Supplementary Information

One-pot preparation of polymer microspheres having wrinkled hard surfaces through self-assembly of silica nanoparticles

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Fig. S1 DRIFT-IR spectra of Si25 and MSi25.



Fig. S2 Typical SEM images and the size distributions of MSi25(x)@*p*S.



Fig. S3 FE-SEM image (left) and EDX mapping image (right) of cross-section of MSi25(2.0)@pS.



Fig. S4 Typical SEM images and FE-SEM images of the cross-section of MSi25(5.0)@*p*S. The obtained MSi25(5.0)@*p*S were separated by the sieve with mesh size of 46 μ m. The wrinkle structure (D in the footnote of Table 2) was observed dominantly on the surface of smaller size microspheres (< 46 μ m) and almost no rugged surface was observed. Compare with this, the rugged surface (E in the footnote of Table 2) was observed more in bigger size microspheres (> 46 μ m). The images of the cross-sections clearly indicated that the thickness of the layered shell of MSi25 was thinner in the wrinkle surface and thicker in the rugged surface.



Fig. S5 FE-SEM images of the cross-section of the microsphere with different surface morphology (B, C, D and E in the footnote of Table 2).



Fig. S6 Schematics of the formation of the layered shell of C_8Si25 . No wrinkle structure was formed on the surface of $C_8Si25(2.0)@pS$.