Supplementary Information

Nanocomposite of Polyaniline and Nitrogen-doped Layered $HTiNbO_5$ with an Excellent Visible-light Photocatalytic Performance

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Table S1. Summary of optical power and power density

d[a] (cm)	Optical power (mW)	Optical power density (mW/cm^2)
1	475	633
2	451	602
3	430	573
4	406	541
5	380	506
6	358	477
7	334	441
8	313	416
9	291	389
10	255	352

[a] *d* means the distance betweem thin film filter and the probe of CEL-NP2000. The starting upper and lowest liquid surfaces of MB solution are about 3 and 9 cm apart from filter in the photocatalytic tests, respectively.

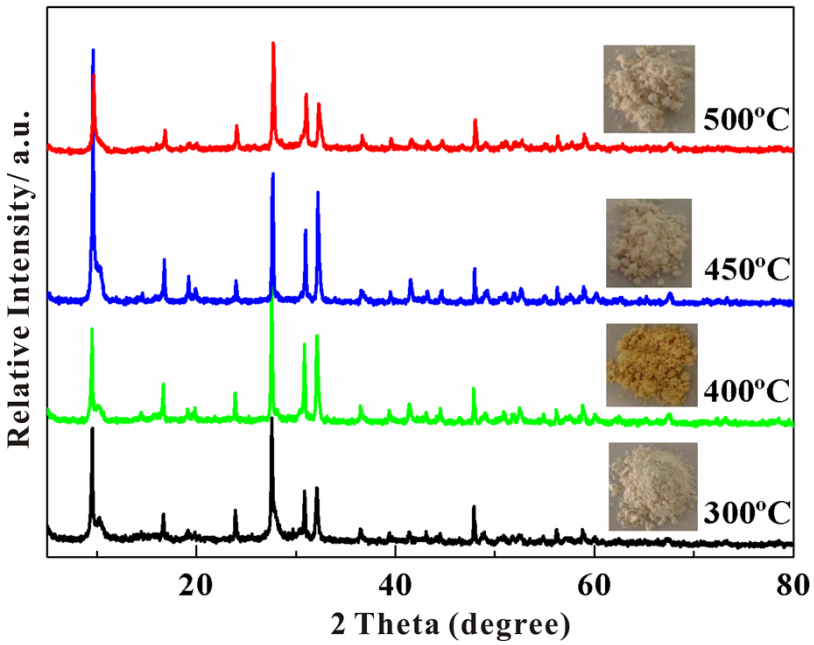

Fig. S1 X-ray powder diffraction patterns of N-$KTiNbO_5$ through heating $KTiNbO_5$ with urea in air at 300, 400, 450 and 500 °C for 5 h (Inset are photos of corresponding samples).

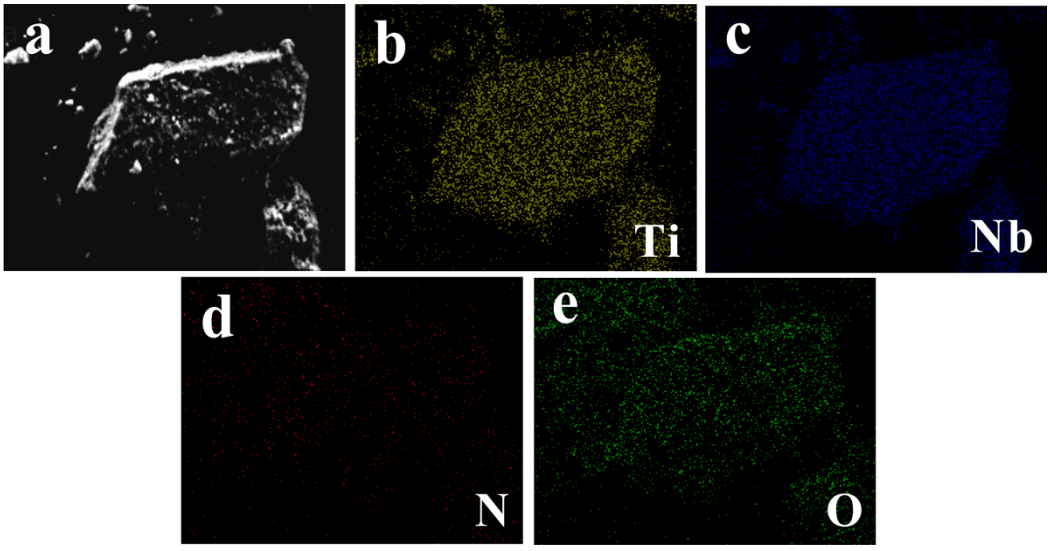

Fig. S2 EDS mapping of N-$KTiNbO_5$.

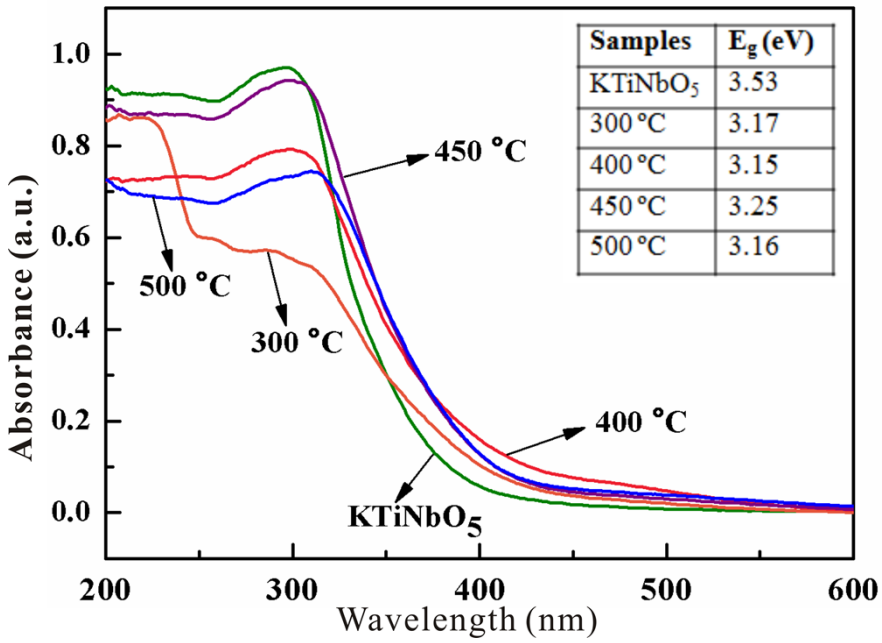

Fig. S3 UV-visible diffuse reflectance spectra of N-$KTiNbO_5$ prepared at 300, 400, 450, and 500 °C, respectively (Inset are E_g values of corresponding samples which were obtained through the equation: $\alpha h\upsilon = B(h\upsilon - E_g)^{1/2}$ where α is the absorbance intensity at a light frequency υ, B is the absorbance constant and Eg is the band gap energy).

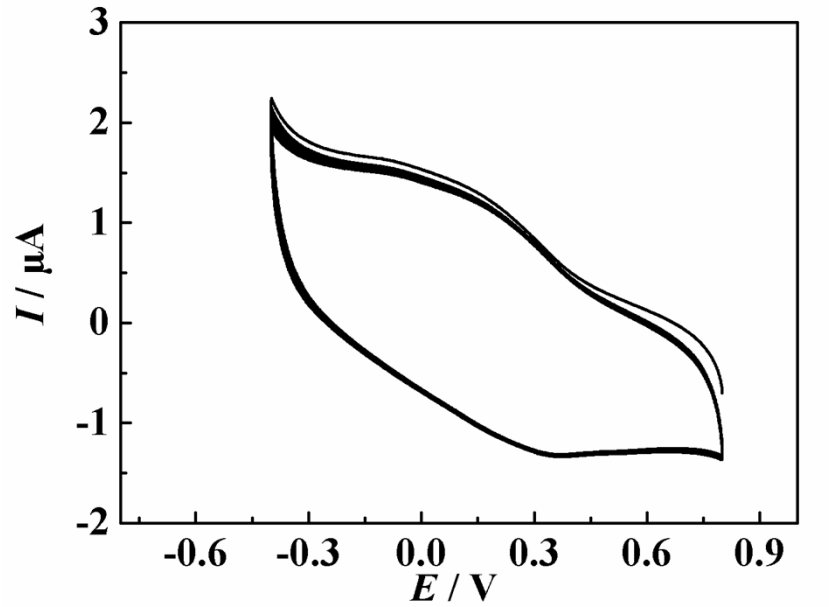

Fig. S4 CV curves of PANI/N-$HTiNbO_5$ nanocomposite upon repeated potential cycling for 50 cycles in the potential range between –0.4 and +0.8V.