

Supporting Information

Eosin Y-Sensitized Partially Oxidized Ti₃C₂ MXene for Photocatalytic Hydrogen Evolution

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The XRD spectra of Ti_3AlC_2 and TiO_2 (anatase) were showed in supporting information. The FT-IR of different samples and Raman and PL spectra of TiO_2 were also demonstrated.

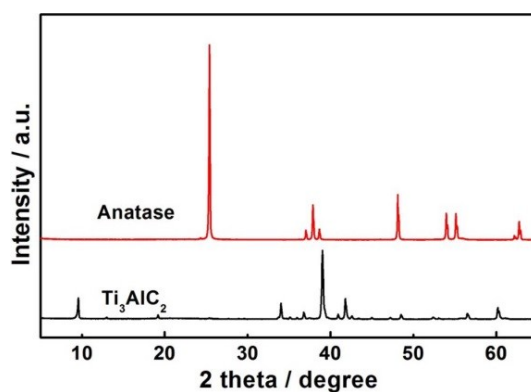


Figure S1. The XRD spectra of Ti_3AlC_2 and TiO_2 (anatase).

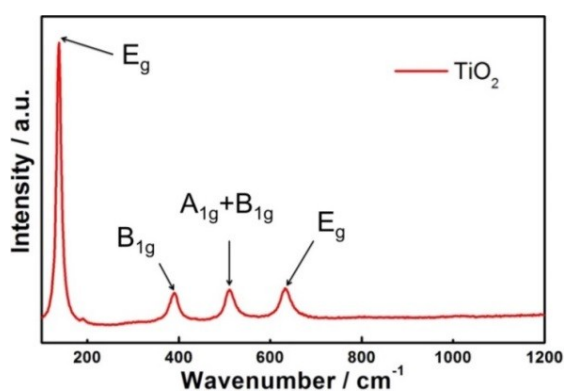


Figure S2. The Raman spectra of TiO_2 .

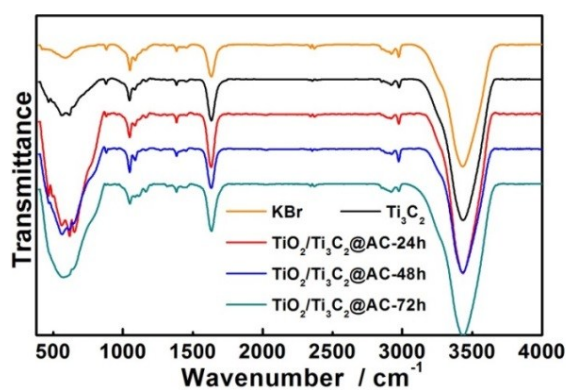


Figure S3. The FT-IR spectra of different samples.

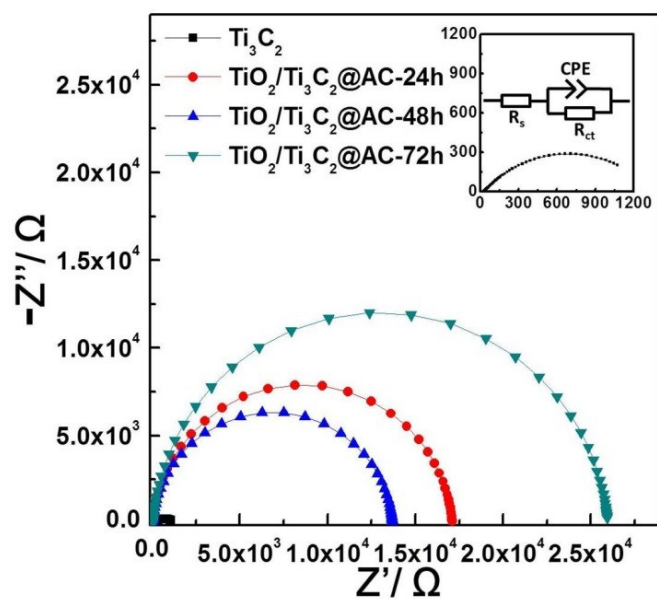


Figure S4. The Nyquist plots for Ti_3C_2 , $\text{TiO}_2/\text{Ti}_3\text{C}_2@AC-24h$, $\text{TiO}_2/\text{Ti}_3\text{C}_2@AC-48h$ and $\text{TiO}_2/\text{Ti}_3\text{C}_2@AC-72h$.

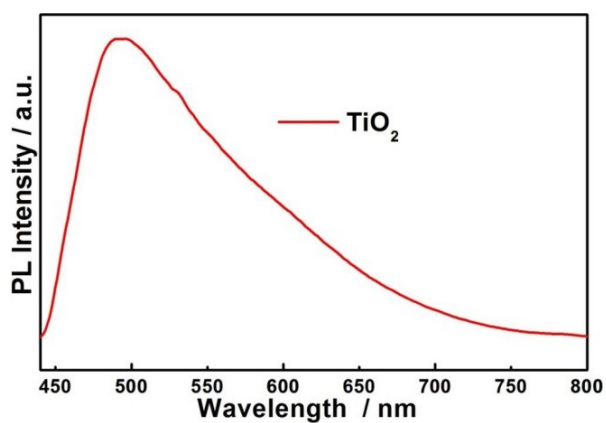


Figure S5. The PL spectra of TiO_2 .

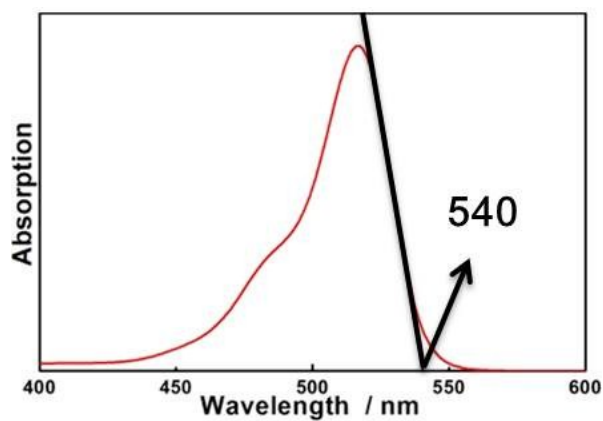


Figure S6. The absorption spectra of EY.

Table S1. The fitting data of Nyquist plots for Ti_3C_2 , $\text{TiO}_2/\text{Ti}_3\text{C}_2@\text{AC}-24\text{h}$, $\text{TiO}_2/\text{Ti}_3\text{C}_2@\text{AC}-48\text{h}$ and $\text{TiO}_2/\text{Ti}_3\text{C}_2@\text{AC}-72\text{h}$.

Samples	R_s/Ω	R_{ct}/Ω	CPE-P
Ti_3C_2	30	1319	0.52
$\text{TiO}_2/\text{Ti}_3\text{C}_2@\text{AC}-24\text{h}$	27	17086	0.95
$\text{TiO}_2/\text{Ti}_3\text{C}_2@\text{AC}-48\text{h}$	24	13678	0.95
$\text{TiO}_2/\text{Ti}_3\text{C}_2@\text{AC}-72\text{h}$	26	25932	0.95