

Supplementary Materials

Superior photoelectrocatalytic performance of Mo-doped γ -Fe₂O₃ catalyst for degrading tetracycline

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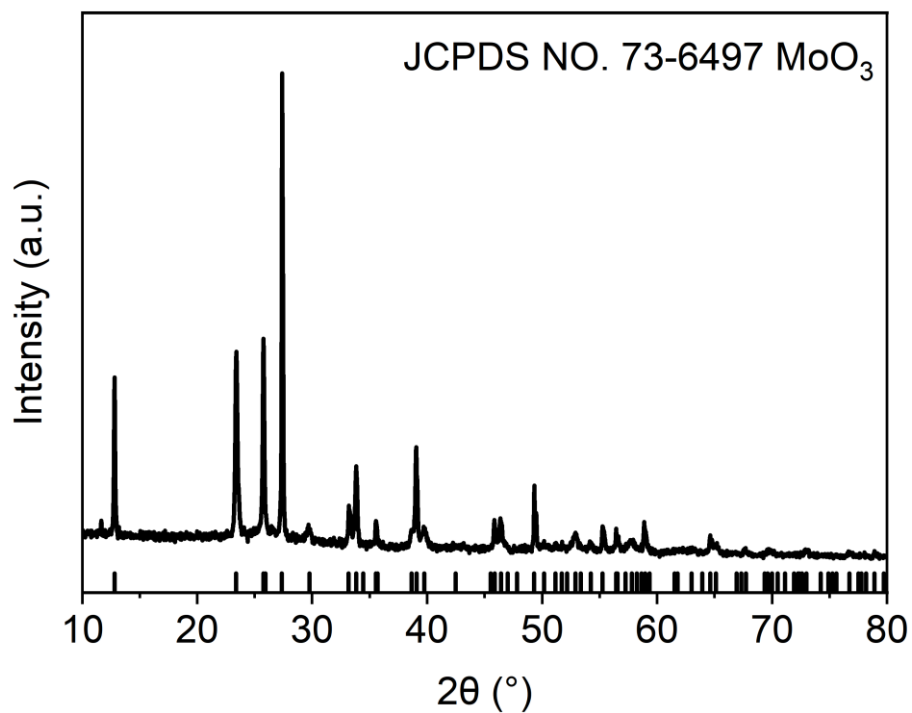


Figure S1. XRD patterns of MoO₃.

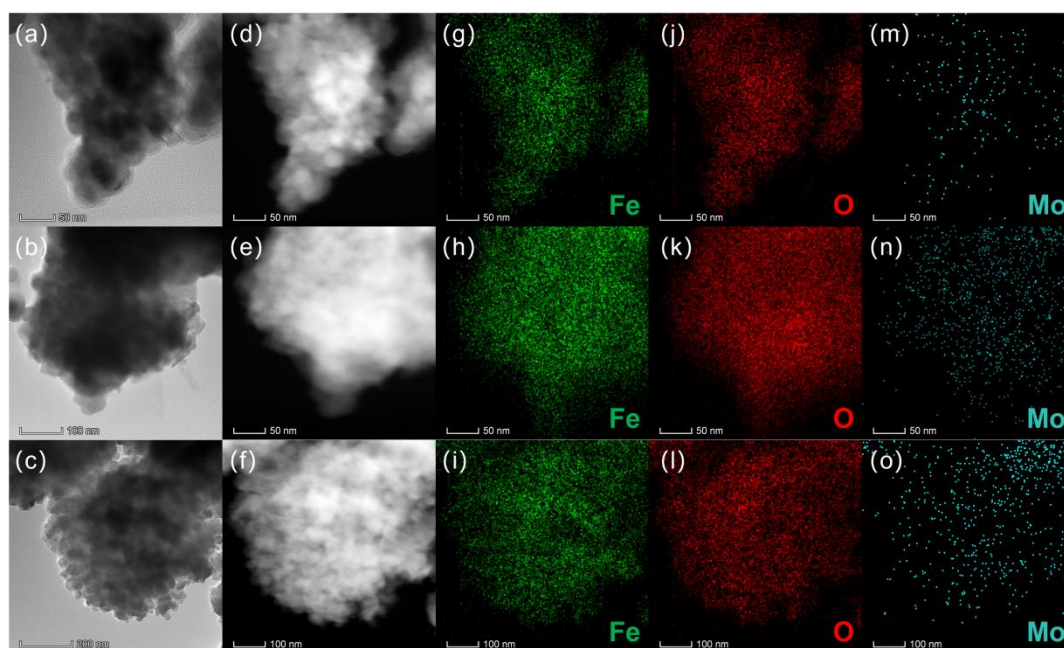


Figure S2. TEM and EDS mapping image of 27% Mo-Fe₂O₃. (a-c) Bright-field TEM images. (d-f) Dark-field TEM images. (g-i) Fe elemental mapping. (j-l) O elemental mapping. (m-o) Mo elemental mapping.

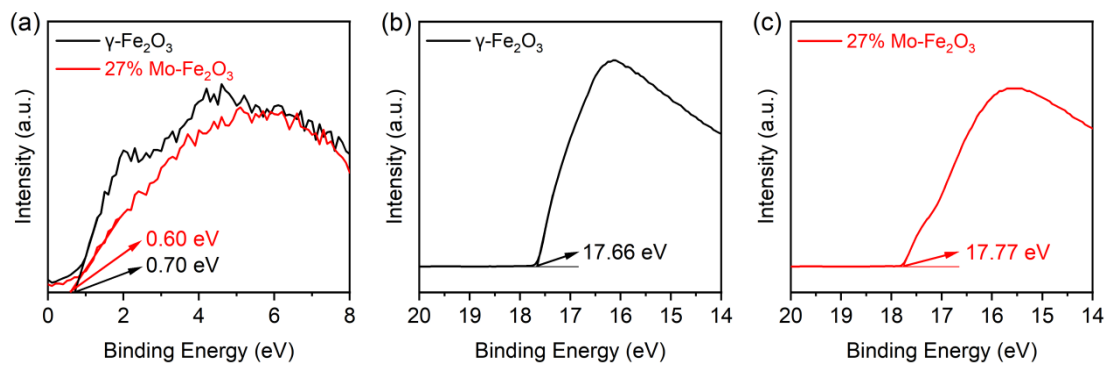


Figure S6. (a) XPS valence band spectra. (b) and (c) UPS measurements.

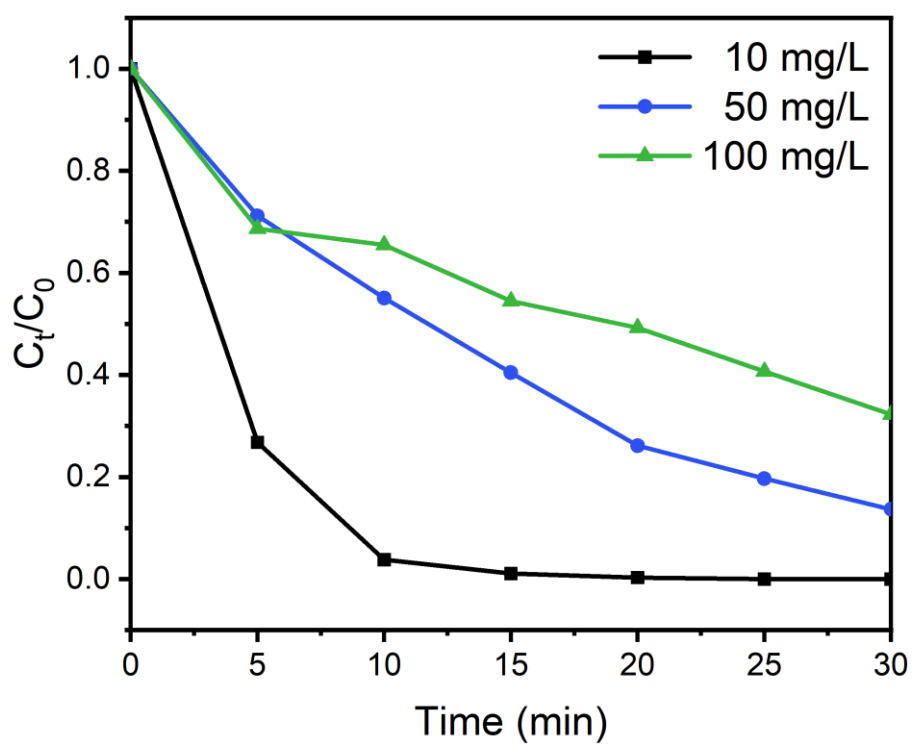


Figure S7. PEC degradation of TC with different initial concentrations by 27% Mo-Fe₂O₃.

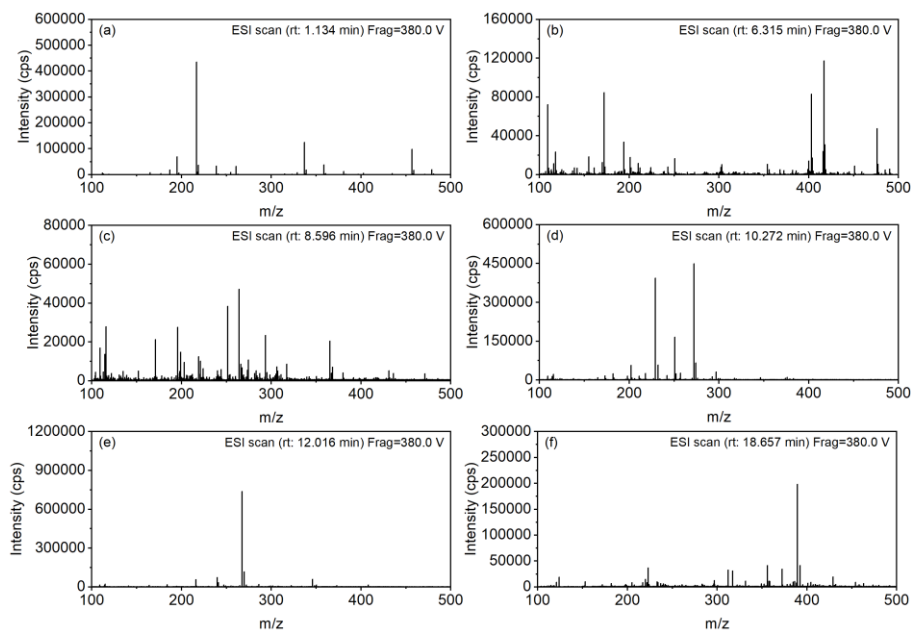


Figure S8. LC-MS spectra of the intermediate products during TC degradation.

Table S1. ICP-OES measured Mo and Fe content in the 27% Mo-Fe₂O₃

Catalysts	Mo/Fe atomic ratio	Measured Mo/Fe ₂ O ₃
27% Mo-Fe ₂ O ₃	16.66%	33.32%

Table S2. The proportion of each element in the catalysts

Catalysts	Fe ³⁺	Fe ²⁺	O _γ	O _β	O _α
γ-Fe ₂ O ₃	44.67%	55.33%	14.62%	36.91%	48.47%
27% Mo-Fe ₂ O ₃	45.48%	54.52%	16.62%	32.69%	50.69%

Table S3. ionic radius of Mo and Fe

Element	ionic radius
Fe ²⁺	0.61 Å
Fe ³⁺	0.55 Å
Mo ⁵⁺	0.61 Å
Mo ⁶⁺	0.59 Å