

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 ¹.

Expected Fe/W Atomic Ratio in Gel	Na_2WO_4 , M	$\text{Fe}_2(\text{SO}_4)_3$, M	H_2SO_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

¹ 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 H_2SO_4 and deionized water are added to provide the desired concentration of $\text{Fe}_2(\text{SO}_4)_3$ and H_2SO_4 in a 500 mL solution; (2) 10 mL of 1 M Na_2WO_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.