Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A

SUPPORTING INFORMATION

Porous $Li_2C_8H_4O_4$ coated with N-doped carbon by using CVD technology as an anode material for Li-ion batteries

Haiquan Zhang, Qijiu Deng, Aijun Zhou, Xinquan Liu and Jingze Li*

State Key Laboratory of Electronic Thin Films and Integrated Devices, School of Microelectronics and Solid-state Electronics, University of Electronic Science and Technology of China, Chengdu, China

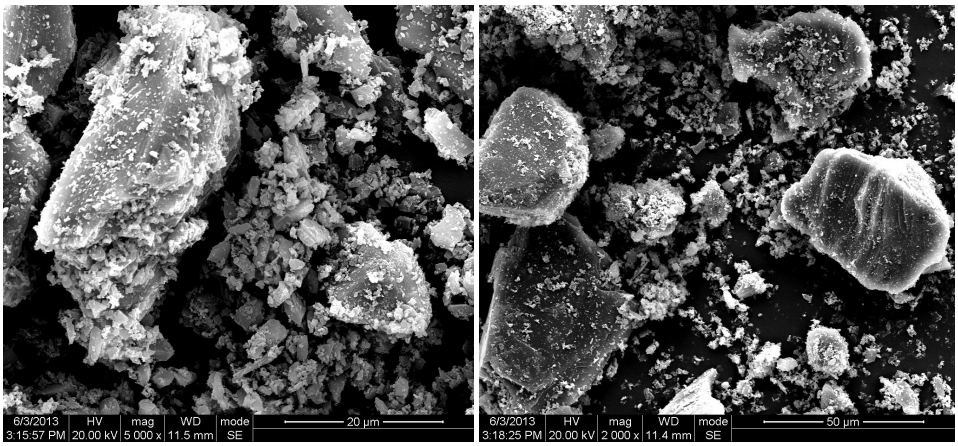

Fig. S1: SEM images of the PTALW white powder at different magnifications.

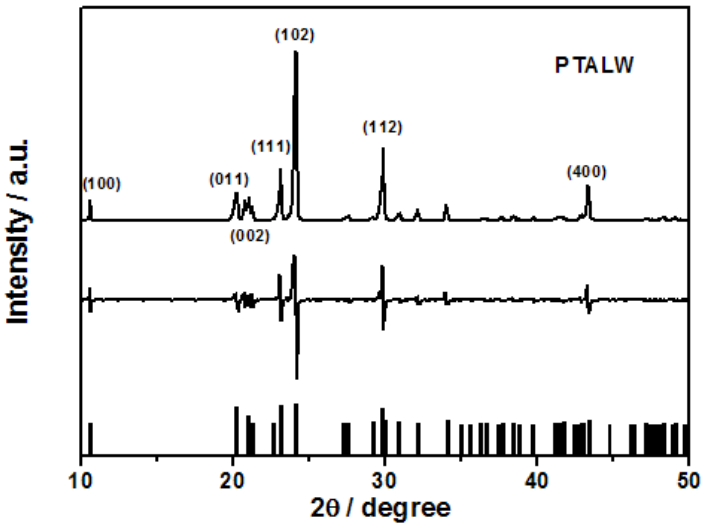

Fig. S2: (Upper) XRD pattern of the bulk PTALW obtained by evaporating its solution; (Middle) The corresponding differential curve; (Bottom) The standard XRD pattern from PDF#34-1566.

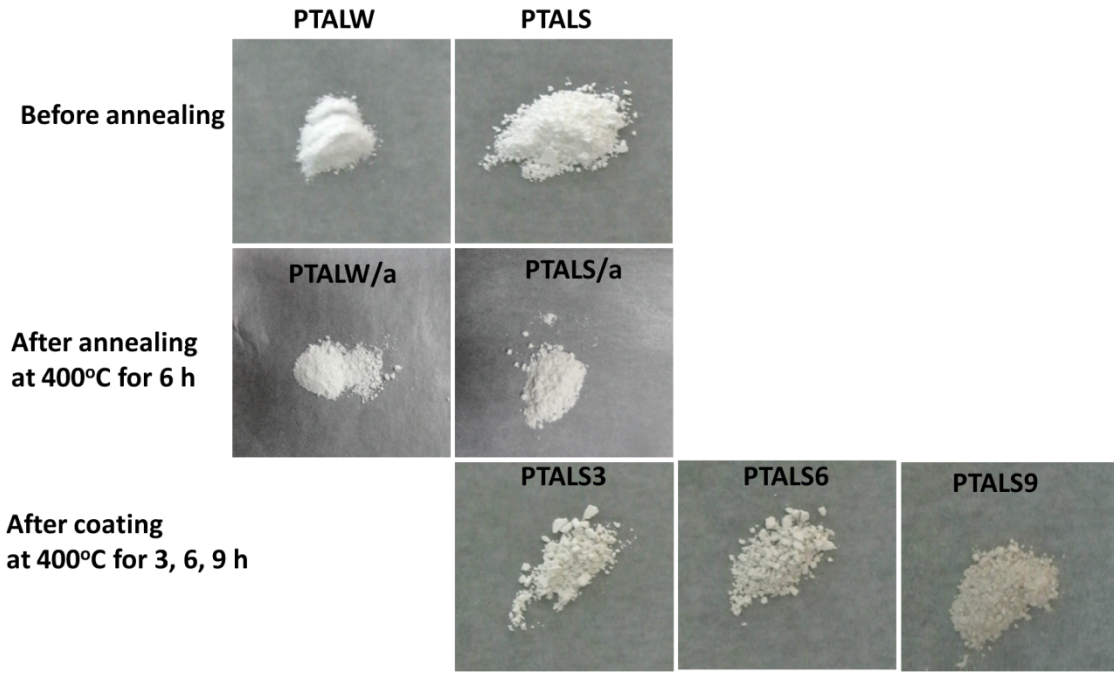

Fig. S3: The photographs of the PTALW powder and the PTALS powder before (upper) and after (middle) thermal annealing at 400 °C for 6 h; (Bottom) The photographs of the PTALS powder coated with N-doped carbon layer through pyrolysis of urea at 400°C for 3, 6, 9 h (samples are named as PTALS3, PTALS6, and PTALS9, separately.)

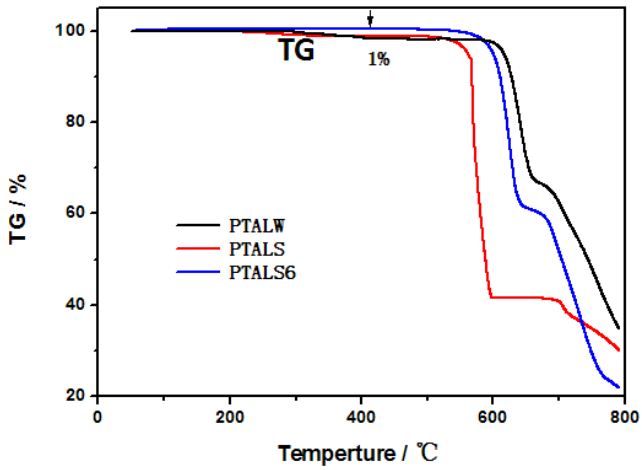

Fig. S4: TG curves of the PTALW, PTALS and PTALS6 organic salts obtained under N_2 atmosphere with a heating rate of 20 ℃ min^{-1}.

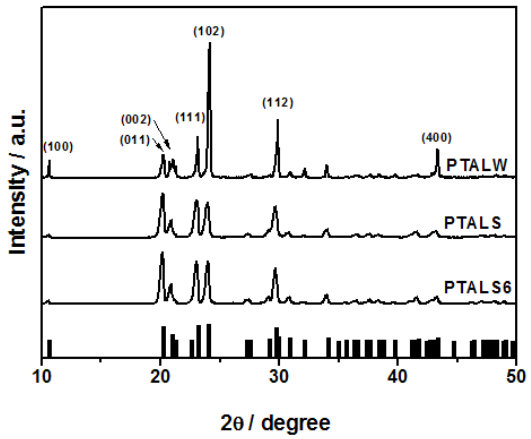

Fig. S5: XRD patterns of the pristine PTALW and the spray-dried PTALS and the carbon coated PTALS6 material obtained at 400 ℃ for 6 h.

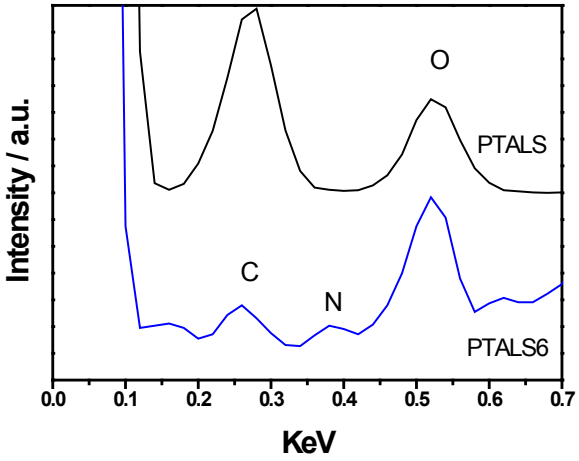

Fig. S6: EDS profiles of the PTALS and the N-doped carbon coated PTALS6 sample.

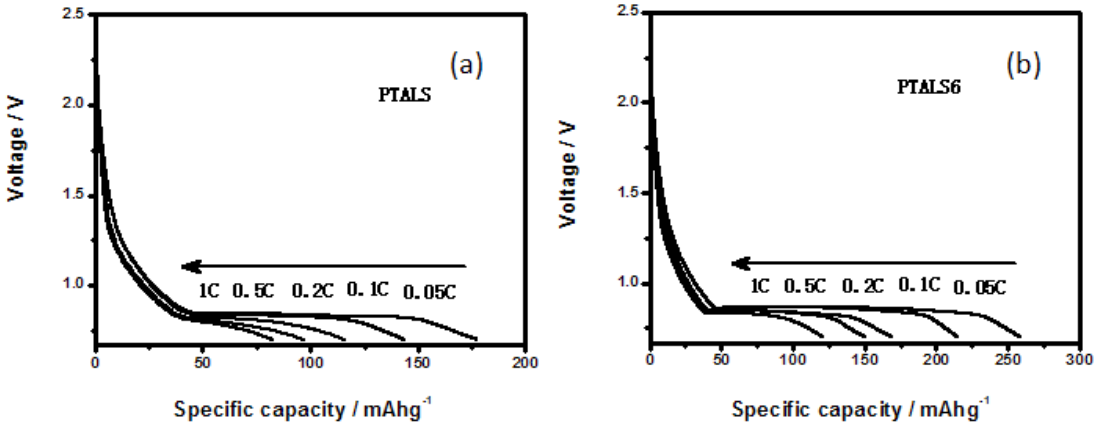

Fig. S7: Discharge curves of the pristine porous PTALS (a) and coated PTALS6 (b) at different current rates

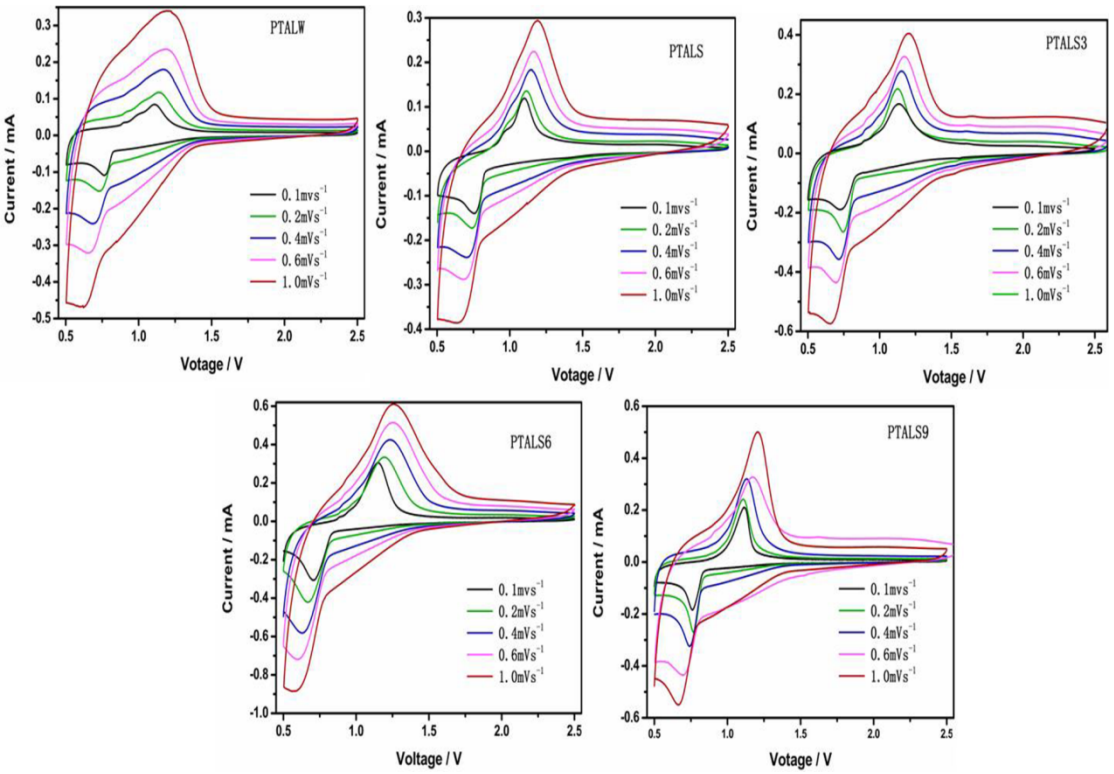

Fig. S8: CV curves of the pure PTALW and the PTALS and the N-doped carbon-coated PTALSx (x=3, 6 and 9) composites at different scan rates.

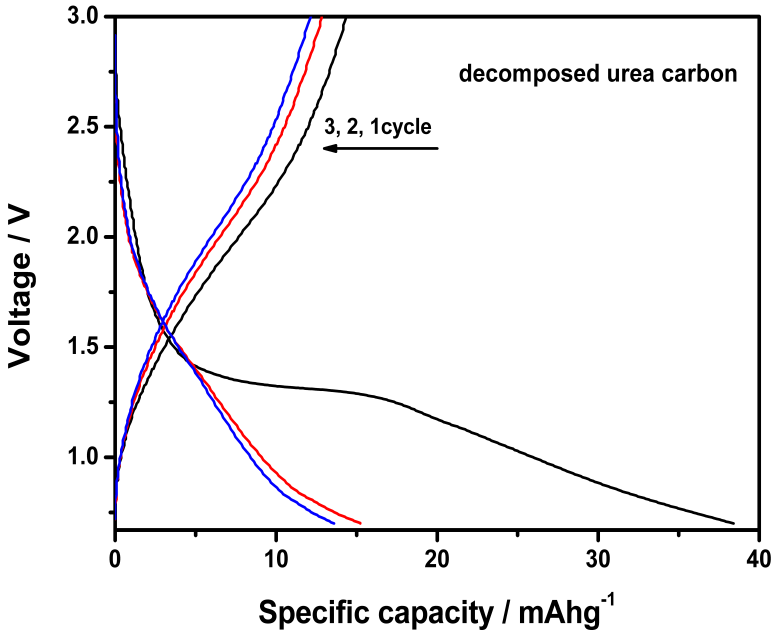

Fig. S9: The discharge/charge curves of the urea decomposed carbon, which was deposited on Cu sheet directly at 400 ^{o}C for 6 h.