

Supporting Information

Sn-decorated Red P Entangled in CNTs as Anode for Advanced Lithium Ion Batteries

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Supplementary Figures

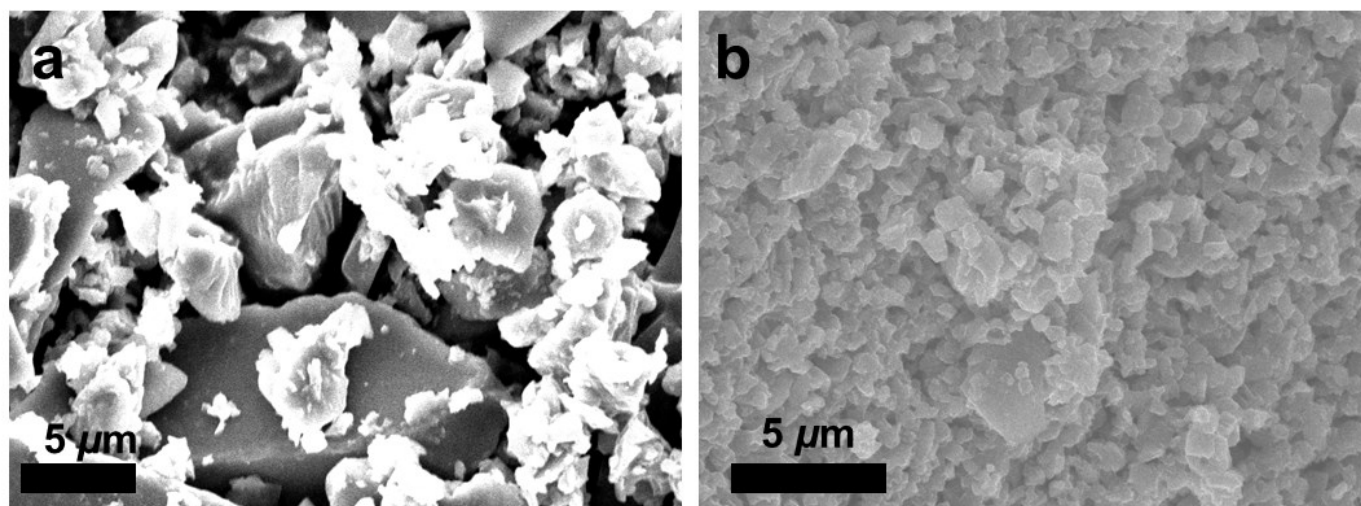


Fig. S1 SEM images of (a) commercial red P and (b) pretreated red P.

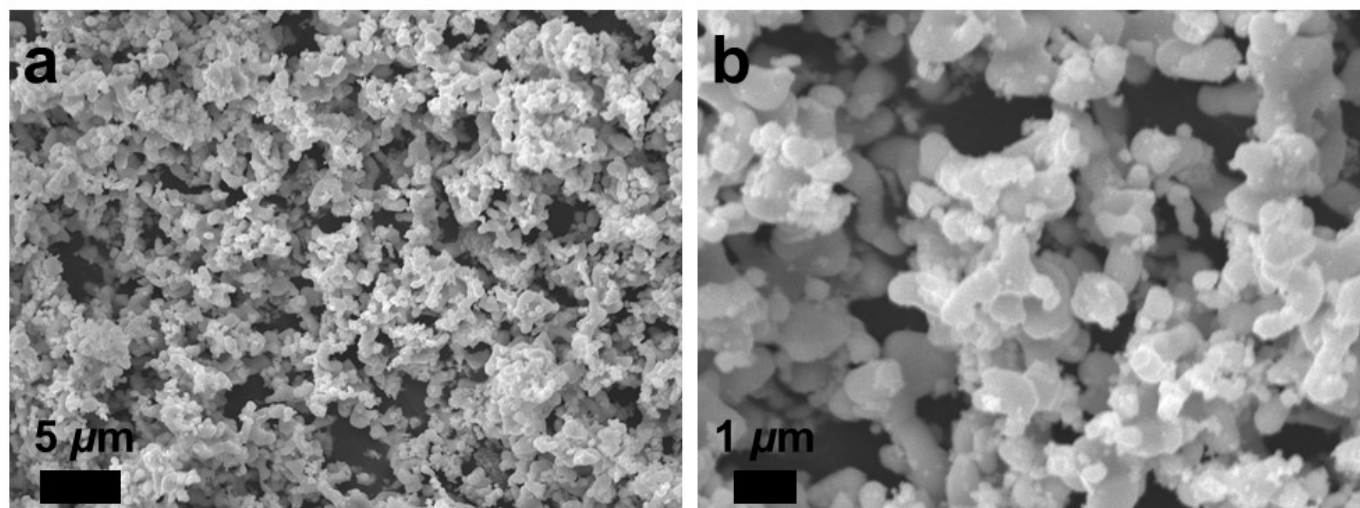


Fig. S2 (a) Low magnification and (b) high magnification SEM images of Sn.

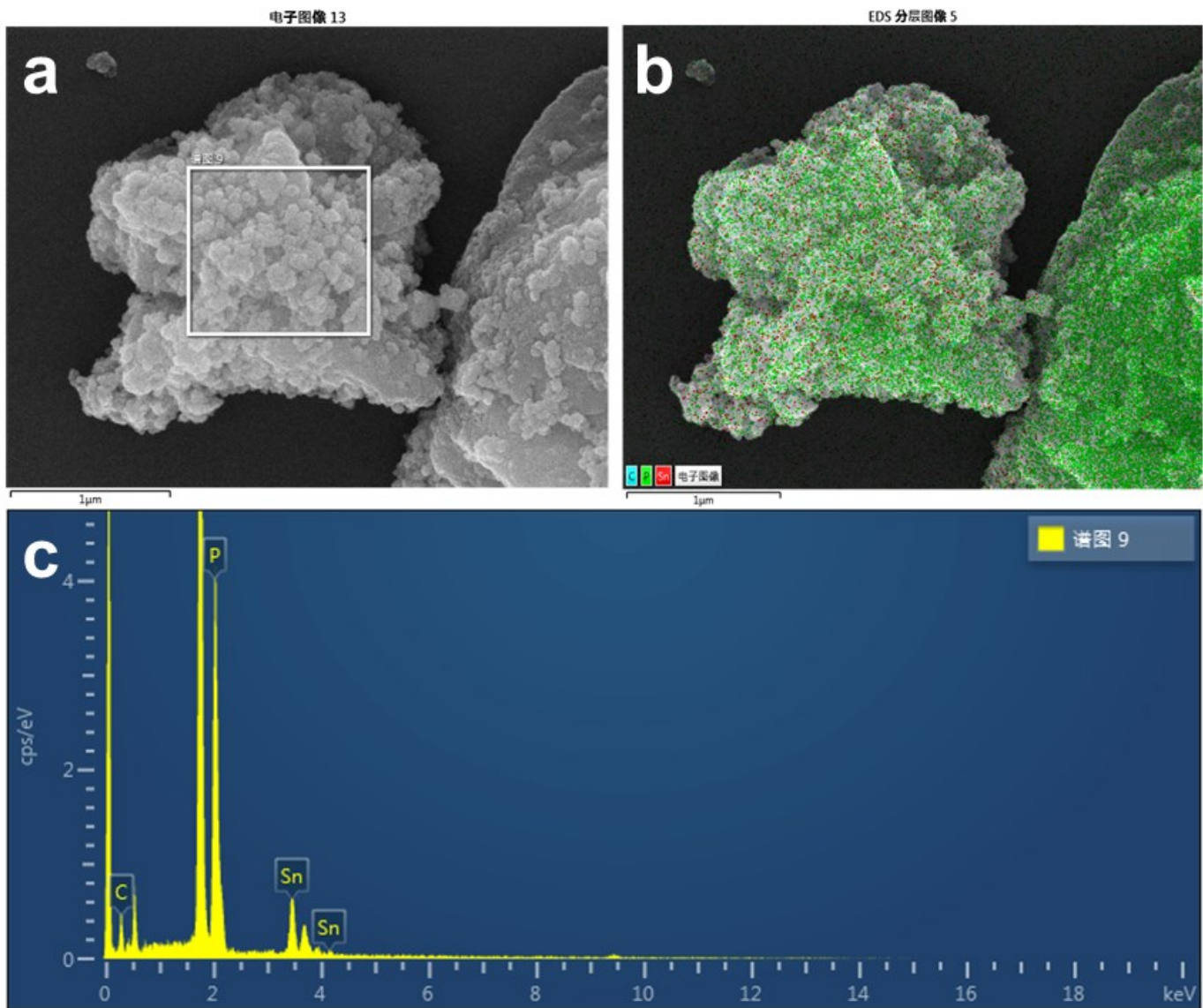


Fig. S3 (a) SEM image, corresponding (b) EDX maps and (c) EDX spectrum of P@Sn.

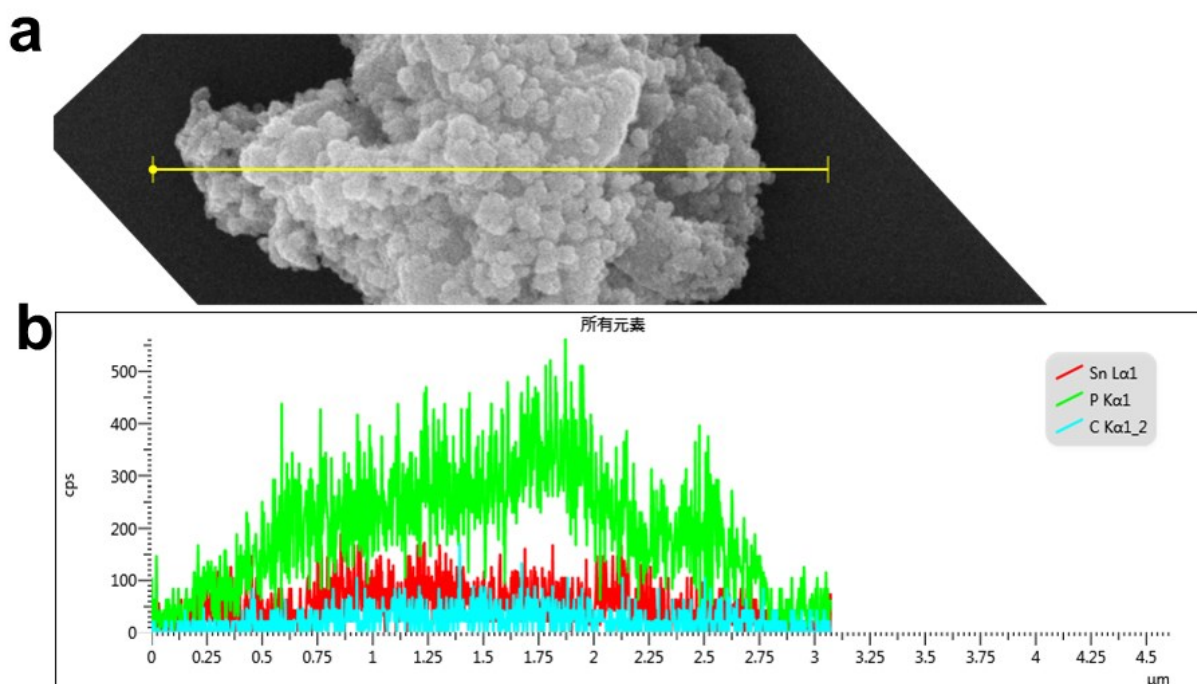


Fig. S4 (a) SEM image and corresponding (b) EDX linear scan of P@Sn.

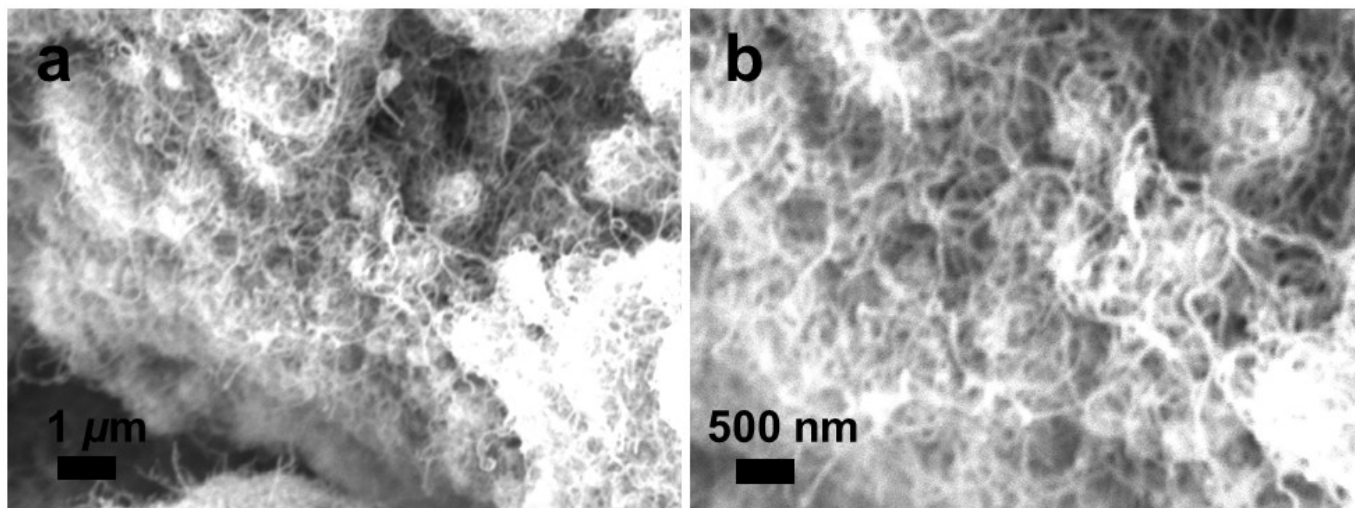


Fig. S5 (a) Low magnification and (b) high magnification SEM images of CNTs (XFNANO, XFM19).

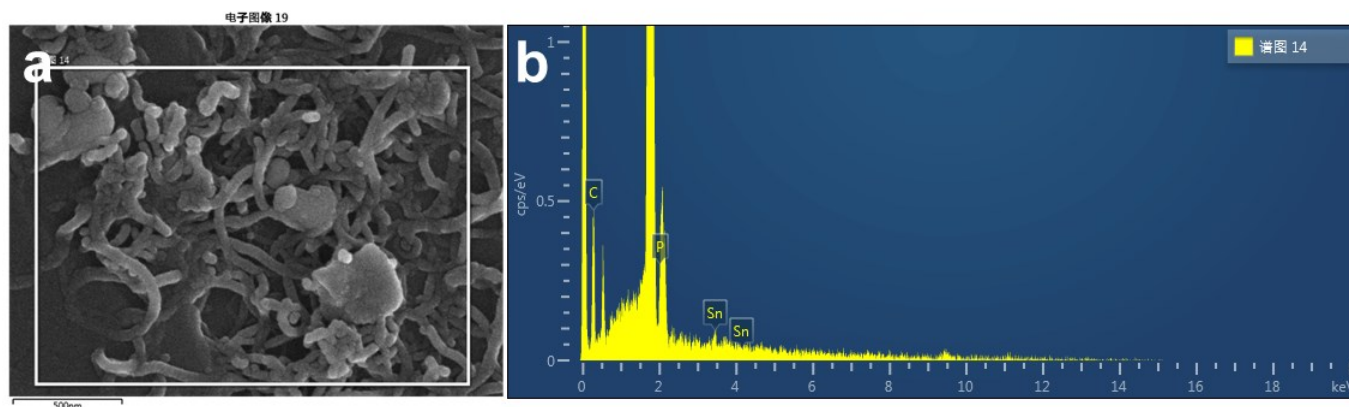


Fig. S6 (a) SEM image and (b) corresponding EDX spectrum of P@Sn@CNT.

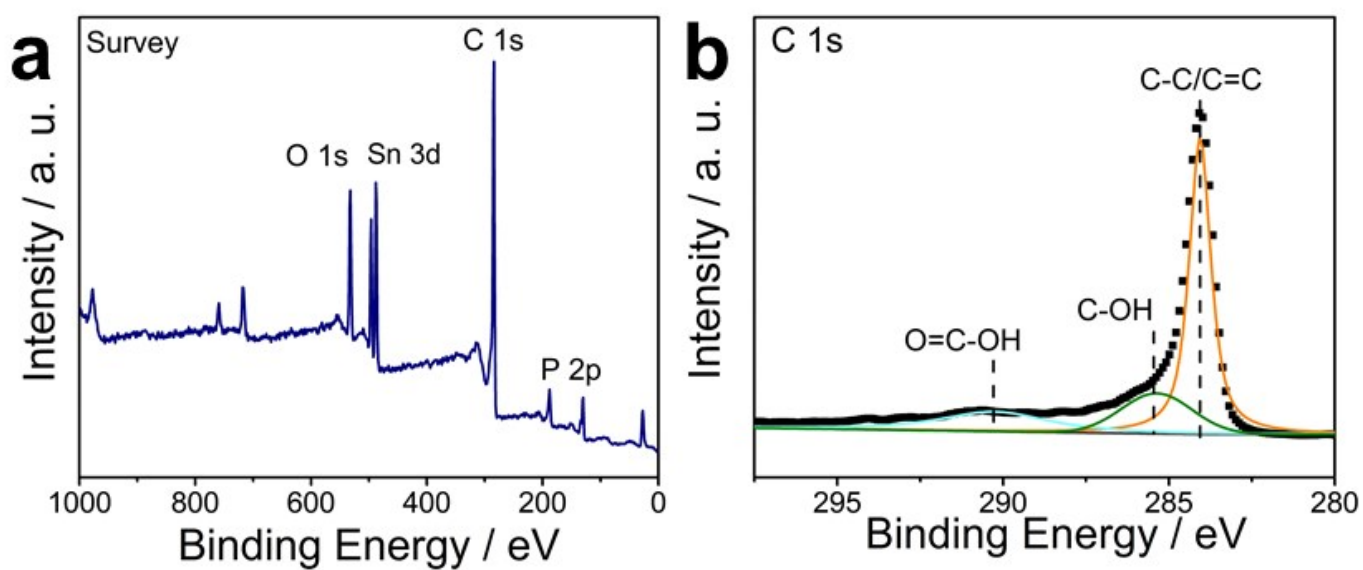


Fig. S7 XPS (a) survey spectrum and (b) high-resolution C1s spectrum of P@Sn@CNT.

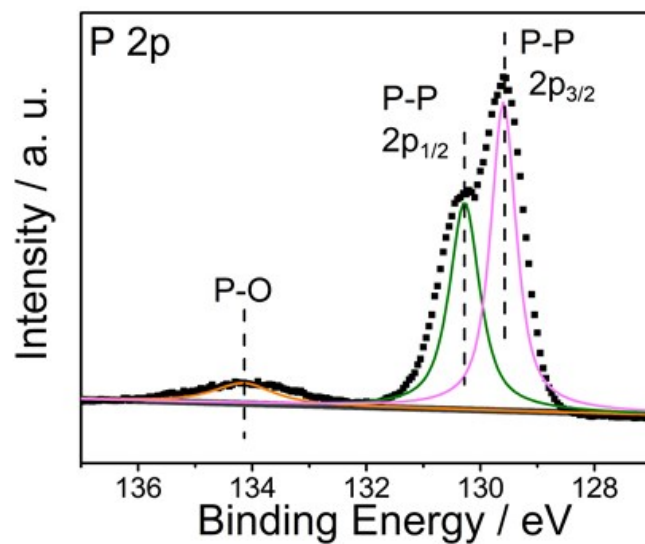


Fig. S8 XPS high-resolution P2p spectrum of red P.

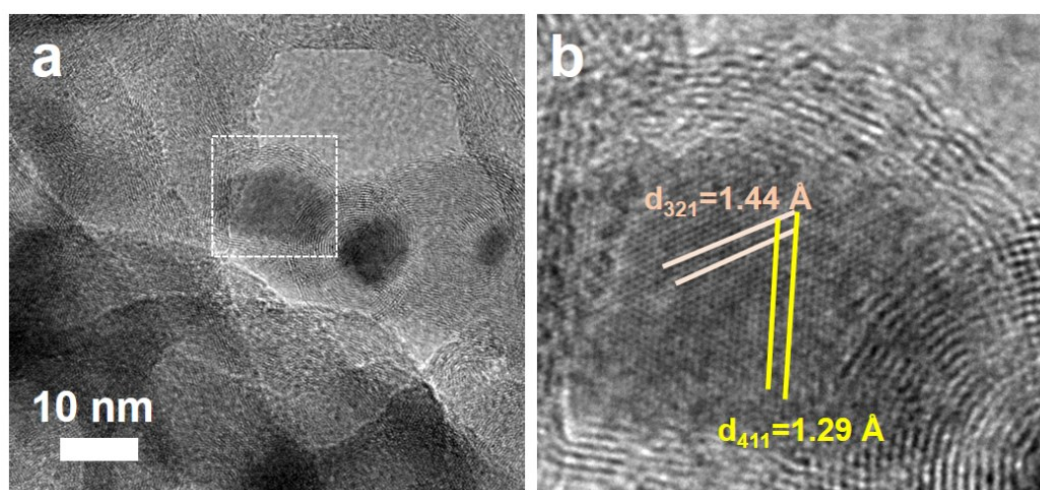


Fig. S9 (a, b) HRTEM image of P@Sn@CNT. (b) shows the enlarged image of the dash-square in (a).

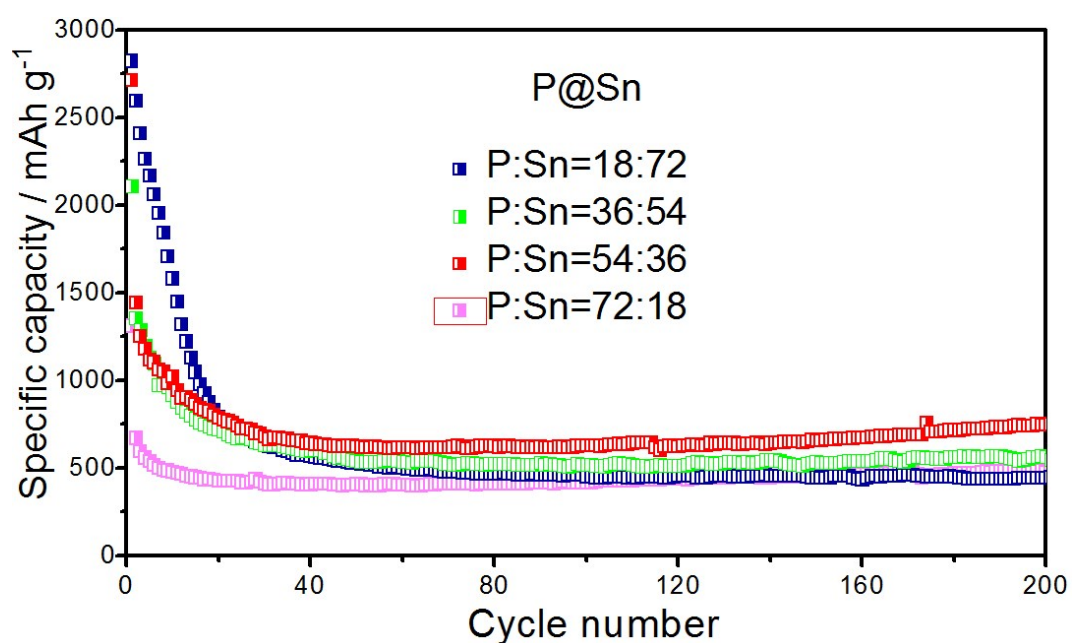


Fig. S10 Cycle performance of P@Sn at 0.2 A g⁻¹ with different P/Sn mass ratios.

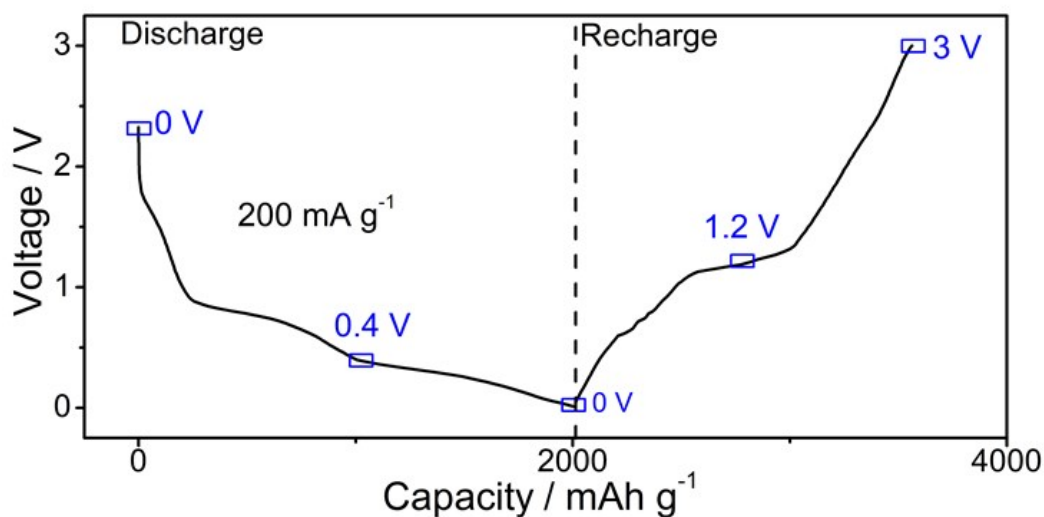


Fig. S11 Selected voltage points in the discharge-charge curve of P@Sn@CNT in the 1st cycle.

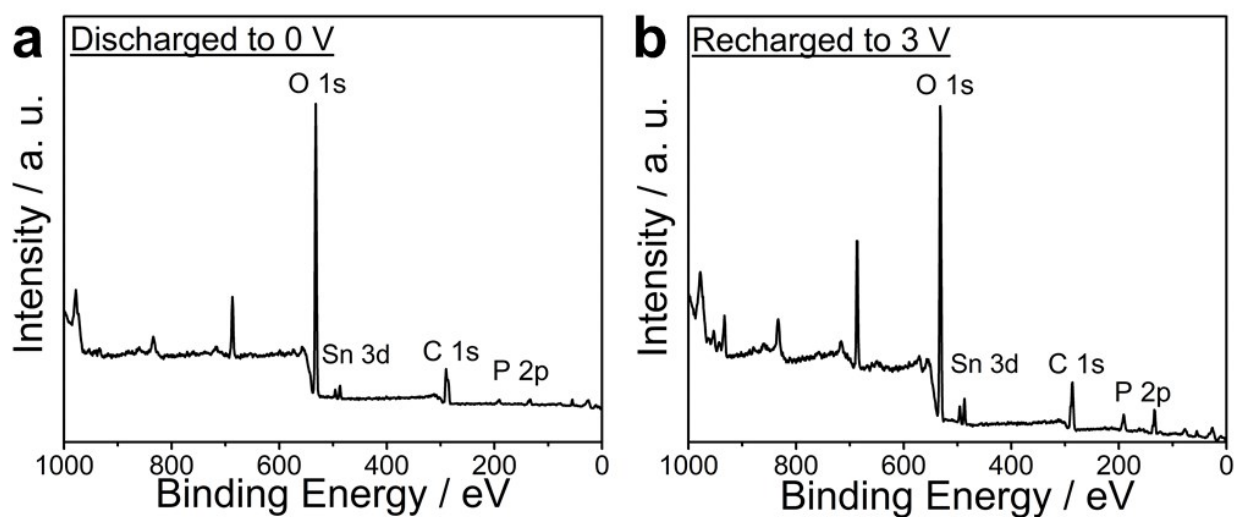


Fig. S12 XPS survey spectrum of the P@Sn@CNT electrode during the 1st cycle: (a) discharged to 0 V and (b) recharged to 3 V.

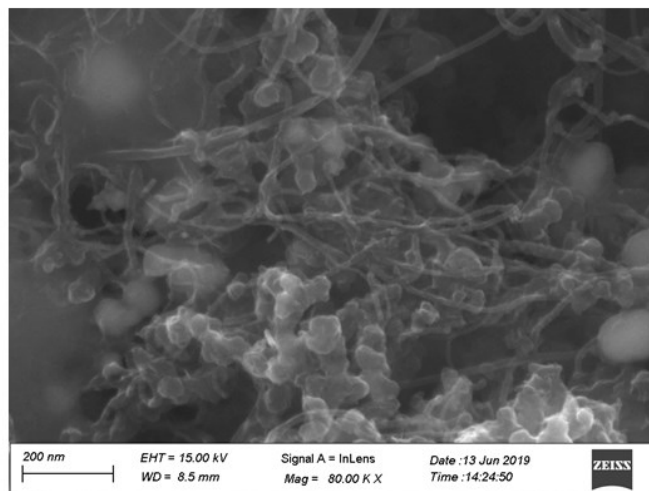


Fig. S13 SEM image of the fresh P@Sn@CNT electrode.

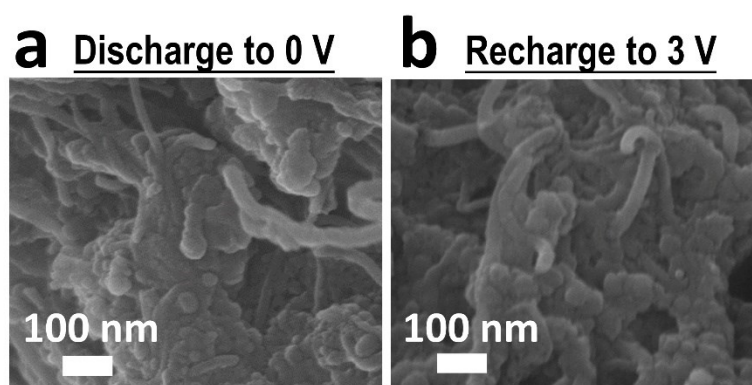


Fig. S14 SEM image of the P@Sn@CNT electrode during the 1st cycle: (a) discharged to 0 V and (b) recharged to 3 V.

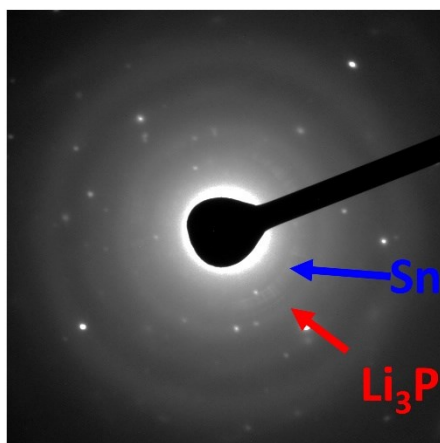


Fig. S15 SAED pattern of the P@Sn@CNT electrode after the 1st discharge to 0 V.

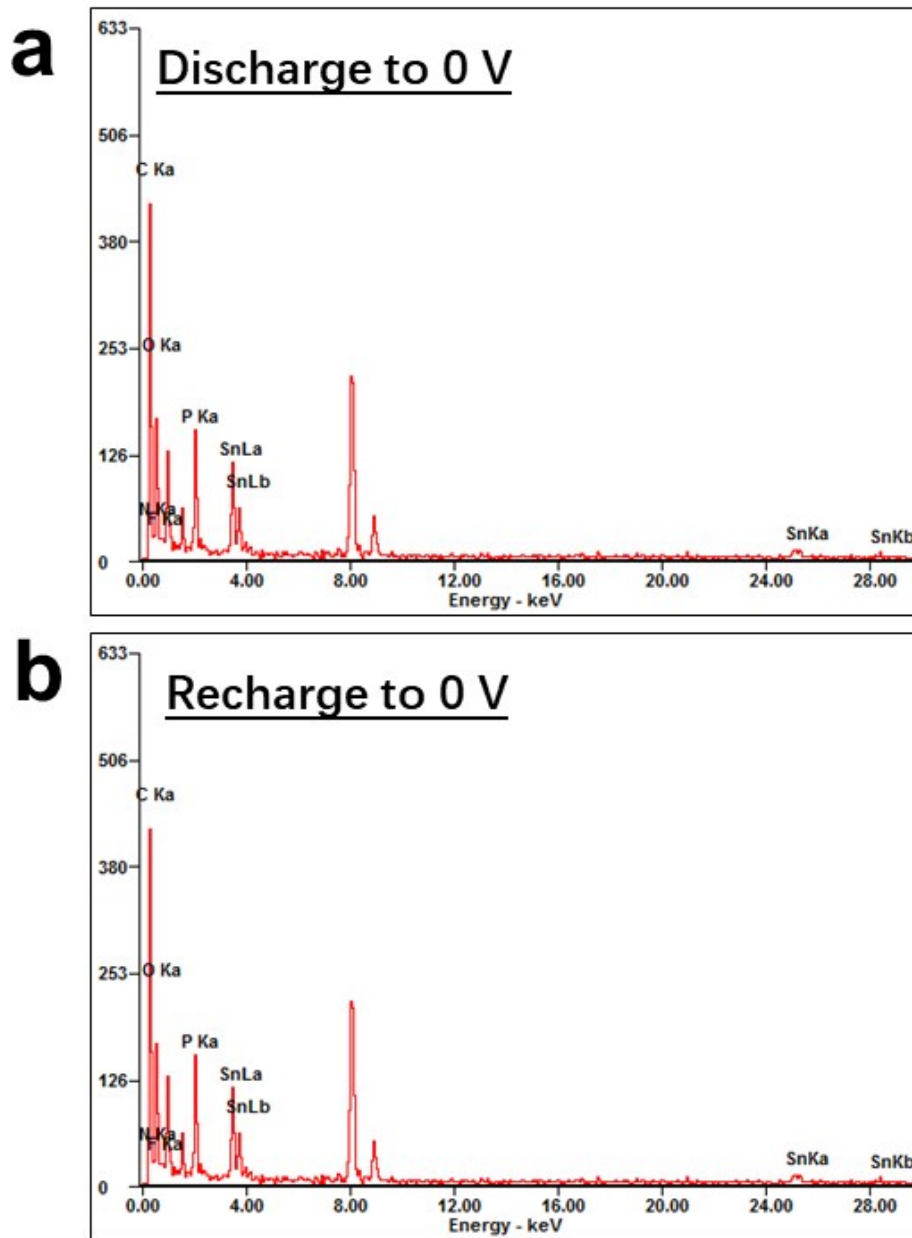


Fig. S16 STEM-EDX spectrum of the P@Sn@CNT electrode during the 1st cycle: (a) discharged to 0 V and (b) recharged to 3 V.