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Supporting information for article:

Thorium(IV) adsorption onto multilayered Ti₃C₂T_x MXene: a batch, XRD and EXAFS combined study

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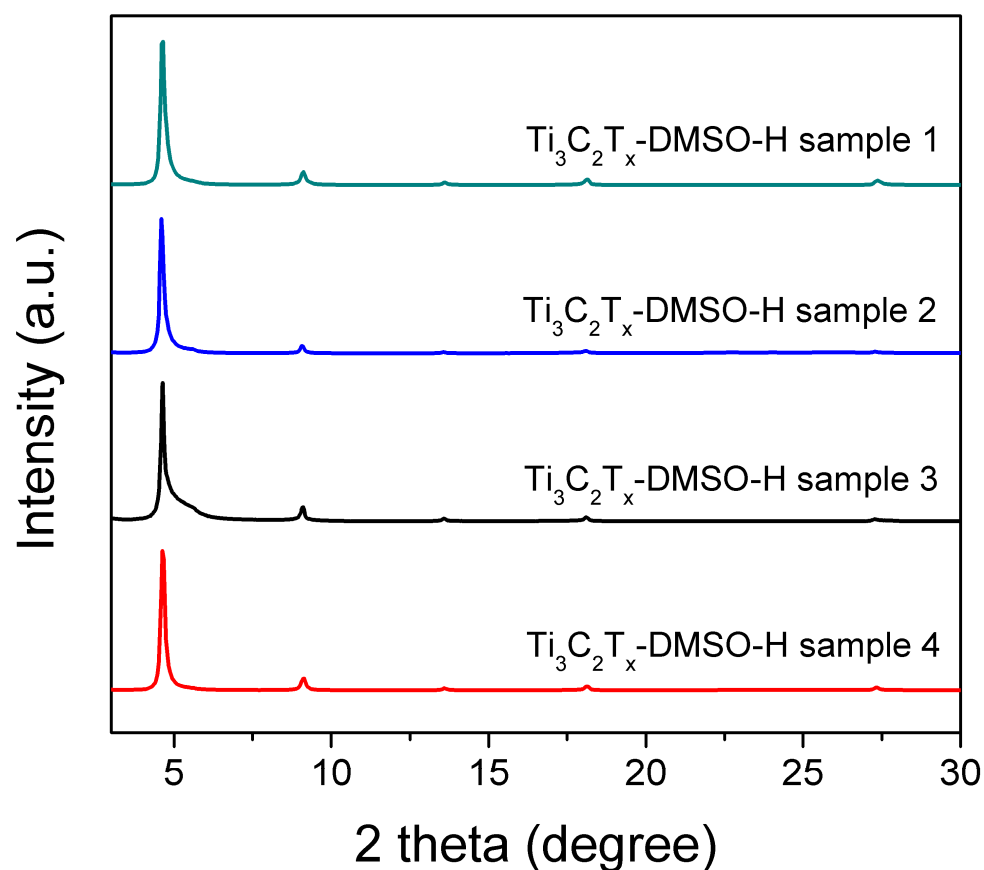


Figure S1 XRD patterns of $\text{Ti}_3\text{C}_2\text{T}_x\text{-DMSO-H}$ prepared separately in four batches. The (002) peaks of the four samples are all centered at 4.6° , which reflects that the reproducibility of the intercalated MXene preparation is very good.

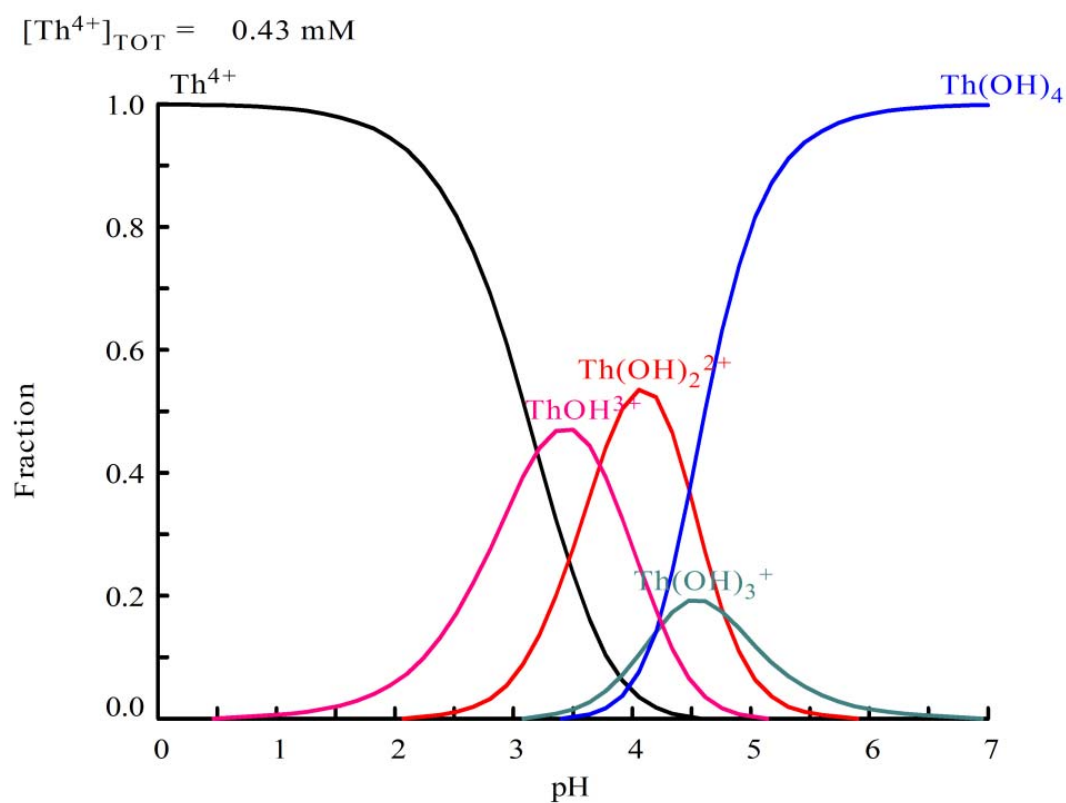


Figure S2 The species distribution of Th(IV) as a function of pH. The concentration of Th(IV) is 100 mg L^{-1} (0.43 mM). The software of Medusa/Hydra (developed by Ignasi Puigdomenech, the Royal Institute of Technology, Stockholm, Sweden) was used to calculate the chemical equilibrium diagrams of Th(IV).

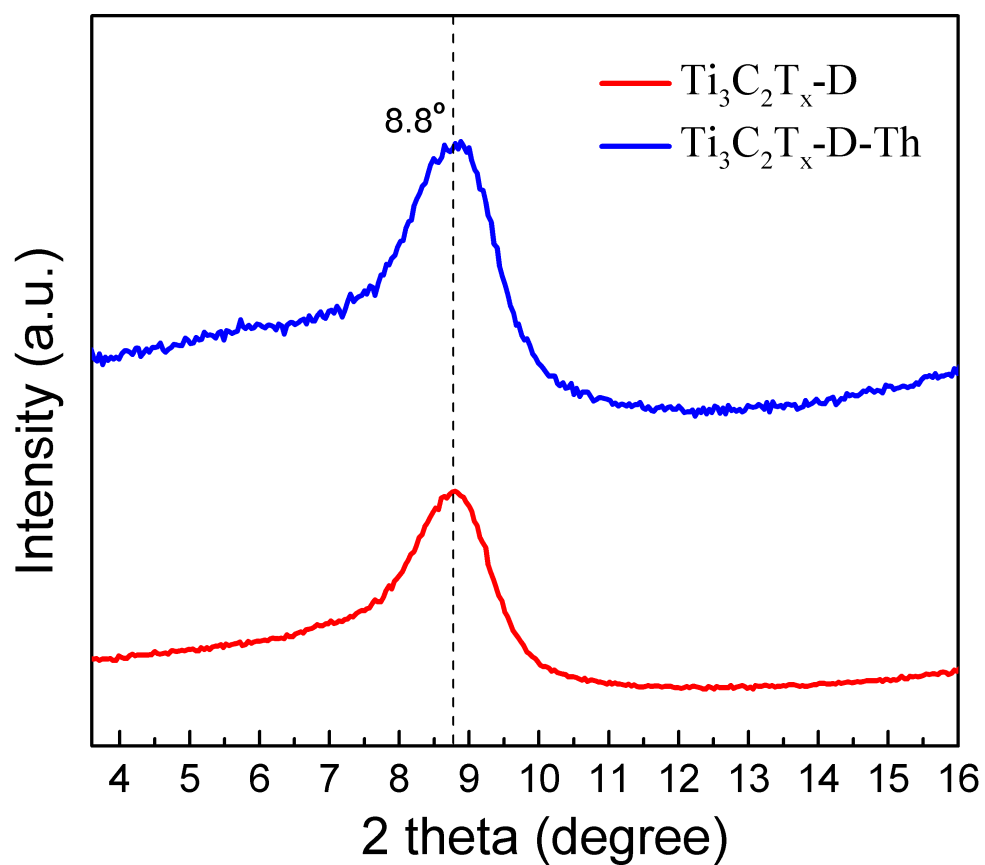


Figure S3 The XRD patterns of $\text{Ti}_3\text{C}_2\text{T}_x\text{-D}$ before and after Th(IV) adsorption. There was no shift about the MXene's (002) peak position after the adsorption, indicating that Th(IV) could not intercalate into the interlayers of $\text{Ti}_3\text{C}_2\text{T}_x\text{-D}$, and the adsorption only occurred on the external surface of the MXene.