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## Abstract

MXenes, an emerging family of two-dimensional materials, were promising electrode materials due to their excellent electronic conductivity and hydrophilicity. MXenes exhibit extraordinary rate performance and cycling stability when serving as the anode materials for Li-ion batteries, but they have relatively low capacities. We thus prepared Ti<sub>3</sub>C<sub>2</sub>T<sub>x</sub>/TiO<sub>2</sub> composites using a simple route to coat TiO<sub>2</sub> nanoparticles onto the delaminated few-layered MXenes, which functioned as spacers in the composite to suppress the restacking of MXene layers. The sample demonstrated excellent performance in the galvanostatic charge-discharge test, where a reversible capacity of 143 mAh g<sup>-1</sup> could still be maintained after 200 cycles at 0.5 A g<sup>-1</sup> and a distinct plateau region could be clearly observed in the charge-discharge profiles. Density Theory Function calculation revealed that the hybridization of few-layered MXene was able to improve the structural stability of the composite

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