Supplementary Information

Synthesis of MXene/Polyaniline Composite with Excellent Electrochemical Properties

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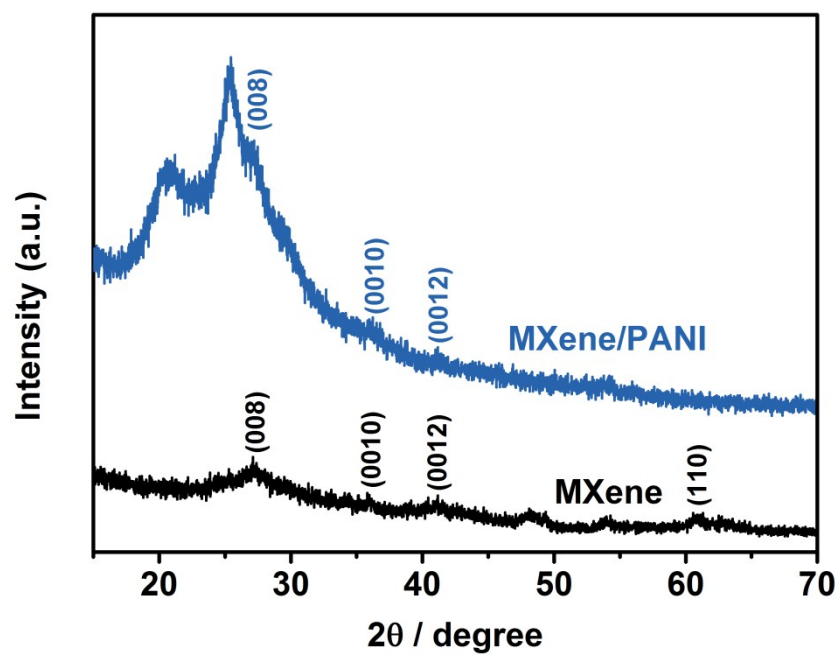
§ These authors contributed equally to the work.

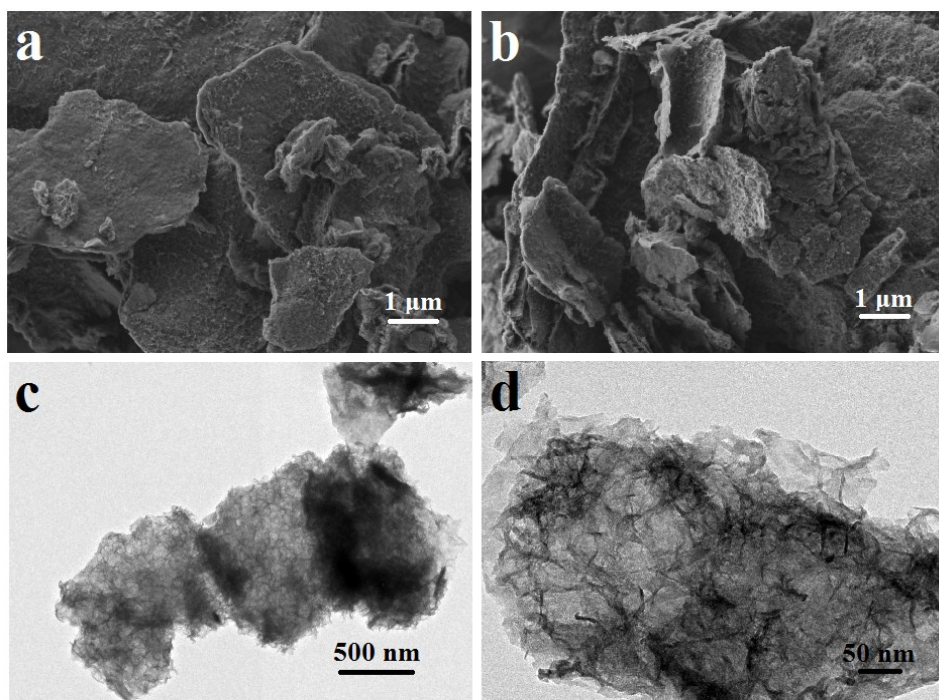**Fig. S1** XRD patterns of MXene and MXene/PANI.

Fig. S2 (a, b) SEM images of MXene/PANI composite. (c, d) TEM images of MXene/PANI composite.
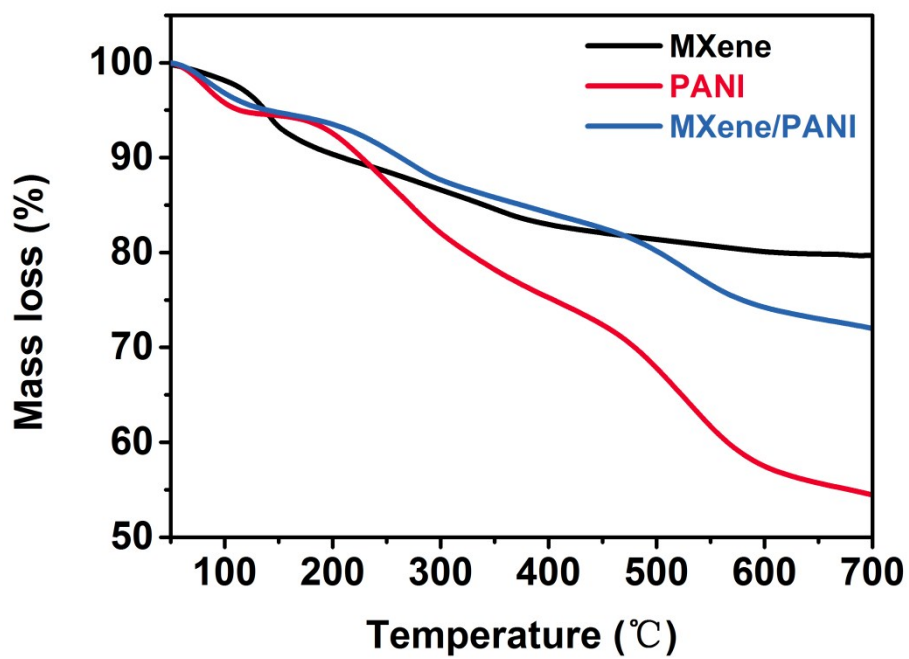
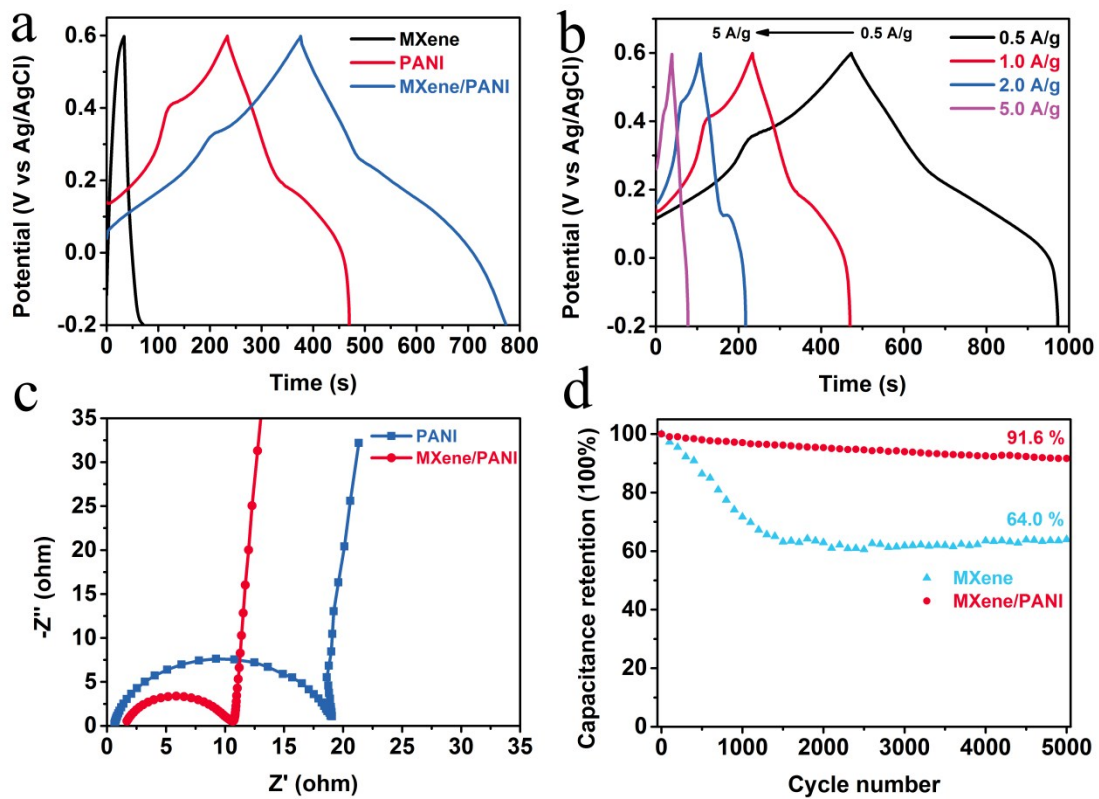**Fig. S3** TGA curves of MXene, PANI and MXene/PANI composite

Fig. S4 (a) GCD curves of MXene, PANI and MXene**/**PANI electrodes at the current density of 1 A g^{-1}. (b) GCD curves of PANI at different current densities. (c) Impedance spectra of PANI and MXene/PANI electrodes. (d) Cycling stability of MXene and MXene/PANI electrodes at the current density of 5 A g^{-1}.

Table S1 Comparison of the specific capacitances among other MXene-based composites.

Electrode materials	Electrolyte	Specific capacitance (F g^{-1})	Reference
Ti$_3$C$_2$T$_x$/PVA	1 M KOH	528 F cm^{-1} (2 mV s^{-1})	19
ε- MnO$_2$/Ti$_3$C$_2$T$_x$	30 wt % KOH	212.1 F g^{-1} (1 A g^{-1})	20
MXene/CNT paper	1 M MgSO$_4$	150 F g^{-1} (2 mV s^{-1})	21
MXene/PPy	1 M H$_2$SO$_4$	416 F g^{-1} (5 mV s^{-1})	23
MXene/PANI	1 M H$_2$SO$_4$	556.2 F g^{-1} (0.5 A g^{-1})	This work

Fig. S5 Optical image of delaminated MXene solution.