Supplementary Material for

Enhancing both Long-Term Stability and Methylene Blue Adsorption Performance of $TiVCT_x$ via a Facile Antioxidation Treatment

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Table S1 After 14 days of storage, the peak value of $TiVCT_x$, OA-$TiVCT_x$, SC-$TiVCT_x$, TA-$TiVCT_x$ solutions and their percentage of area.

MXene	Peak value	Element	Peak area proportion
$TiVCT_x$	459 eV	Ti 2p	48.71%
	464.64 eV		26.33%
	516.33 eV	V 2p	20.37%
	517.13 eV		27.82%
	524.19 eV		29.01%
OA-$TiVCT_x$	459.05 eV	Ti 2p	26.06%
	464.64 eV		15.18%
	514.37 eV	V 2p	26.23%
	516.32 eV		20.36%
	523.61 eV		15.66%
SC-$TiVCT_x$	458.80 eV	Ti 2p	21.58%
	464.43 eV		14.39%
	514.37 eV	V 2p	20.49%
	516.32 eV		24.39%
	523.06 eV		11.71%
TA-$TiVCT_x$	458.83 eV	Ti 2p	1.45%
	464.88 eV		11.83%
	514.17 eV	V 2p	28.38%
	516.14 eV		26.43%
	523.17 eV		12.88%

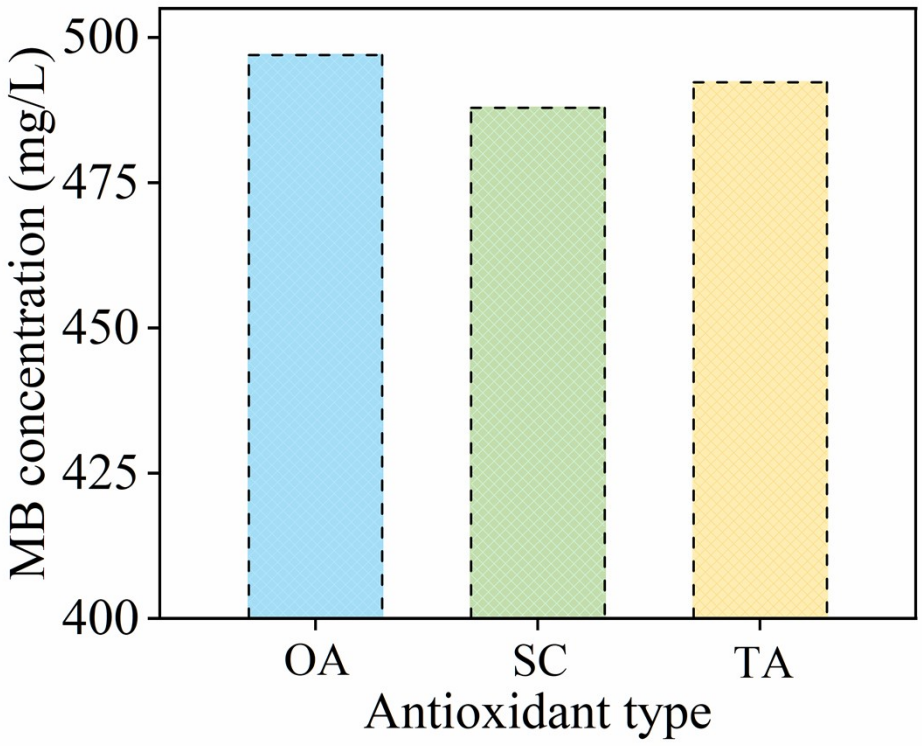

Figure S1. Residual concentration of MB solution with the initial concentration of 500 mg/g after adding 20 mg OA, 20 mg SC, 80 mg TA after 1h respectively.