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

Supplementary information: Evaluation of nanocrystalline Sn_3N_4 derived from ammonolysis of $Sn(NEt_2)_4$ as a negative electrode material for Li-ion and Na-ion batteries

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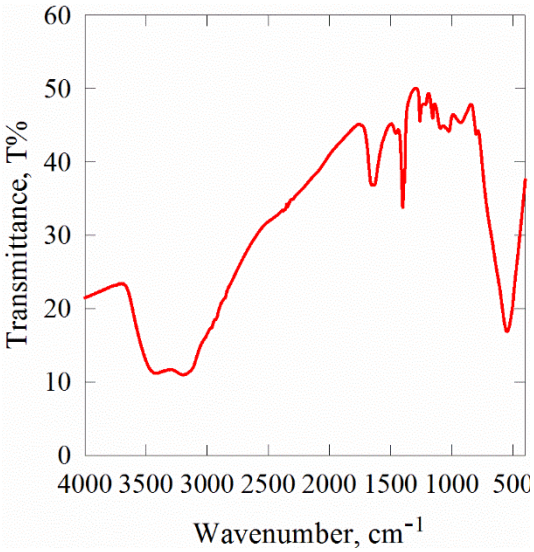

Fig. S1 IR spectrum of the product of ammonolysis of the tin amide polymer at 300 °C.

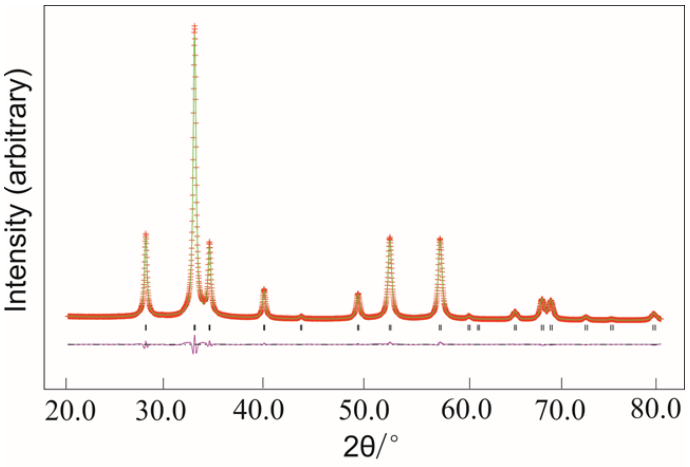

Fig. S2 Rietveld fit to the powder XRD data for Sn_3N_4 produced by ammonolysis of the tin imide polymer at 350 °C followed by washing with dilute HCl. Crosses mark the data points, the upper continuous line the fit and the lower continuous line the difference. Tick marks show the allowed reflection positions for Sn_3N_4 with space group *Fd*-3*m*. R_{wp} = 3.6%, R_p = 2.8%.

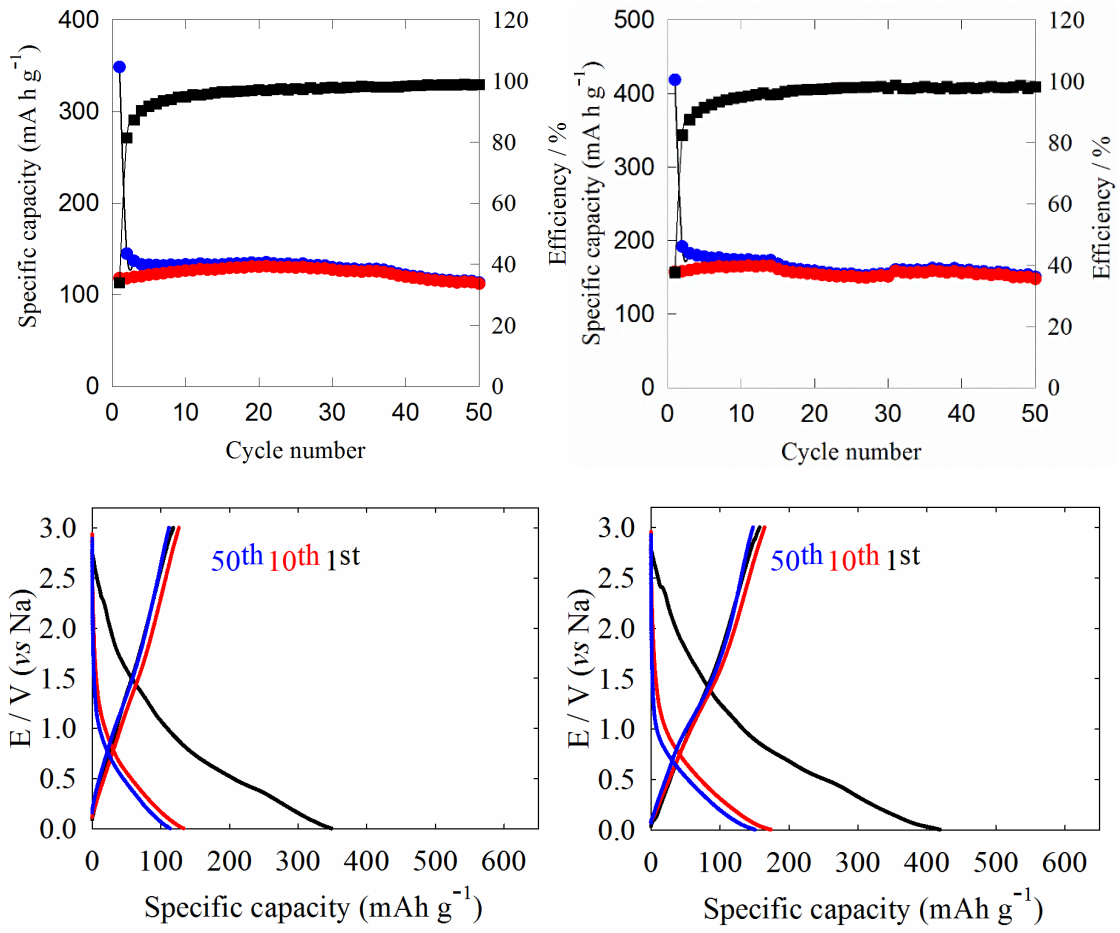

Fig. S3 Specific capacity versus cycle number (top, reduction blue, oxidation red and Couloumbic efficiency black) and voltage profile against specific capacity (bottom), of Sn_3N_4/sodium half cells made with CMC binder, cycled between 1 mV and 3 V for 50 cycles at 200 (left) or 100 (right) mA g^{-1}.