Supplementary Material (ESI) for Journal of Materials Chemistry

Supporting Information

Synthesis of Walnut-like Hierarchical Structure with Superhydrophobic and Conductive Properties

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Fig. s1 SEM images and size distribution of monodispersed PS microspheres

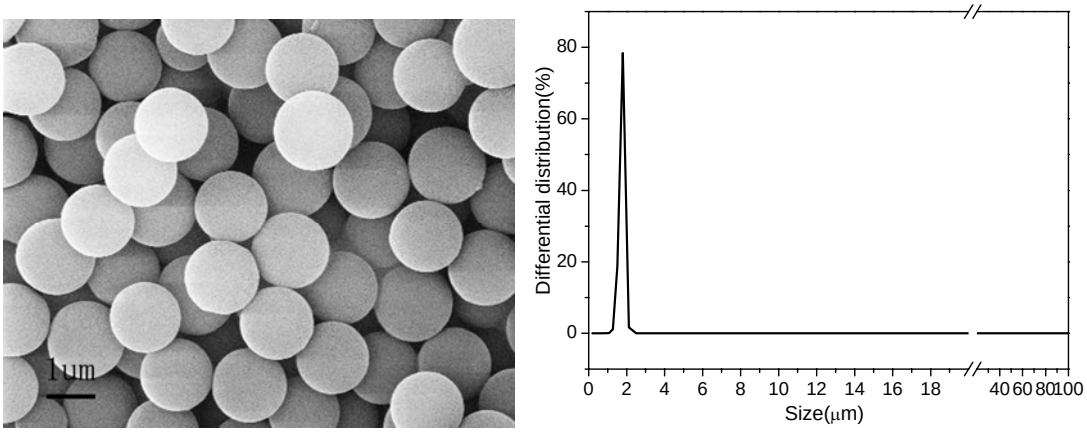

Fig. S2 A photograph of C_{10}DAB solutions and C_{12}TAC solutions containing bromothymol blue

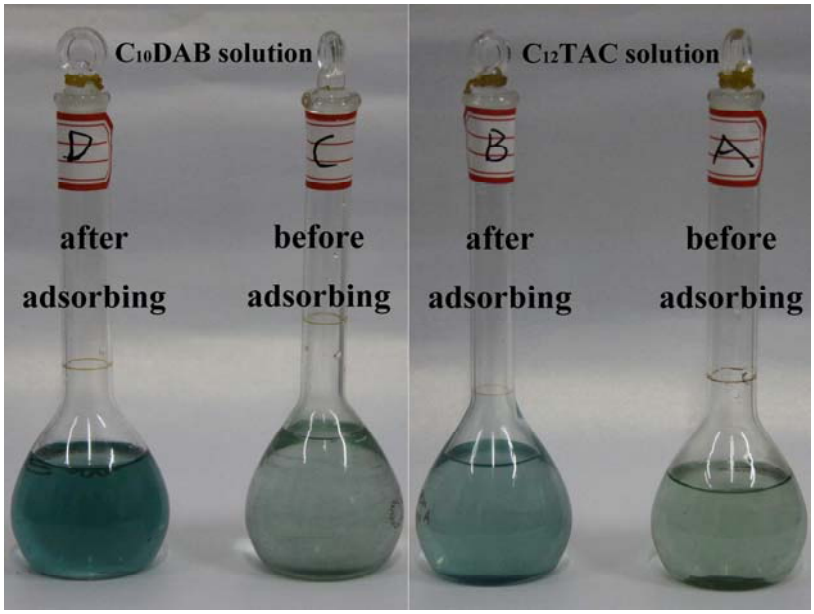

Fig. S3 SEM images of PS/PANI composite particles synthesized without the cationic surfactant. Other synthetic conditions: The mass ratio of PS and aniline is 10:1, room temperature

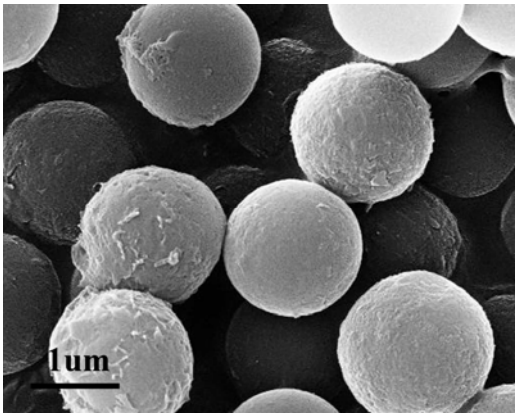

Fig. S4 SEM images of the PS/PANI hierarchical structure synthesized at 4°C and with different polymerization times. Other synthetic conditions: The mass ratio of PS and aniline is 10:1, C_{10}DAB.

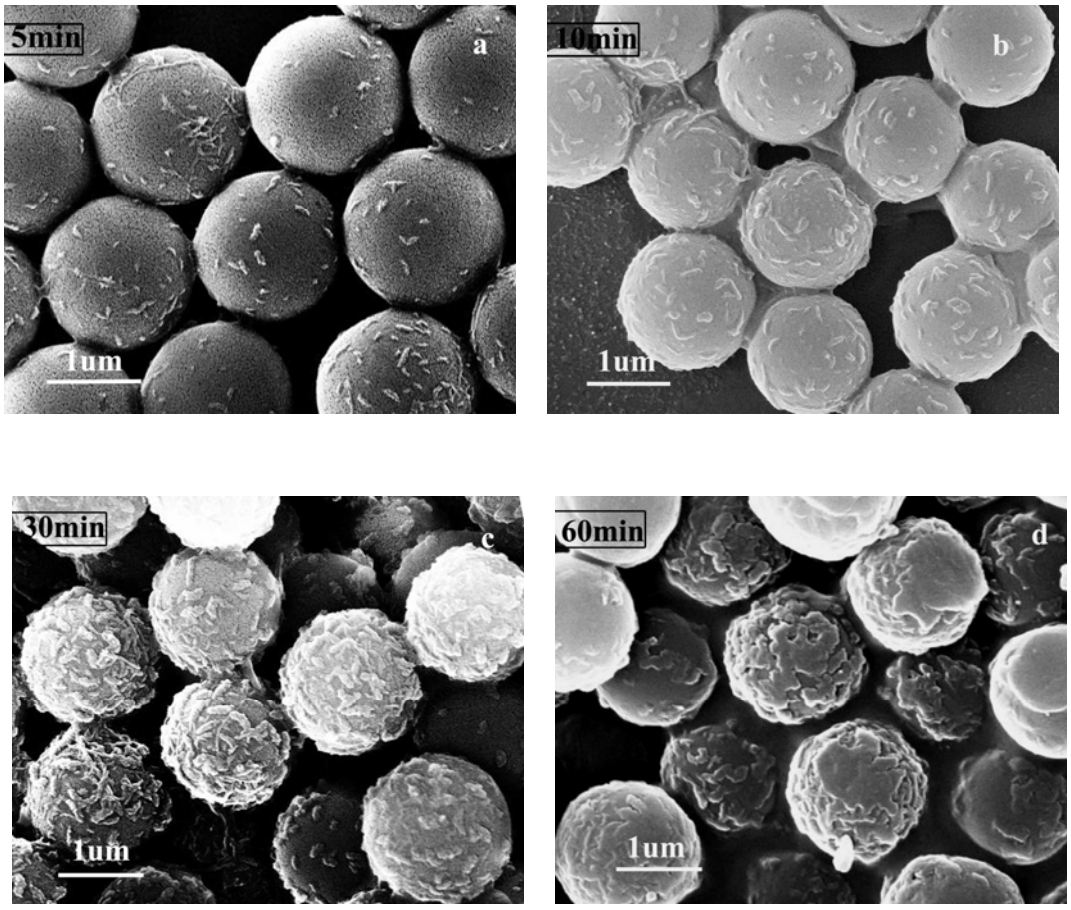

Table s1. The CHN element microanalysis of the walnut-like PS/PANI Particles [a]

Name	Weight (mg)	C (wt%)	N (wt%)	H （wt%）	PANI Loading (wt%)
Walnut-like hierarchical structure	3.2890	88.96	0.877	9.179	5.826

[a] The PANI loading on the surface of PS microspheres is calculated by using the following equation:

$$\text{PANI Loading (wt\%)} = \frac{N(wt\%)}{M(nitrogen)} \times M(aniline)$$

Table s2. The CHN element microanalysis of the PS/PANI particles synthesized at room temperature [a]

Name	Weight (mg)	C (wt%)	N (wt%)	H （wt%）	PANI Loading (wt%)
Walnut-like hierarchical structure	1.0180	88.65	0.666	7.613	4.424

[a] The PANI loading on the surface of PS microspheres is calculated by using the following equation:

$$\text{PANI Loading (wt\%)} = \frac{N(wt\%)}{M(nitrogen)} \times M(aniline)$$