

**Electronic Supplementary Information for**

**Temporally and spatially controlled silicification for self-generating  
polymer@silica hybrid nanotube on substrates  
with tunable film nanostructure**

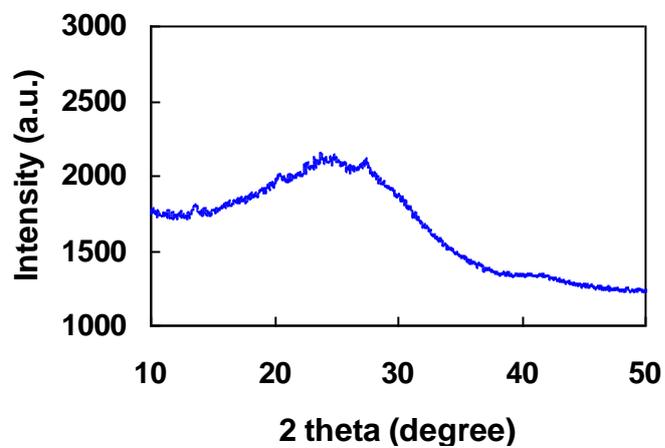
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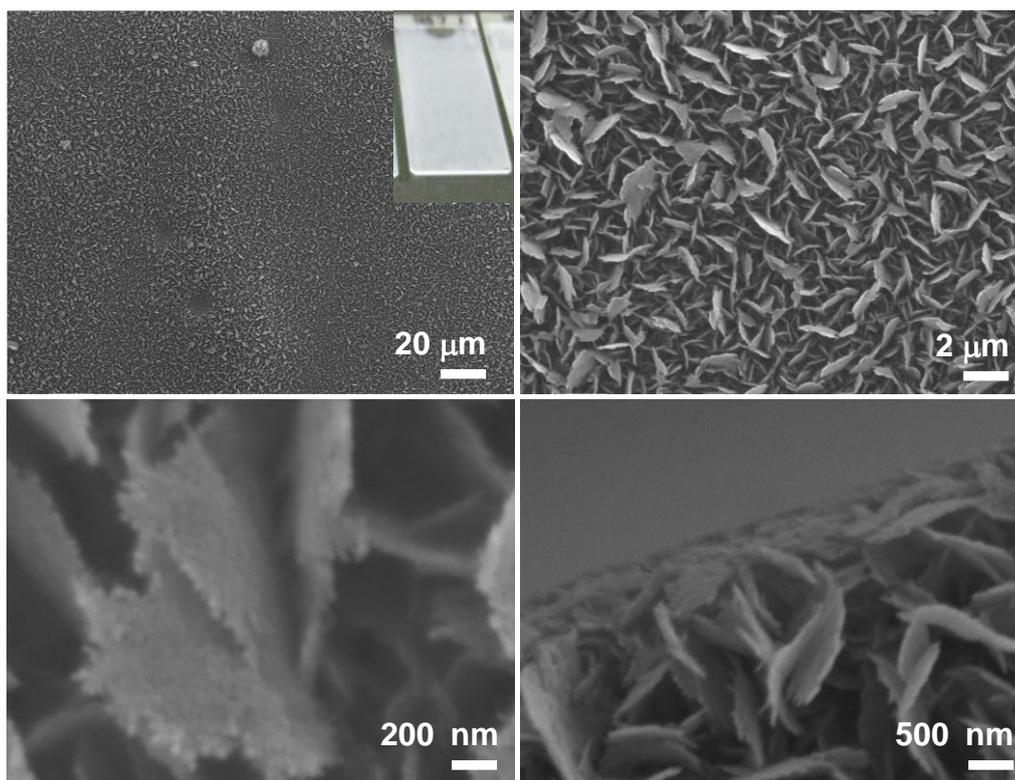
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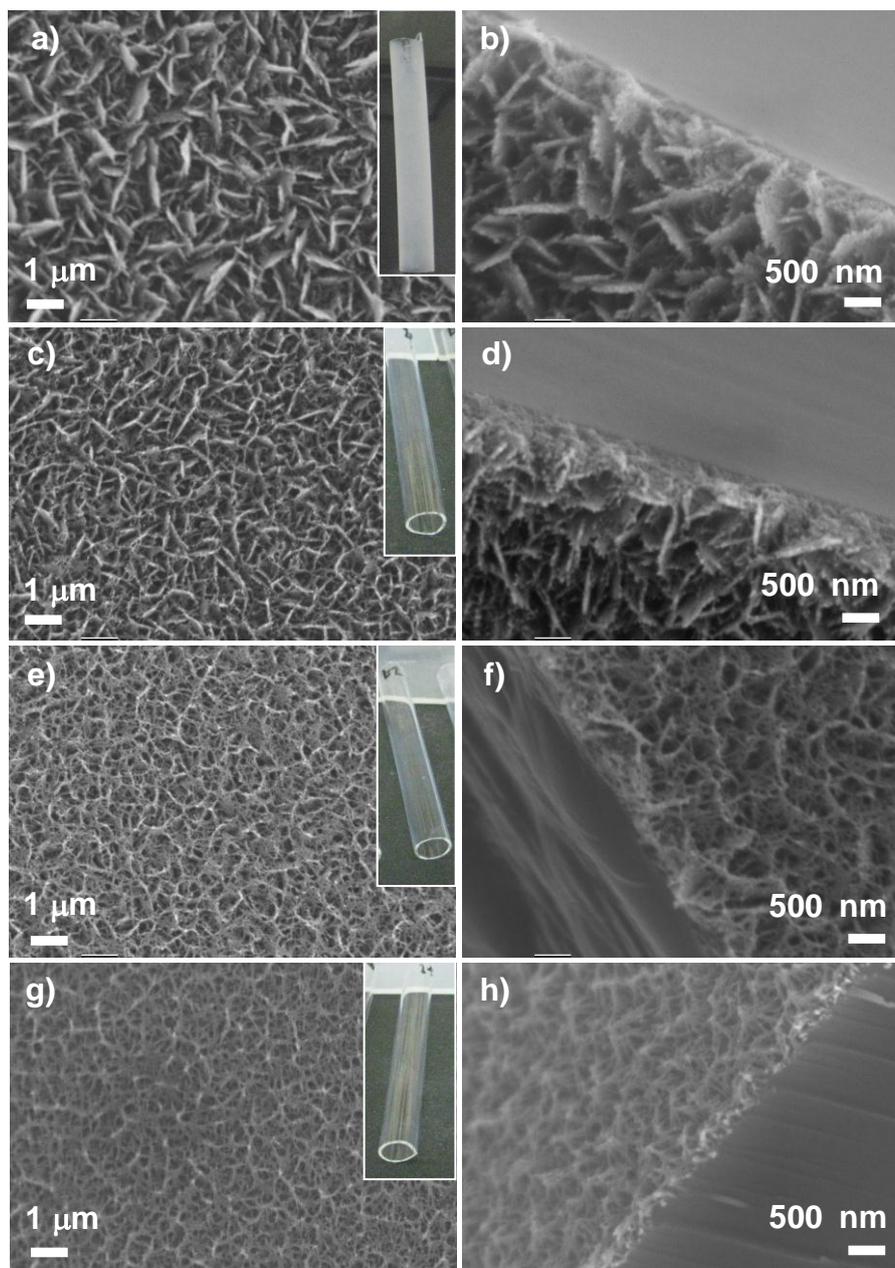
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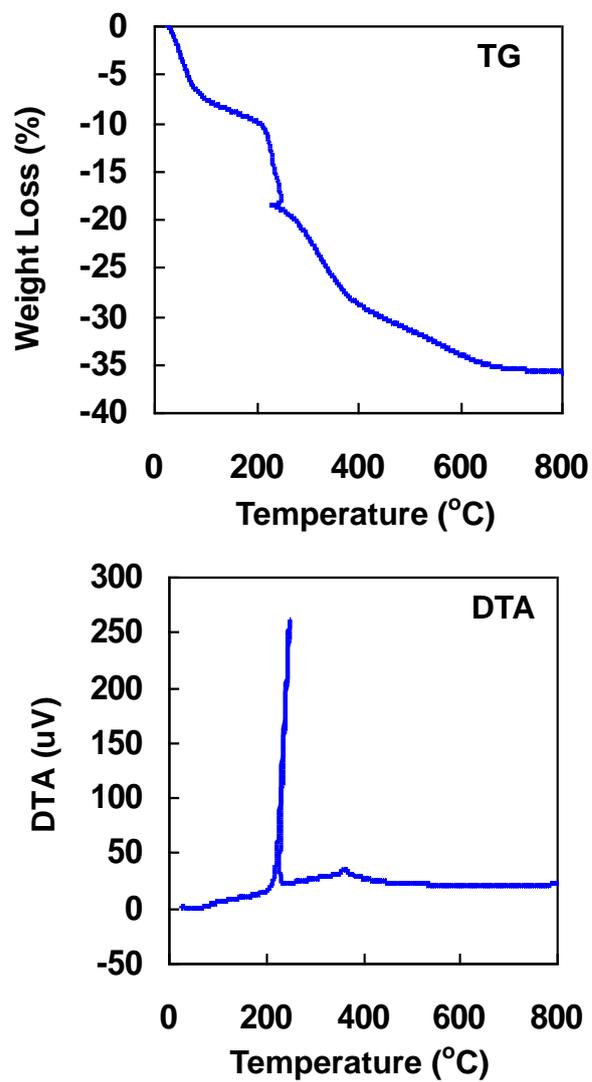
**Fig. S1** Thin film XRD profile for crystalline LPEI layer formed by aqueous, room-temperature and alkali-induced process.



**Fig. S2** SEM images of LPEI@silica nanotube film on a flat glass slide. The LPEI self-assembly was conducted in 0.1 M NaOH solution, and the other synthesis conditions are identical to that used in Fig. 1.



**Fig. S3** SEM images of LPEI@silica nanotube film prepared by using ammonia solutions for LPEI self-assembly with the concentrations of 0.5 M (a-b), 0.05 M (c-d), 0.01 M (e-f) and 0.001 M (g-h). Other synthesis conditions are identical to that used in Fig.1.



**Fig. S4** TG and DTA curves for hybrid LPEI@silica nanotube shown in Fig. 7.