Electronic Supplementary Information

Efficient activation of persulfate by calcium sulfate whisker supported nanoscale zero-valent iron for methyl orange removal

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ANOVA: The ANOVA of the regression model is illustrated in Table S1. The Model F-value of 223.05 showed that the quadratic model was highly significant. There was only a 0.01% chance that a F-value this large could occur due to noise. Values of "Prob>F" less than 0.0001 indicates that model terms are significant. The "Pred R-Squared" of 0.9448 was close to the "Adj R-Squared" of 0.9921, means that the predicted and experimental values had a good consistency.[1] The corresponding and regression values of "Prob>Fless" than 0.0500 indicates the significance of model terms. In this case A, B, C, AB, AC, A^2, B^2, and C^2 are significant model terms. The ratio of "Adeq Precision" larger than 4 is desirable,[2] the ratio of 48.649 indicated an adequate signal and the model can be used to navigate the design space. The F-value denotes the significance in the model equation.[3, 4] he regression and corresponding value of "Prob>Fless" less than 0.0500 indicates that model terms are significant, in this case A, B, C, AB, AC, A^2, B^2, C^2 are significant model terms.

Table S1 Analysis of variance (ANOVA) of the response surface model.

Source	Sum of Squares	DF	F-Value	Prob(P)>F
Quadratic	0.513	9	223.05	< 0.0001
A- nZVI/CSW-2	0.023	1	88.27	< 0.0001
B- PS	0.173	1	676.98	< 0.0001
C-T	0.181	1	706.04	< 0.0001
AB	0.012	1	46.02	0.0003

AC	0.005	1	20.83	0.0026
BC	3.6E-05	1	0.14	0.7187
A^2	0.017	1	64.87	< 0.0001
B^2	0.060	1	234.18	< 0.0001
C^2	0.032	1	124.66	< 0.0001

From the Fig. S1, the crystal structure and morphology could be clearly observed, the morphology of CSW was smooth and needle-like.
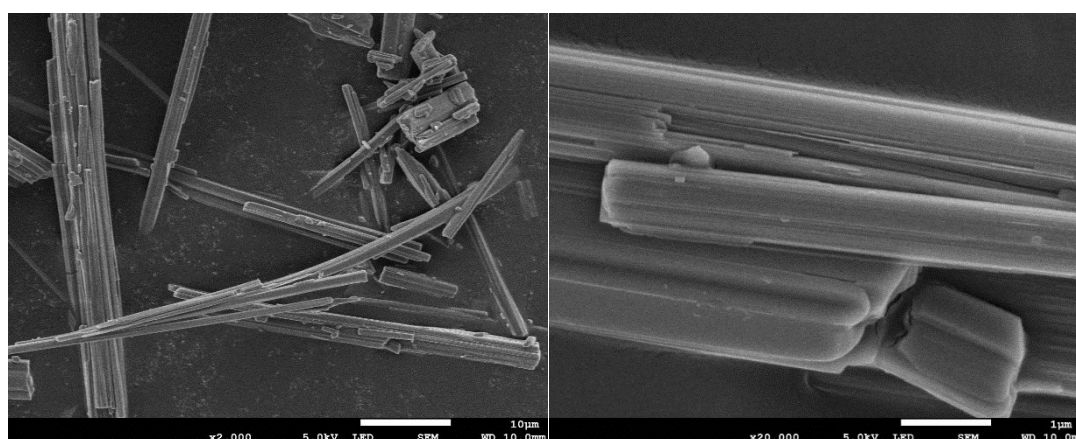
Fig. S1. The SEM images of CSW

References

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