



Supplementary Material

# Microwave-Assisted Solvothermal Synthesis of Mo-Doped TiO<sub>2</sub> with Exceptional Textural Properties and Superior Adsorption Kinetics

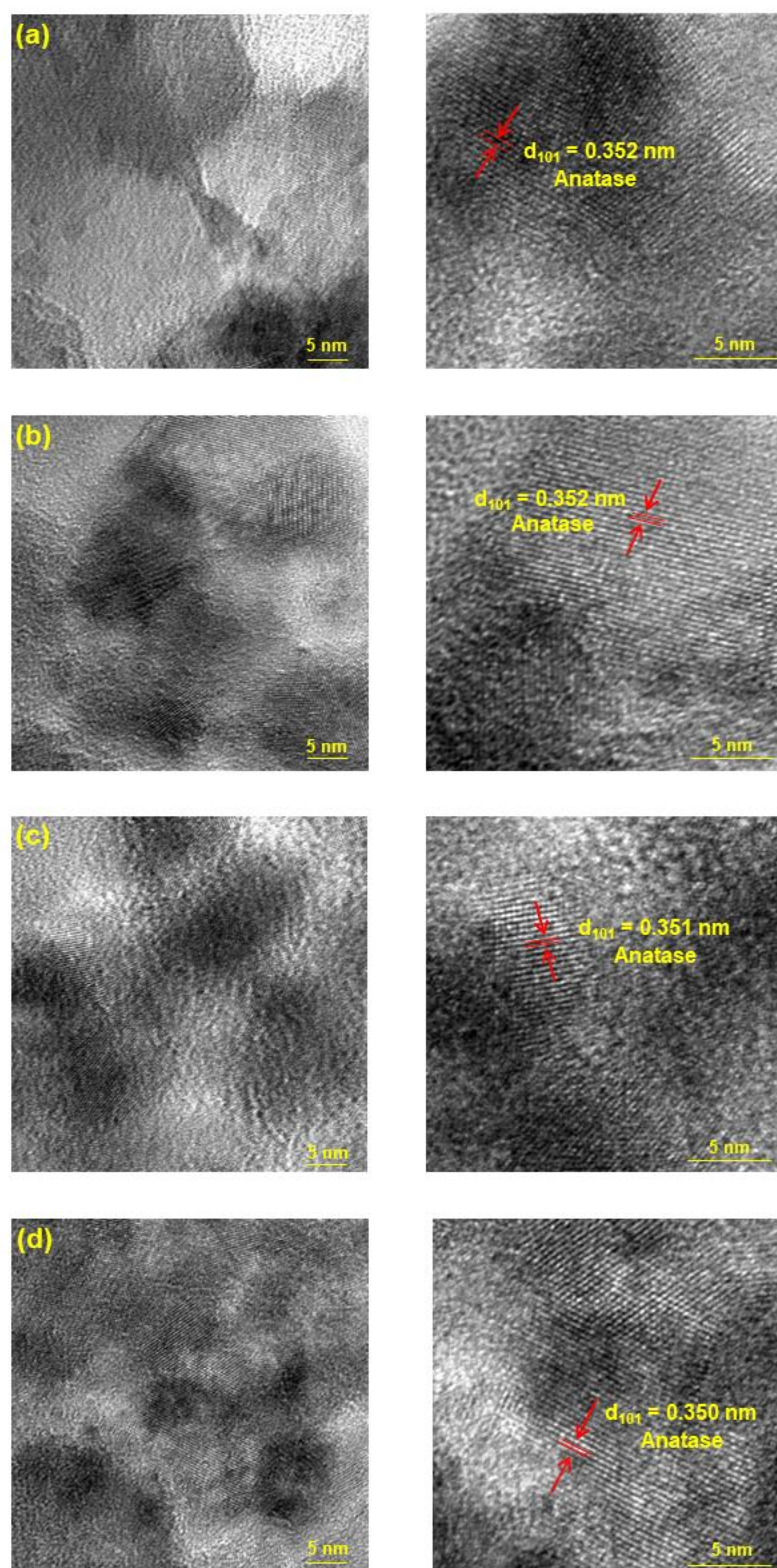
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**Figure S1.** High resolution TEM images of (a) TiO<sub>2</sub>, (b) TiO<sub>2</sub>-Mo-0.9, (c) TiO<sub>2</sub>-Mo-1.5, and (d) TiO<sub>2</sub>-Mo-2.2.

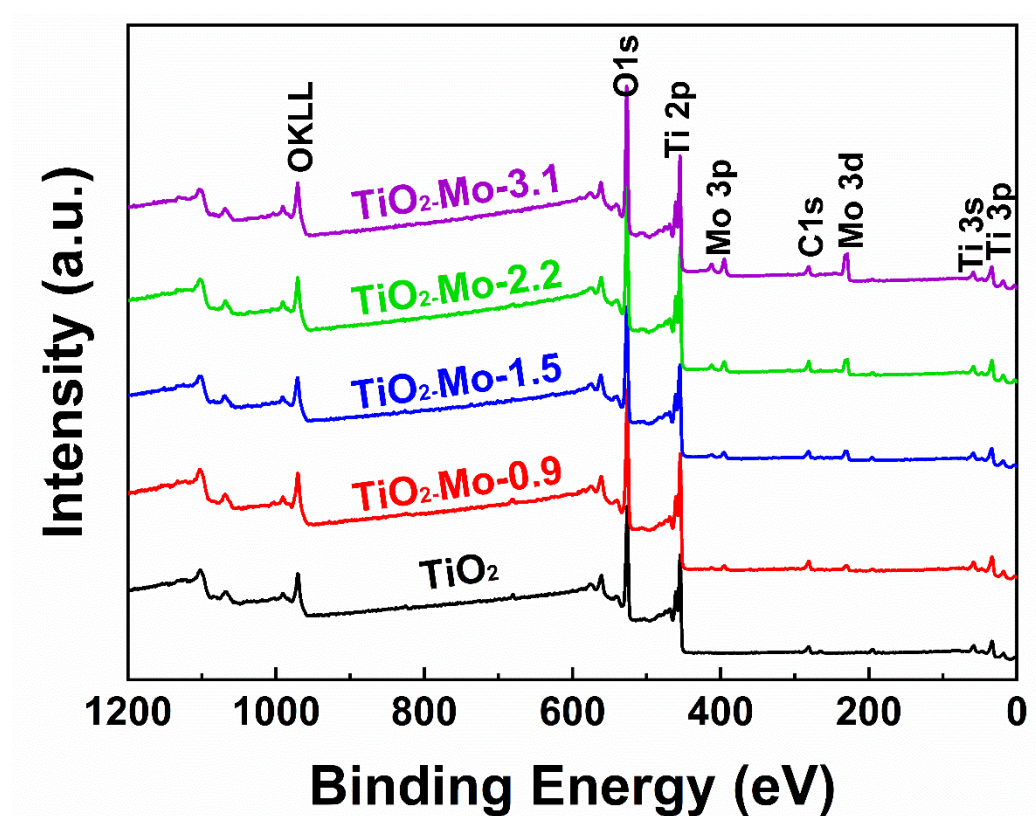


Figure S2. XPS survey spectra of  $\text{TiO}_2$  and Mo- $\text{TiO}_2$ .

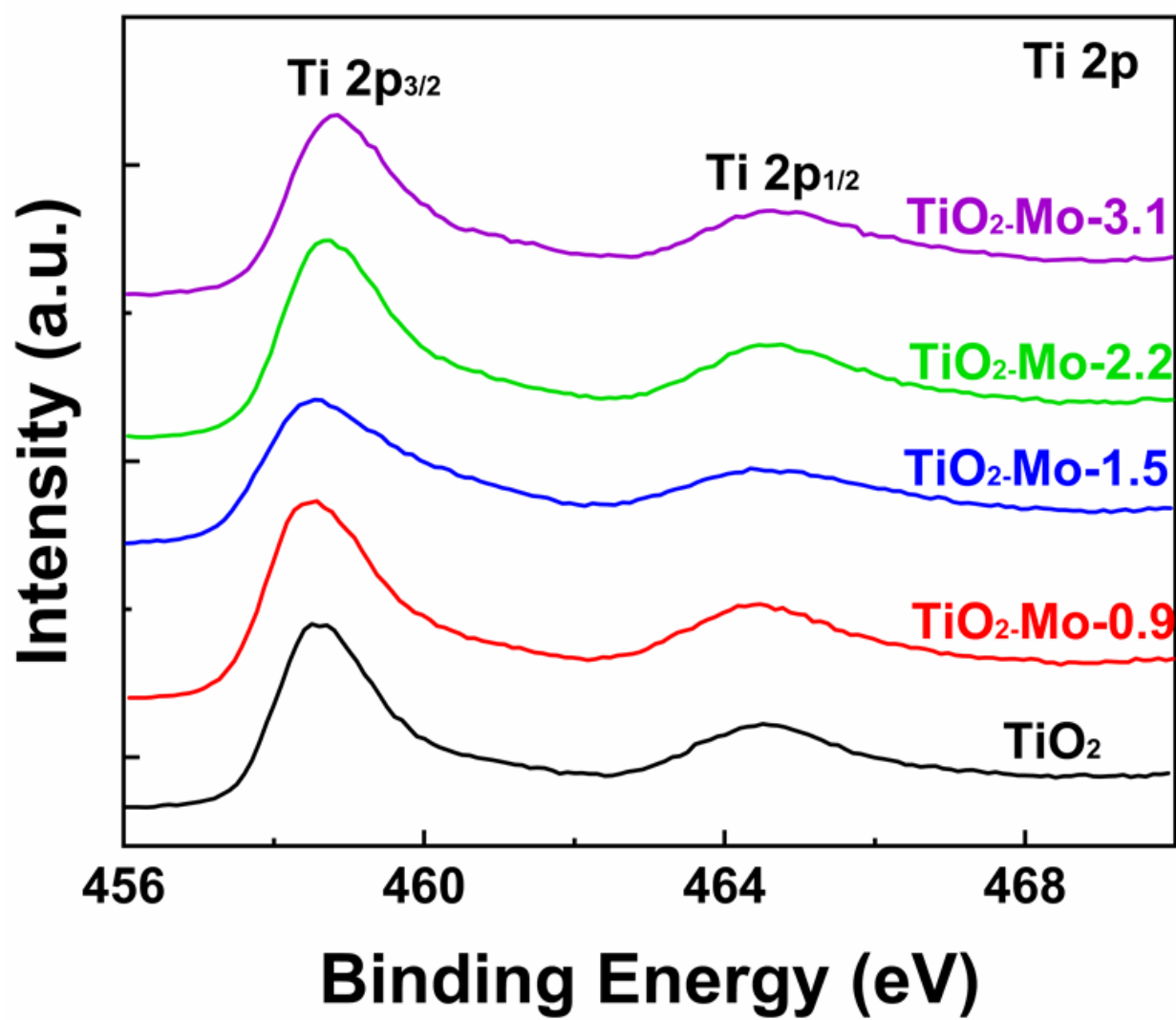


Figure S3. High-resolution XPS spectra of Ti 2p region in all samples.

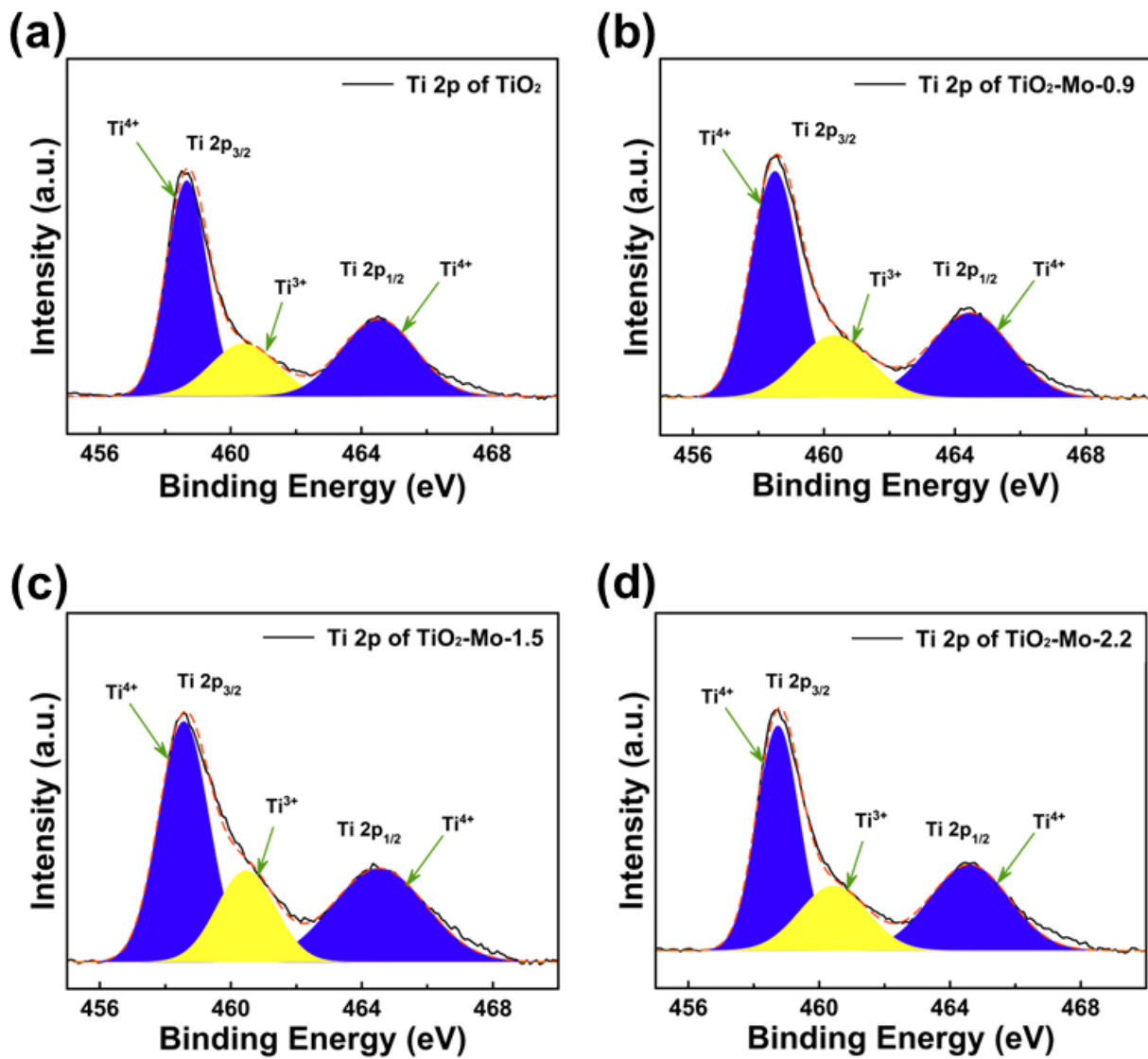


Figure S4. XPS deconvolution of Ti 2p core level in (a)  $TiO_2$ , (b)  $TiO_2-Mo-0.9$ , (c)  $TiO_2-Mo-1.5$ , and (d)  $TiO_2-Mo-2.2$ .



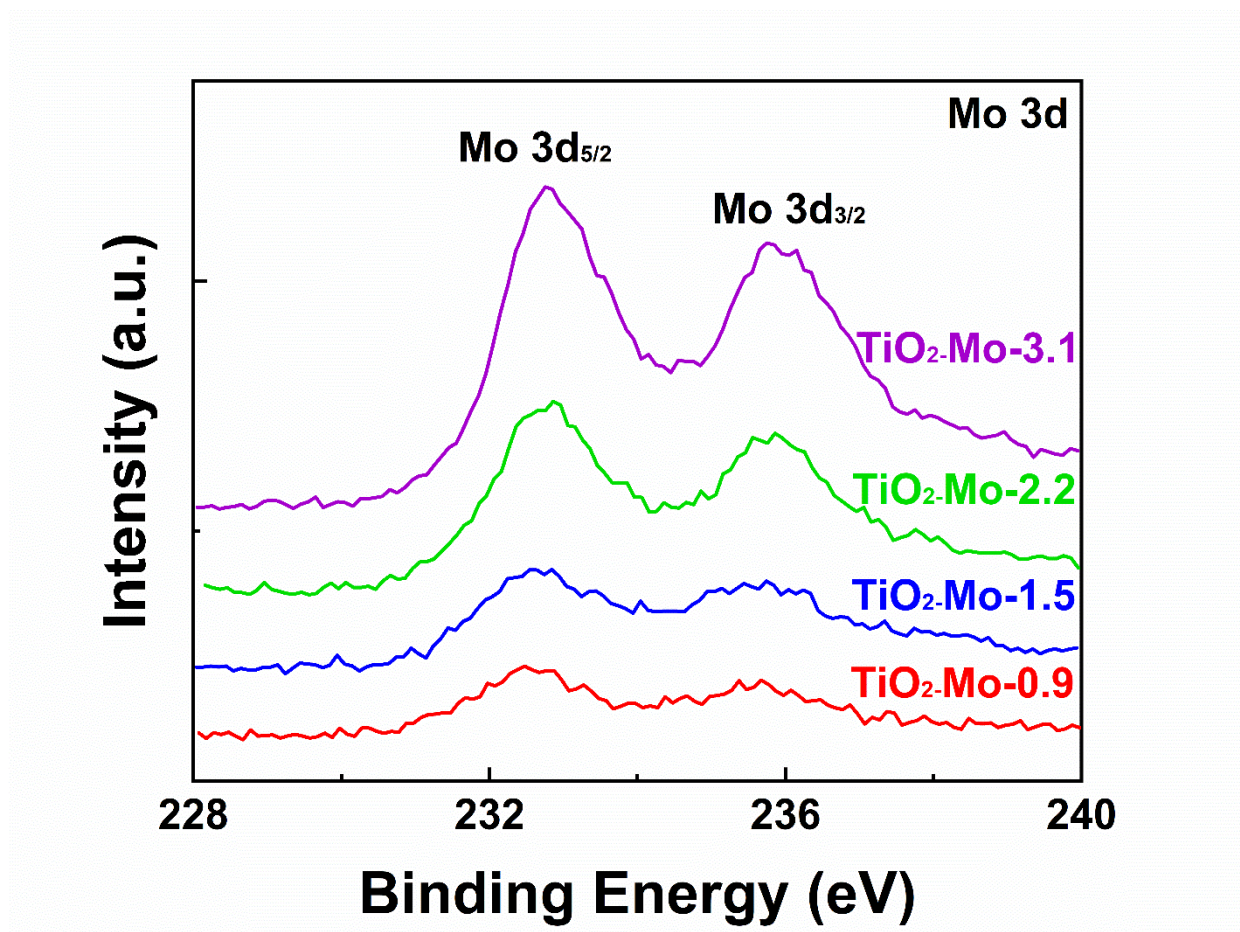


Figure S5. High-resolution XPS spectra of Mo 3d region in studied samples.

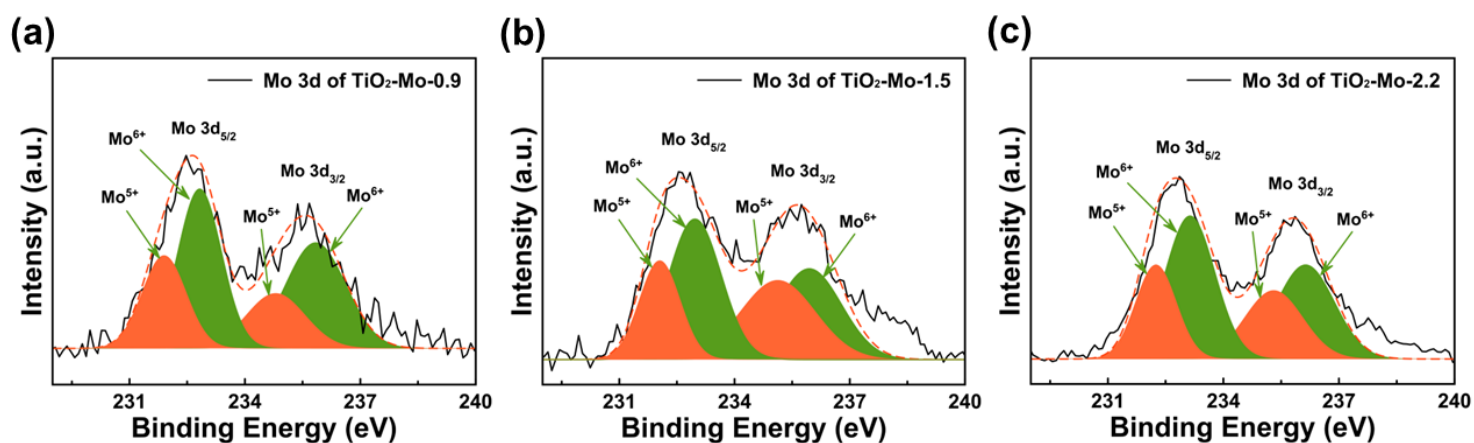


Figure S6. XPS deconvolution of Mo 3d core level in (a) TiO<sub>2</sub>-Mo-0.9, (b) TiO<sub>2</sub>-Mo-1.5, and (c) TiO<sub>2</sub>-Mo-2.2.

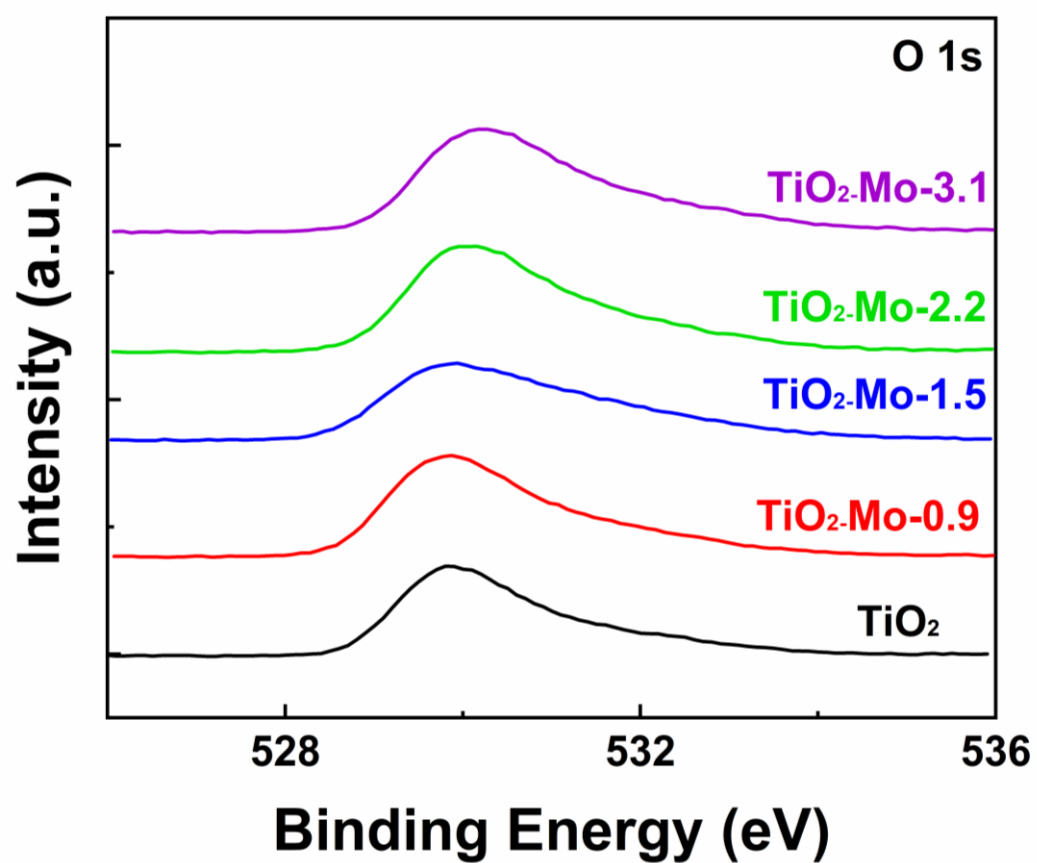
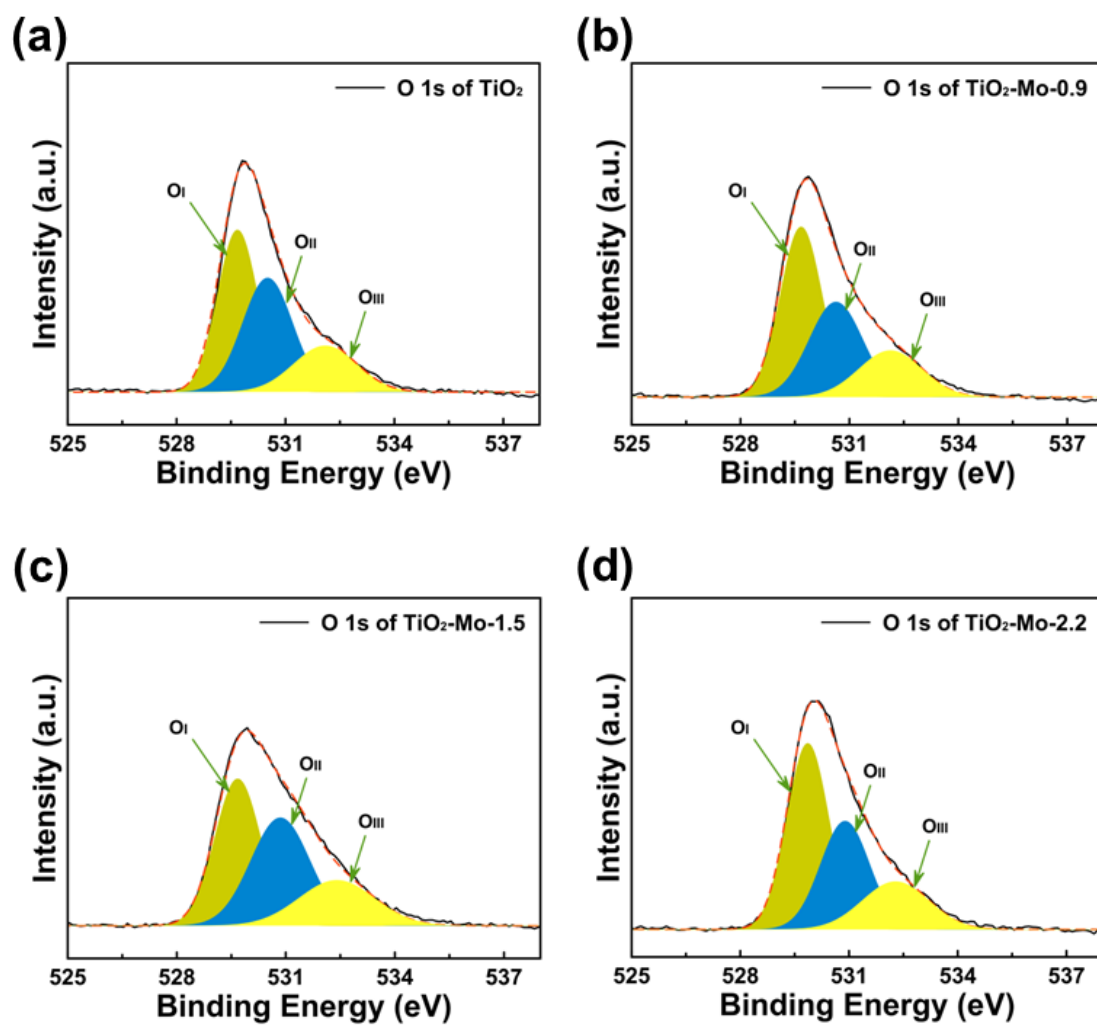


Figure S7. High-resolution XPS spectra of O 1s region in investigated samples.



**Figure S8.** XPS deconvolution of O 1s core level in (a) TiO<sub>2</sub>, (b) TiO<sub>2</sub>-Mo-0.9, (c) TiO<sub>2</sub>-Mo-1.5, and (d) TiO<sub>2</sub>-Mo-2.2.



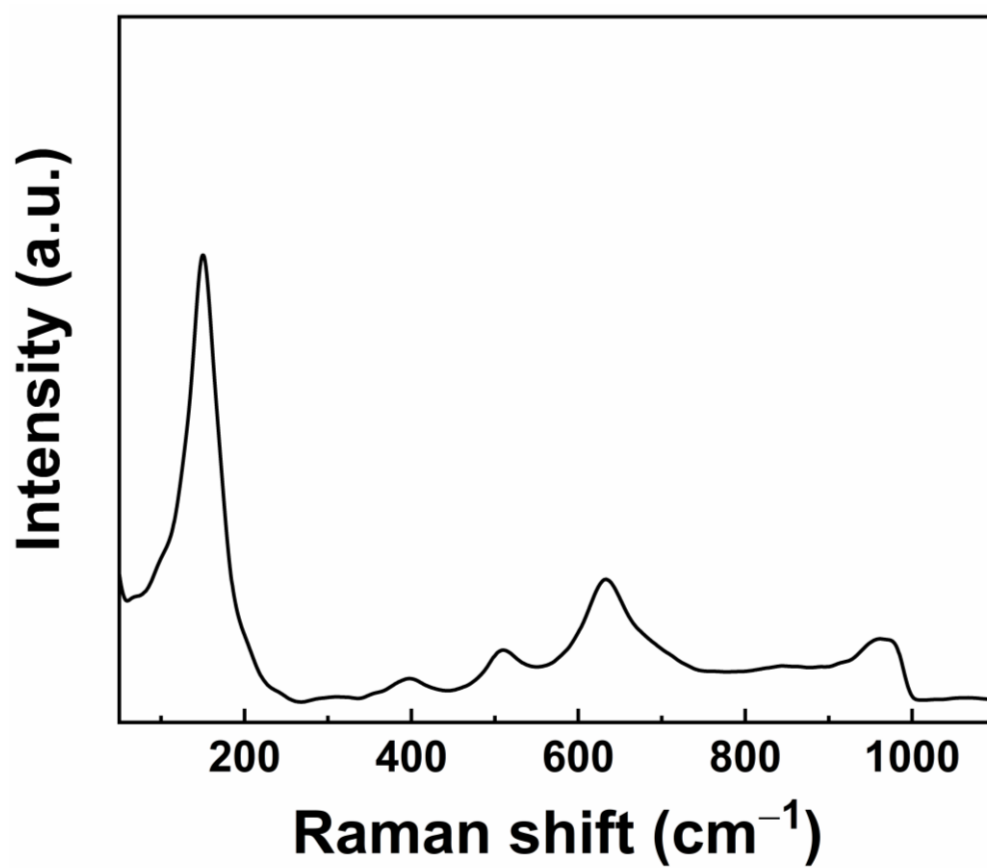
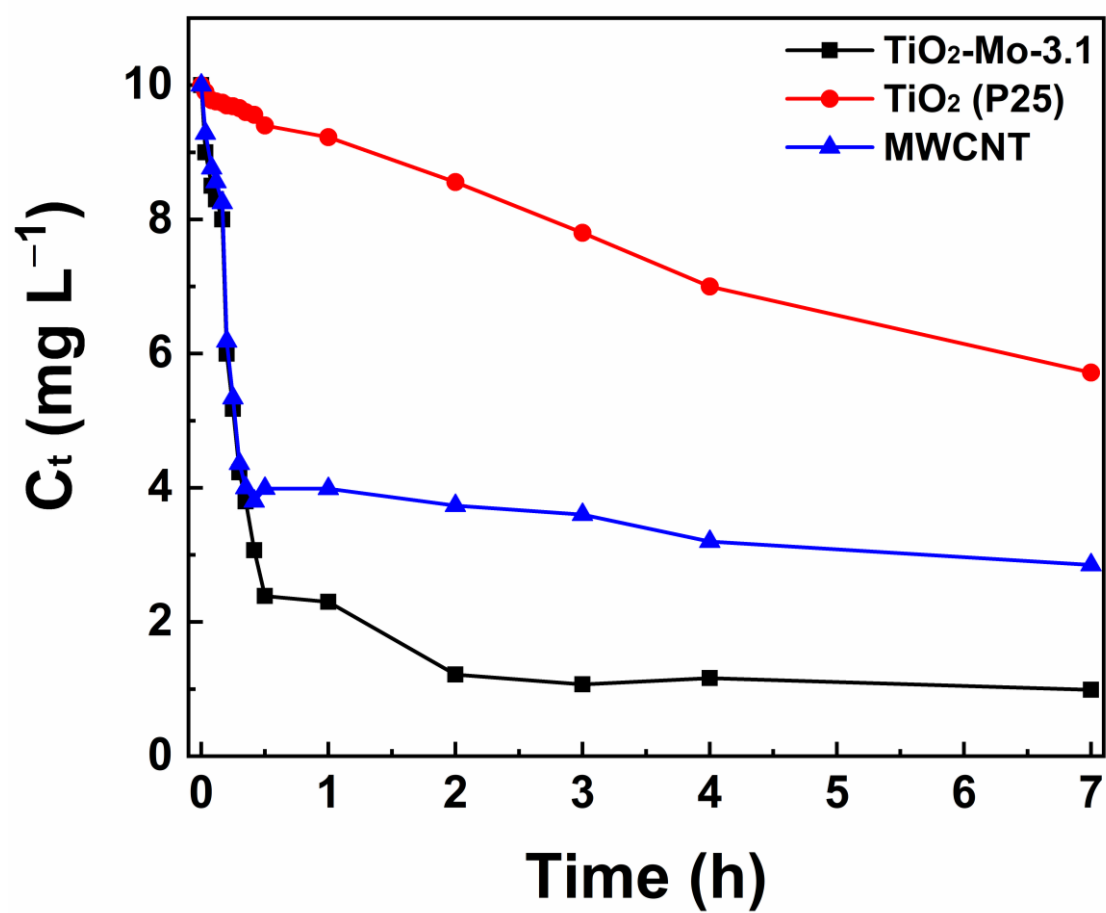


Figure S9. Raman spectrum of TiO<sub>2</sub>-Mo-3.9.



**Figure S10.** Effect of contact time on the adsorption of Rh.B. for  $\text{TiO}_2\text{-Mo-3.1}$  compared to commercial adsorbents ( $C_0 = 10 \text{ mg L}^{-1}$ , temperature = 298K).