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Supporting Information

A Two-Step Etching Route to Ultrathin Carbon Nanosheets for High Performance Electrical Double Layer Capacitors

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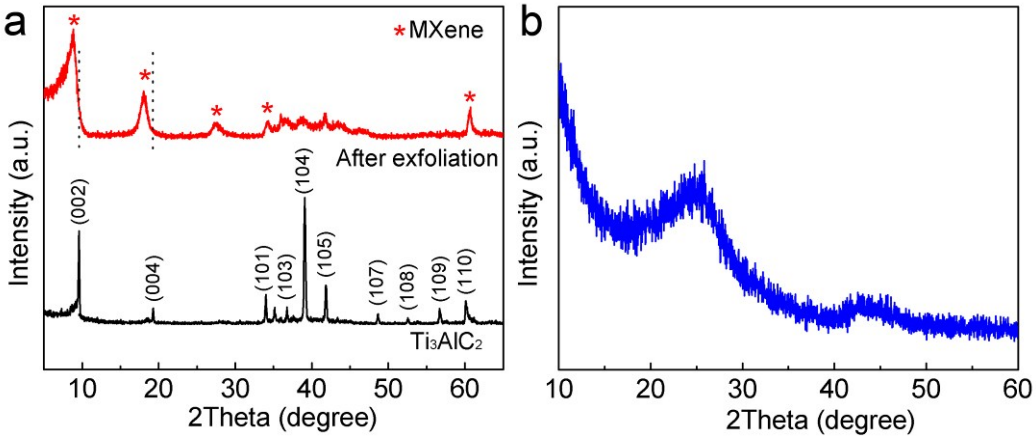

Fig. S1 XRD patterns of (a) Ti_3AlC_2 and MXene and (b) MDC-900.

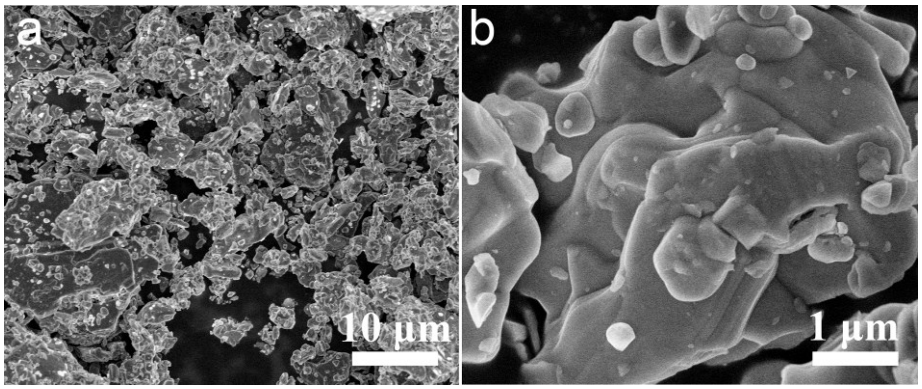

Fig. S2 SEM images of Ti_3AlC_2.

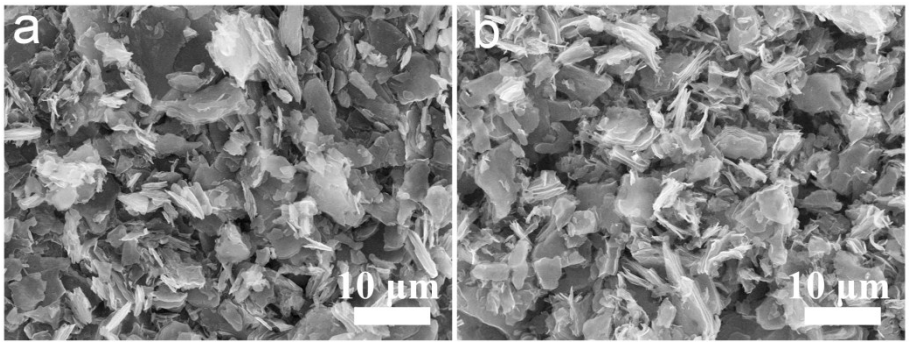

Fig. S3 SEM images of (a) MDC-700 and (b) MDC-900.

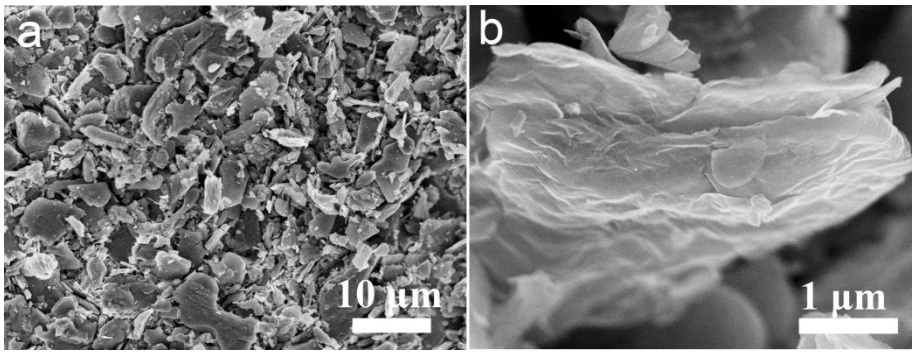

Fig. S4 (a. b) SEM images of CDC-900.

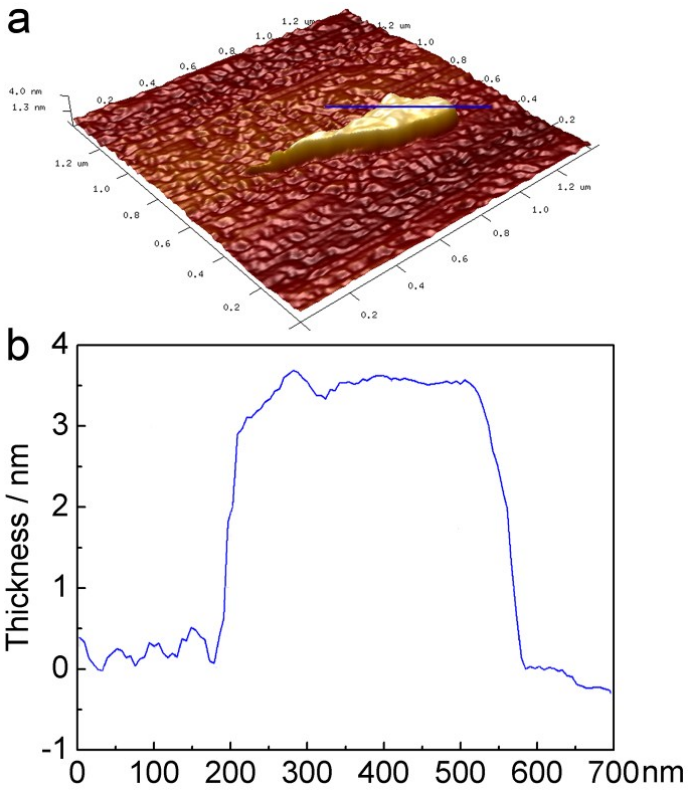

Fig. S5 (a) AFM image of MDC-900 and (b) thickness profile.

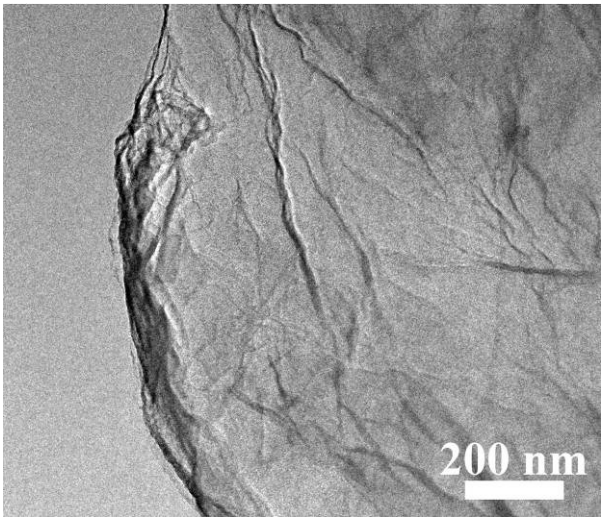

Fig. S6 TEM image of CDC-900.

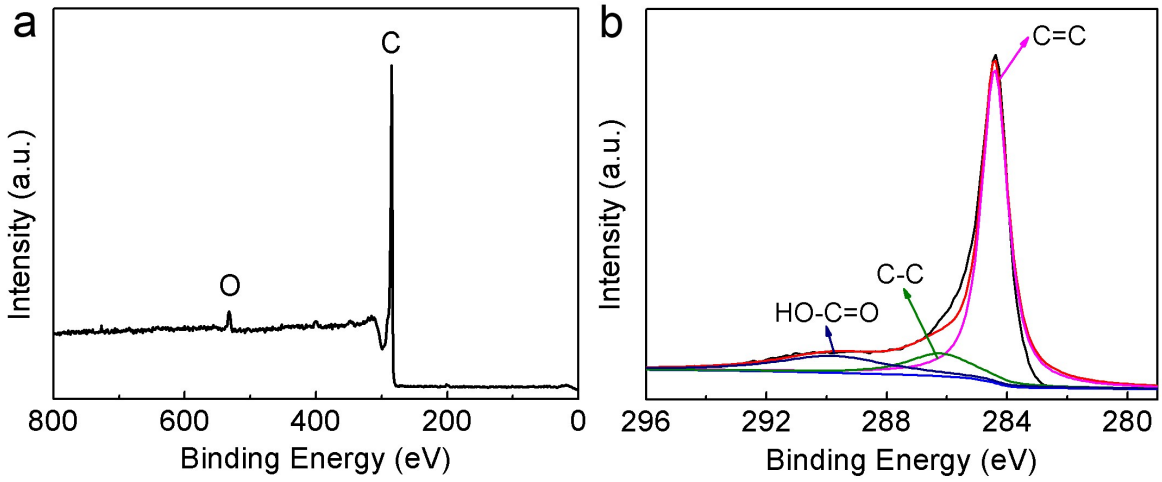

Fig. S7 (a) XPS and (b) high resolution C 1s XPS spectra of MDC-900.

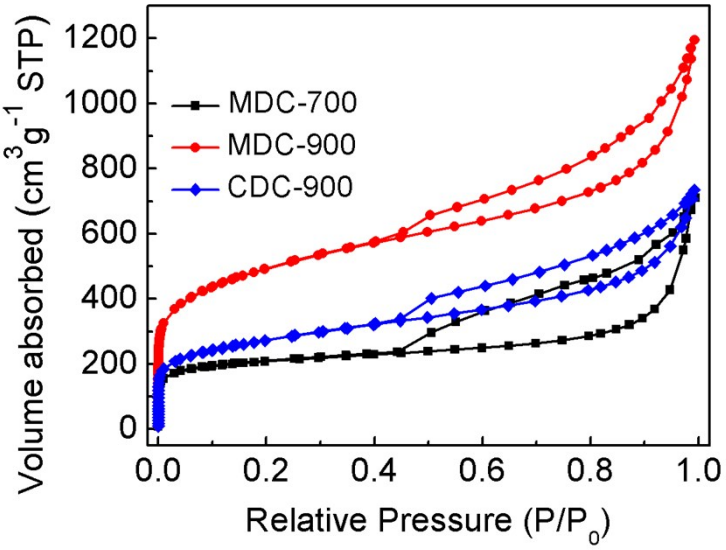

Fig. S8 N_2 sorption isothermals of MDC-700, MDC-900, and CDC-900.

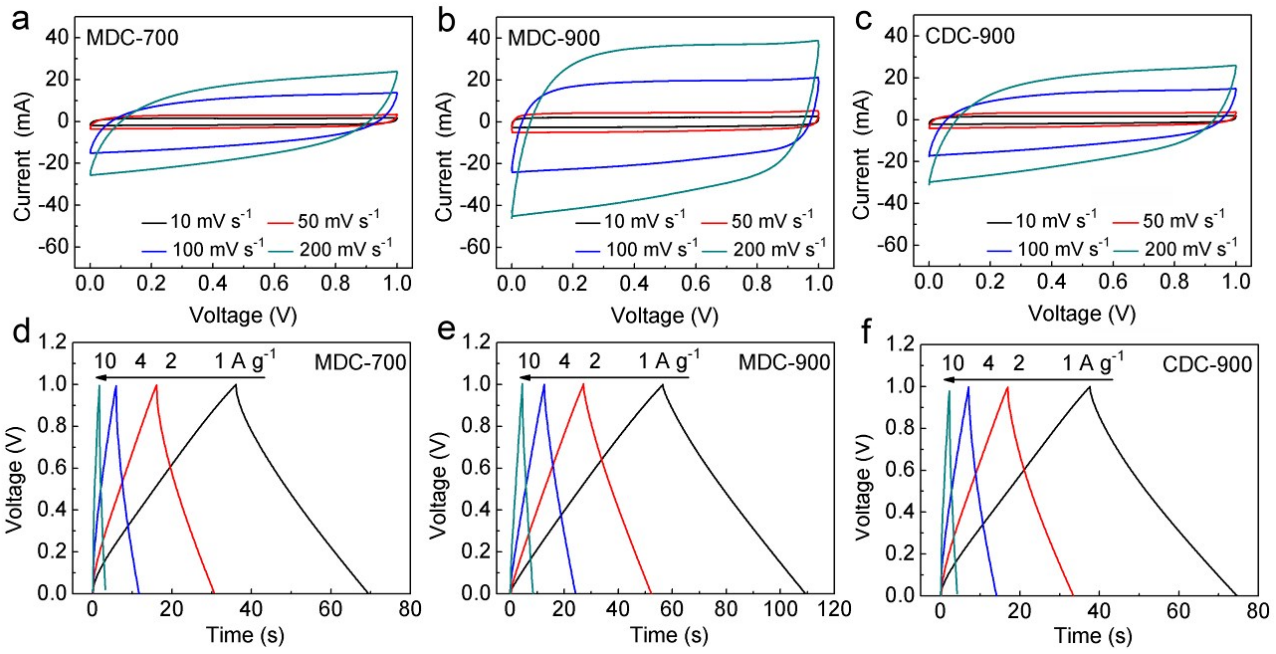

Fig. S9 (a-c) CV curves and (d-f) galvanostatic charge/discharge curves of MDC-700, MDC-900, and CDC-900.

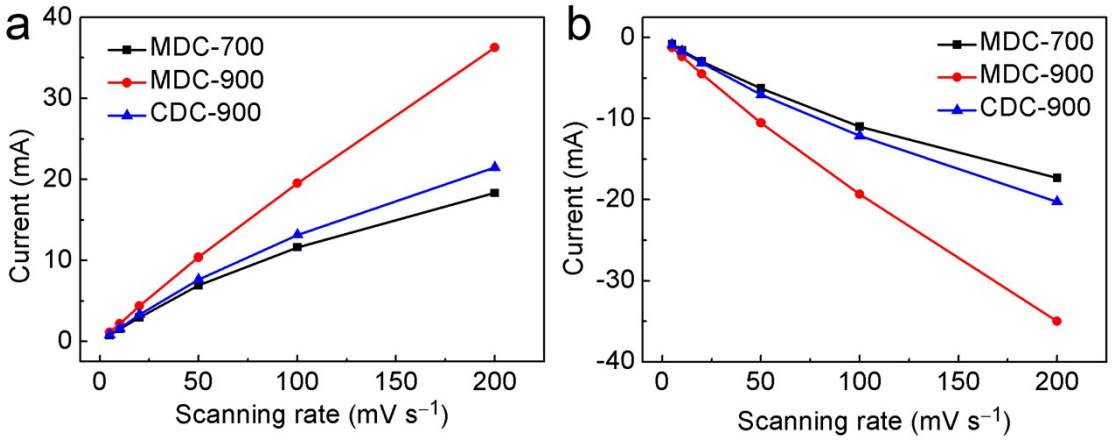

Fig. S10 Evolution of the (a) charge current and (b) discharge current versus scan rate of MDC-700, MDC-900, and CDC-900.

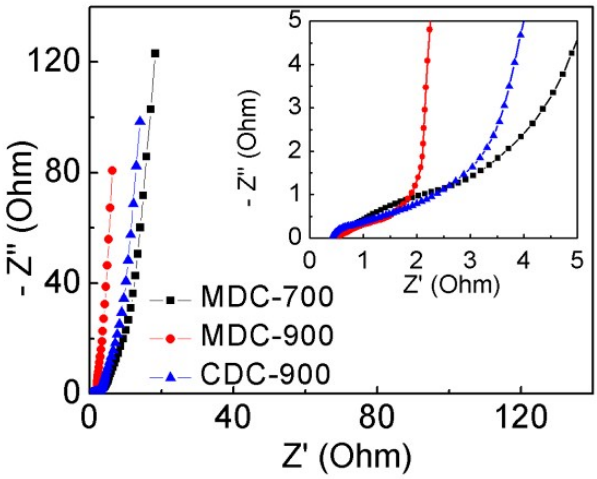

Fig. S11 Nyquist plots of MDC-700, MDC-900, and CDC-900. The inset shows the magnified high-frequency regions.

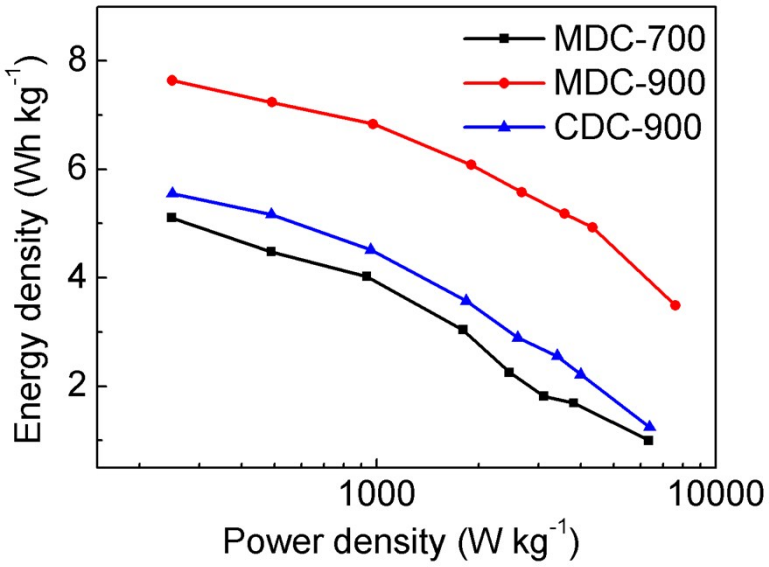

Fig. S12 Ragone plots of MDC-700, MDC-900, and CDC-900.

Table S1 Summaries of the porosity properties and specific capacitances of MDC-700, MDC-900 and CDC-900.

Samples	S_{BET} ($m^2\ g^{-1}$)	S_{Micro} ($m^2\ g^{-1}$)[a]	S_{Meso} ($m^2\ g^{-1}$)[b]	Volume ($cm^3\ g^{-1}$)	Capacitance (F g^{-1})[c]	Retention[d]
MDC-700	773	462	311	0.68	142	51%
MDC-900	1766	573	1193	1.45	220	79%
CDC-900	910	558	352	0.88	160	55%

(a) SSA of micropores, (b) SSA of mesopores; (c) Specific capacitance at 0.5 A g^{-1}; (d) Capacitance retention at 20 A g^{-1}.