

Supplementary

Self-Assembled Polyaniline/Ti₃C₂T_x Nanocomposites for High-Performance Electrochromic Films

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Information Figures



Figure S1. Tyndall phenomenon of MXene diluted solution.

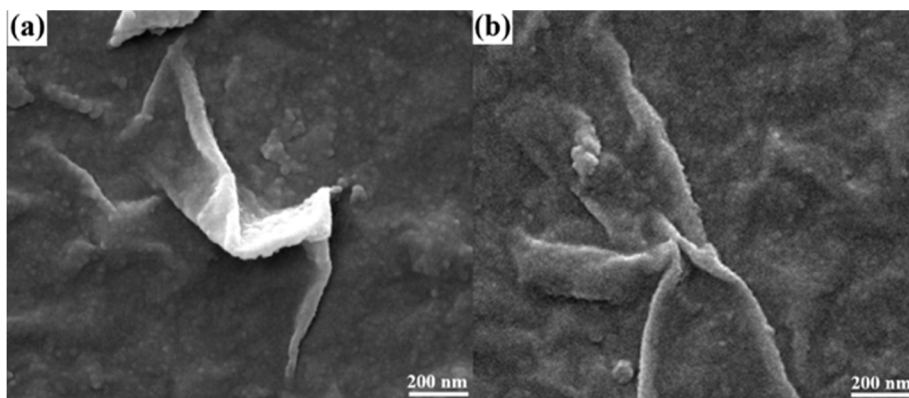


Figure S2. (a) and (b) The SEM images of exfoliated $\text{Ti}_3\text{C}_2\text{T}_x$ MXene.

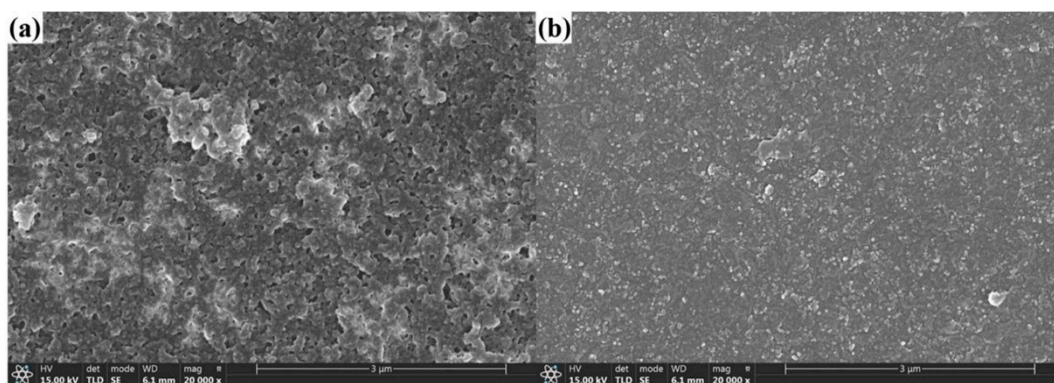


Figure S3. (a) and (b) SEM images of spray-coated films, (a) MXene; (b) PANI.

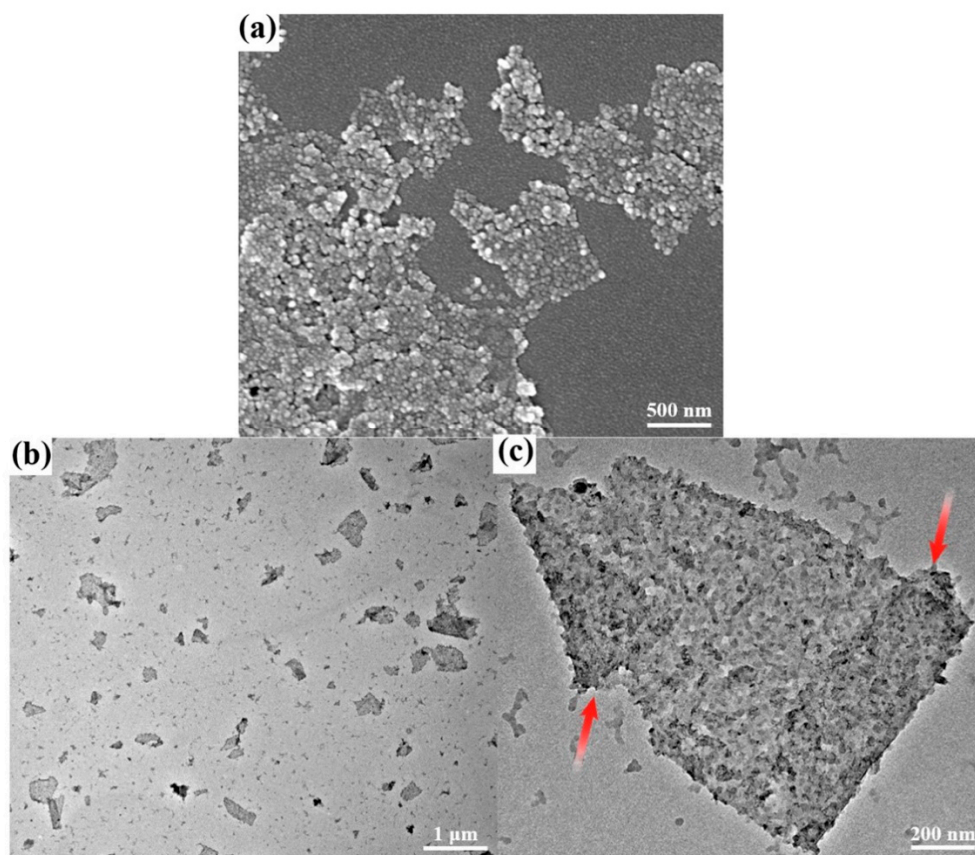


Figure S4. (a) SEM image of PANI/MXene film. (b) and (c) TEM images of the PANI/MXene nanocomposite with different magnifications. Arrow points to the fold positions.

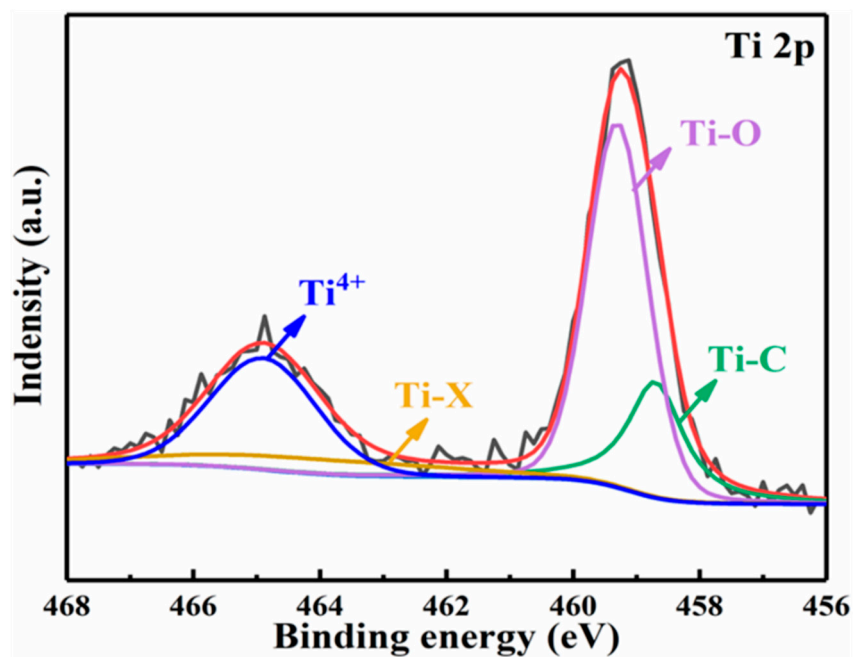


Figure S5. Ti 2p spectra of PANI/MXene.

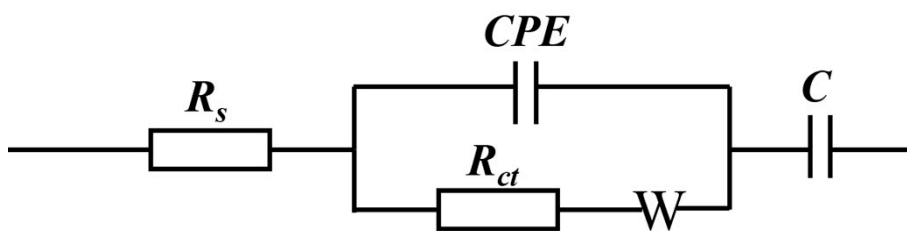


Figure S6. Equivalent circuits that optimally fit with obtained Nyquist plots of PANI/MXene electrodes.

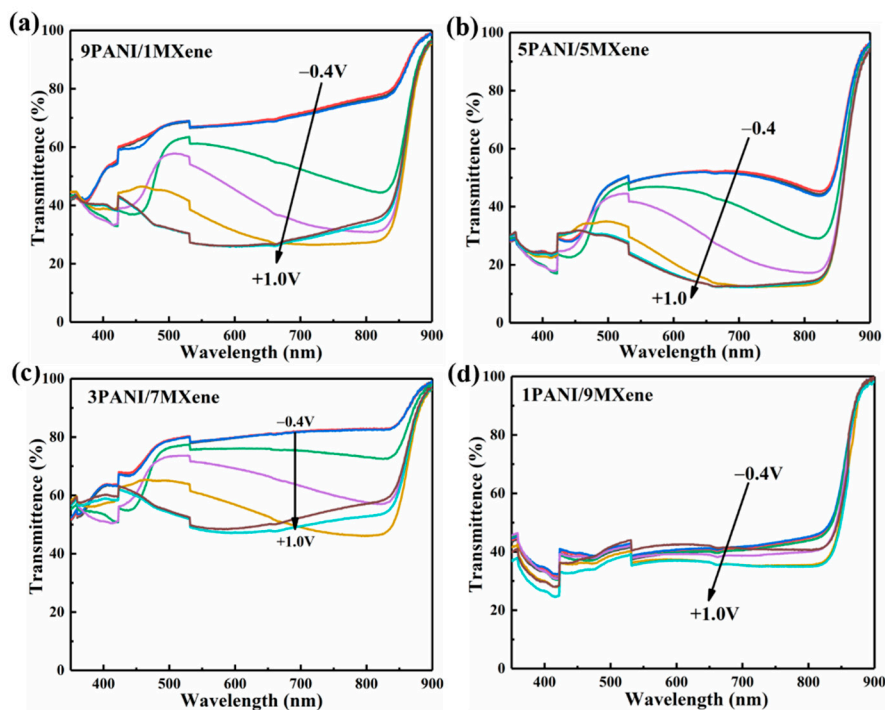


Figure S7. (a)-(d) Comparison of various UV-vis transmittance spectra of PANI/MXene film performed at different mass rates.

Table S1. Contribution of oxygen groups resulting from the fitting of N 1s spectrum of MXene/PANI.

Sample	Species	λ (nm)	Composition (%)	[=N—/N—]
PANI/MXene	=N-	398.9	32.68	0.72
	-NH-	399.7	45.38	
	N* ⁺	400.9	17.89	
	N ⁺	402.6	4.05	

Table S2. Electrical parameters for both of pure PANI and the PANI/MXene electrode evaluated from EIS test.

Sample	R_s (Ω)	R_{ct} (Ω)	W ($\Omega \cdot s^{-0.5}$)
Pure PANI	4.126	3.099	6.411
PANI/MXene	2.501	0.860	3.911