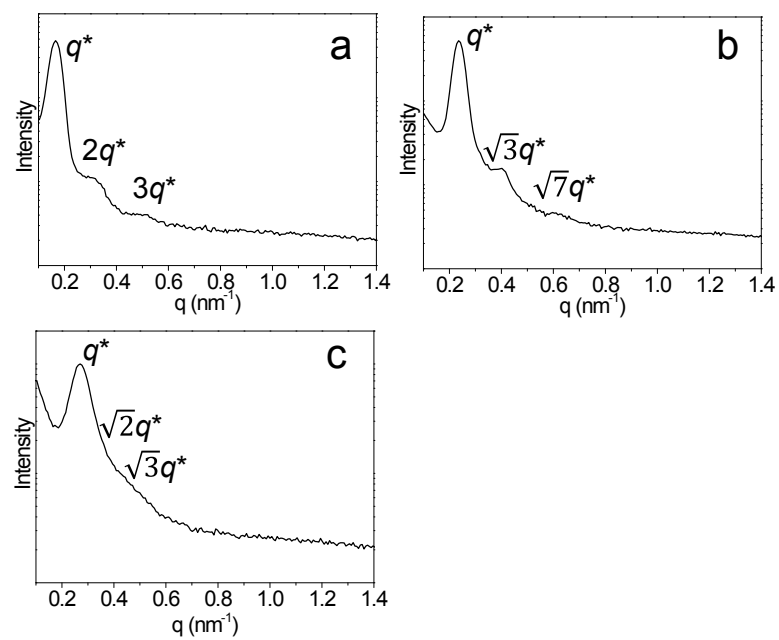


Fig. S3 Small-angle X-ray scattering curves of the microphase-separated samples from: (a) PDMAEMA₂₇₁-*b*-PS₃₃₉, (b) PDMAEMA₂₃₄-*b*-PS₁₆₄, and (c) PDMAEMA₂₇₁-*b*-PS₉₉ diblock copolymers.

TEM images of polymer nanoobjects@gold NPs hybrids

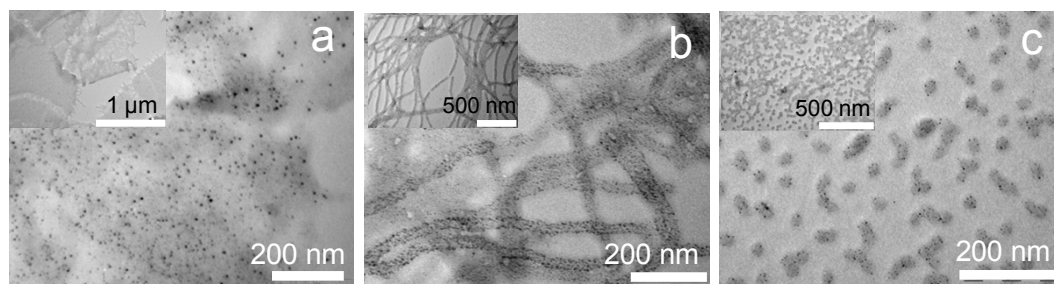


Fig. S4 TEM images of the nanoobjects after being loaded with Au nanoparticles in water (conditions: Au^{3+}/N (molar ratio)=0.2/1, reduced by NaBH_4 water solution): (a) sheet@Au NPs, (b) cylinder@Au NPs, and (c) nanosphere@Au NPs hybrids.