

**Table S1.** Preparation of amorphous W-Fe oxide hydrate gels  $\text{WO}_3 \cdot x\text{Fe}_2\text{O}_3 \cdot n\text{H}_2\text{O}$  at room temperature <sup>1</sup>.

Expected Fe/W Atomic Ratio in Gel	$\text{Na}_2\text{WO}_4$ , M	$\text{Fe}_2(\text{SO}_4)_3$ , M	$\text{H}_2\text{SO}_4$ , M
0.20-0.25	0.0196	0.0147	0.240
0.14-0.16	0.0196	0.0067	0.235
0.13-0.15	0.0196	0.0061	0.240
0.06-0.10	0.0196	0.0045	0.275

<sup>1</sup> All gels are obtained according to the scheme: (1) to X grams of  $\text{Fe}_2(\text{SO}_4)_3 \cdot n\text{H}_2\text{O}$ , Y mL of 2M  $\text{H}_2\text{SO}_4$  and deionized water are added to provide the desired concentration of  $\text{Fe}_2(\text{SO}_4)_3$  and  $\text{H}_2\text{SO}_4$  in a 500 mL solution; (2) 10 mL of 1 M  $\text{Na}_2\text{WO}_4$  is added to the above solution and stirred vigorously using an electromagnetic stirrer. The resulting solutions with precipitates are kept at room temperature for 24 hours, after which the precipitates are filtered, washed with deionized or distilled water, and dried at room temperature. Prolonged washing is not recommended because it can cause peptization, leading to changes in the composition of the residual gel precipitate.