

Supporting Information for

Curing and molecular dynamics simulation of MXene/ phenolic epoxy composites with different amine curing agent systems

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Table S2: The exothermic peak area and curing degree of MXene/epoxy composite before and after curing at a heating rate of $5^\circ\text{C}/\text{min}$.

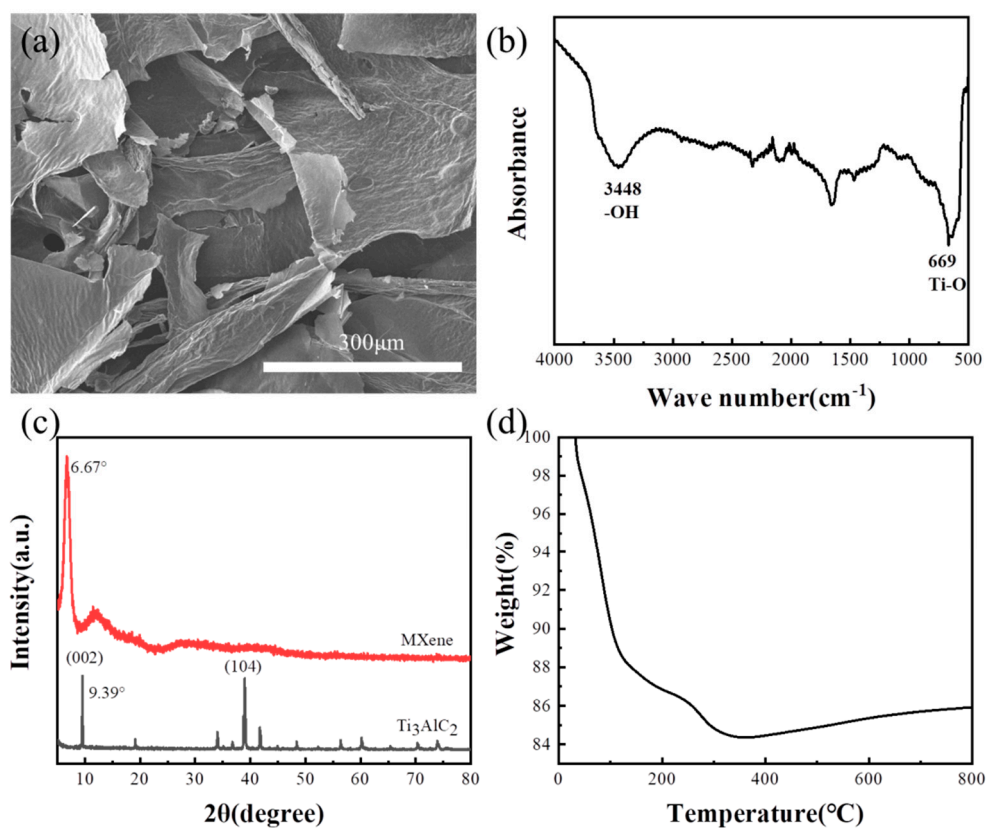


Figure S1 SEM (a), FTIR (b), XRD (c), and TGA (d) performance tests of MXene.

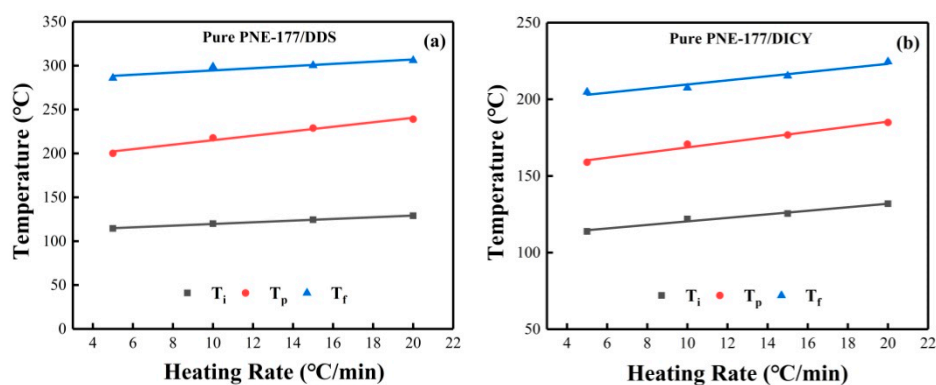


Figure S2. The characteristic fitting curves of (a) PNE-177/DDS and (b) PNE-177/DICY.

Table S1: The Kinetics parameters of PNE-177/DDS and PNE-177/DICY systems based on non-isothermal DSC analysis.

Epoxy System	MXene (wt%)	α_p	α_M	α_p^∞	p	m	n	lnA
PNE-177/DDS	0	0.68	0.188	0.542	0.231	0.184	0.891	10.77
	1	0.67	0.185	0.545	0.226	0.189	0.89	10.78
	3	0.66	0.184	0.54	0.225	0.191	0.887	10.74
	5	0.7	0.191	0.553	0.236	0.197	0.895	10.81
PNE-177/DICY	0	0.48	0.315	0.58	0.459	0.553	1.441	11.09
	1	0.47	0.322	0.587	0.474	0.556	1.439	11.11
	3	0.47	0.328	0.596	0.488	0.565	1.434	11.25
	5	0.46	0.331	0.599	0.494	0.57	1.446	11.29

Table S2: The exothermic peak area and curing degree of MXene/epoxy composite before and after curing at a heating rate of 5 °C/min.

Epoxy System	MXene (wt%)	A ₀	A ₁	Curing degree(%)
PNE-177/DDS	0	444.012	52.839	89.1
	1	339.993	24.138	92.9
	3	360.379	23.424	93.5
	5	235.941	21.707	90.8
PNE-177/DICY	0	795.737	116.178	85.4
	1	349.628	34.613	90.1
	3	238.043	29.279	87.7
	5	351.83	37.998	89.2