

## Supplementary Material

### Synthesis of petal-like $\delta$ -MnO<sub>2</sub> and its catalytic ozonation performance

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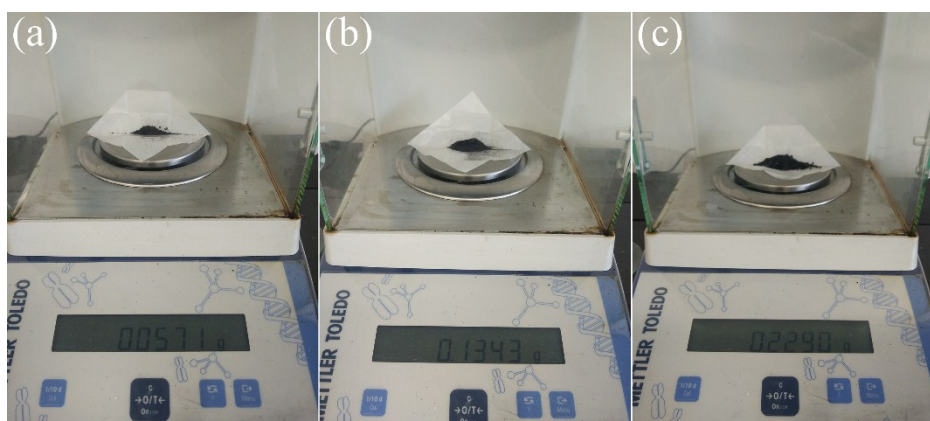
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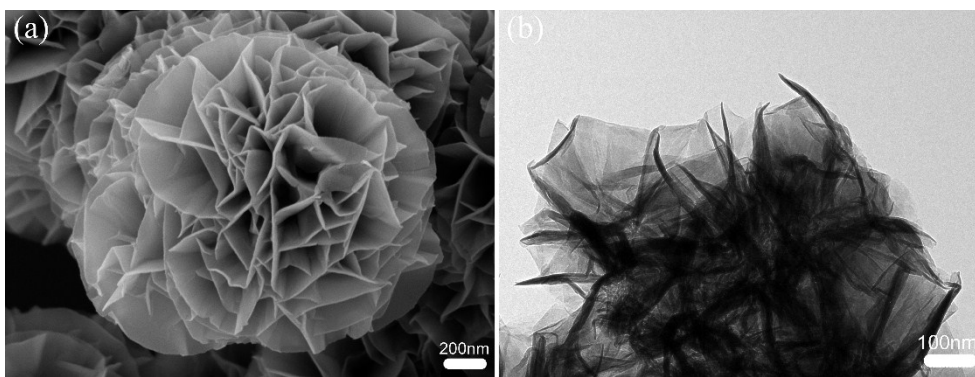
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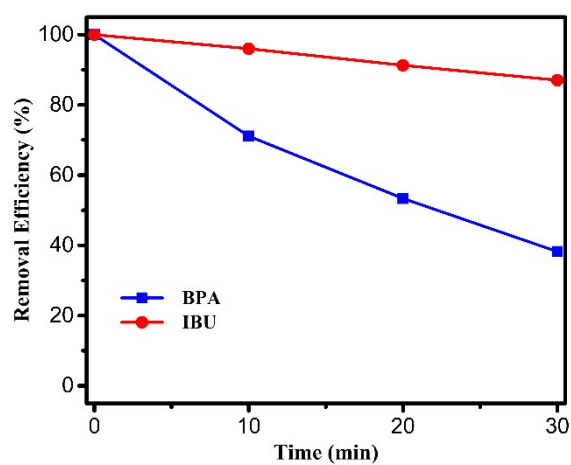
E-mail address: zhaosx@sz.tsinghua.edu.cn (S.-X. Zhao).



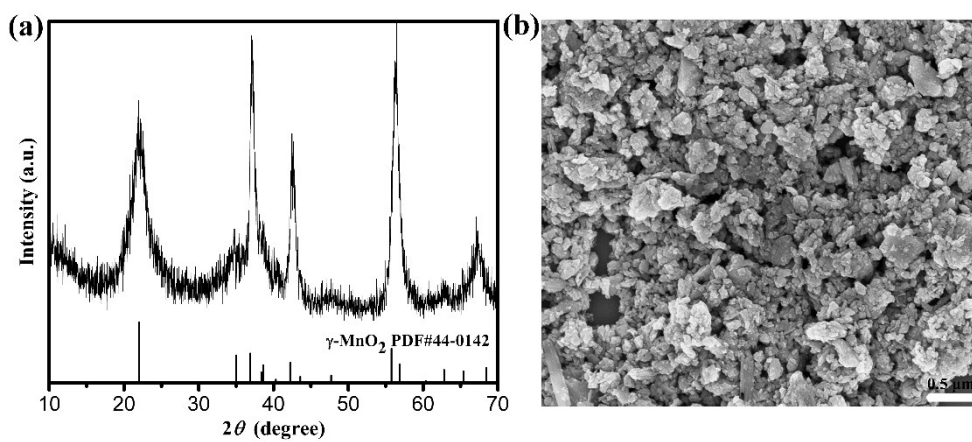
**Fig. S1** The quality of the preparation of samples: (a)  $\delta$ -MnO<sub>2</sub>-C0.1-12, (b)  $\delta$ -MnO<sub>2</sub>-C0.1-18, (c)  $\delta$ -MnO<sub>2</sub>-C0.1-24.



**Fig. S2** The higher magnification image of  $\delta$ -MnO<sub>2</sub>-C0.1-24: (a) SEM, (b) TEM.



**Fig. S3** Ozonation of BPA and IBU without catalyst. Reaction conditions: [BPA]<sub>0</sub> = 10 ppm, [IBU]<sub>0</sub> = 10 ppm, ozone concentration: 4 mg/L, ozone flow rate: 0.2 L/min.



**Fig. S4** (a) XRD patterns and (b) SEM image of the commercial MnO<sub>2</sub>.