

Supporting Information

Facile and Green Method To Structure Ultralow-Threshold and Lightweight
Polystyrene/MWCNT Composites with Segregated Conductive Networks for
Efficient Electromagnetic Interference Shielding

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This Supporting Information has the total number of 3 pages, and it contains 2 figure
and some explanations.

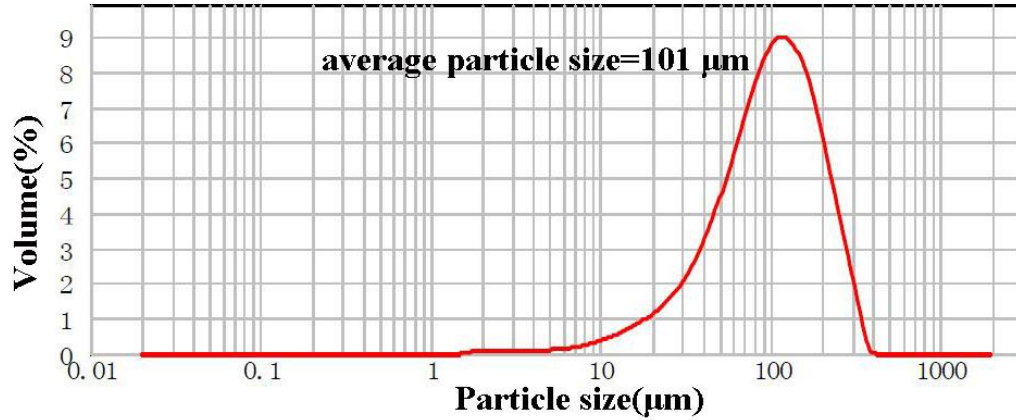


Figure S1. The size distribution of PS particles.

The size of PS particles was related to conductivity and EMI SE. Li et al.¹ prepared PS/graphene composites with segregated structure and researched the effect of particle size on EMI SE. The results showed that EMI SE of composites improves with the increase of particle diameter from 600 nm to 96 μm because reducing particle size means thinner or discontinuous conductive layers at the same graphene loading. Other reports in the literature² have also indicated that the average particle size of $\sim 100\ \mu\text{m}$ would be better to construct segregated conductive networks.

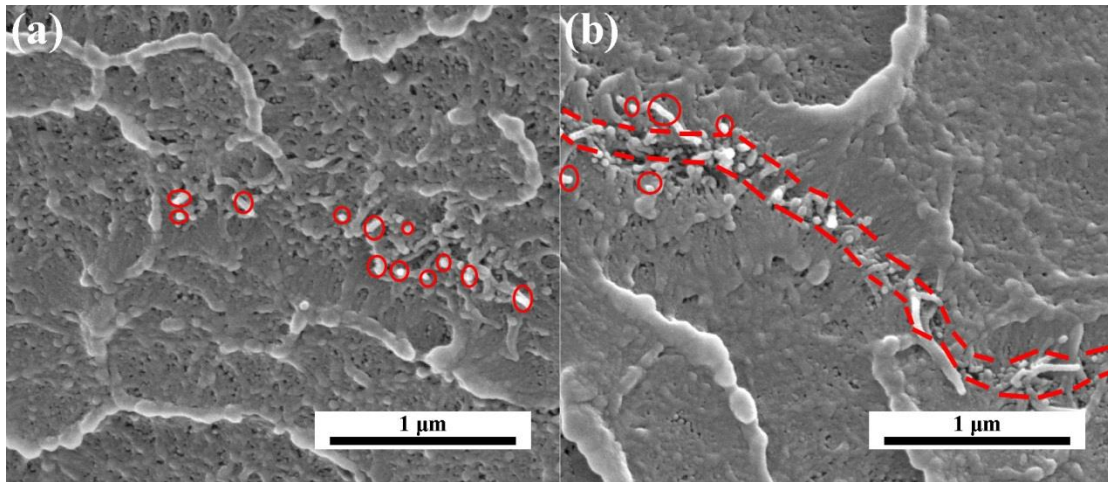


Figure S2. SEM micrographs of PS/MWCNT with MWCNT scattering in a narrow region between PS particles: (a) containing 0.06 vol% MWCNT; (b) containing 0.3 vol% MWCNT

REFERENCES

- (1) Yan, D. X.; Pang, H.; Li, B.; Vajtai, R.; Xu, L.; Ren, P. G.; Wang, J. H.; Li, Z. M. Structured Reduced Graphene Oxide/Polymer Composites for Ultra-Efficient Electromagnetic Interference Shielding. *Adv. Funct. Mater.* **2015**, *25*, 559-566.
- (2) Cui, C.-H.; Yan, D.-X.; Pang, H.; Xu, X.; Jia, L.-C.; Li, Z.-M. Formation of a Segregated Electrically Conductive Network Structure in a Low-Melt-Viscosity Polymer for Highly Efficient Electromagnetic Interference Shielding. *ACS Sustainable Chem. Eng.* **2016**, *4*, 4137-4145.