

## Electronic Supplementary Information

### A turn-on fluorescent probe for sensitive detection of ascorbic acid based on SiNPs-MnO<sub>2</sub> nanocomposites

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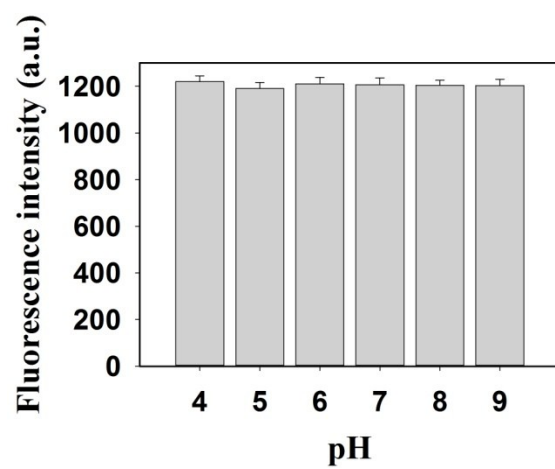
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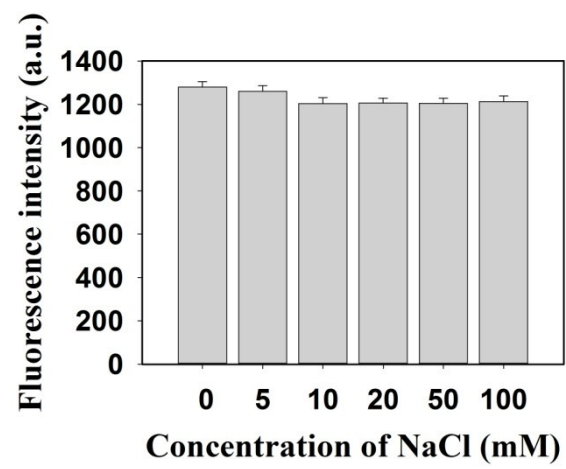
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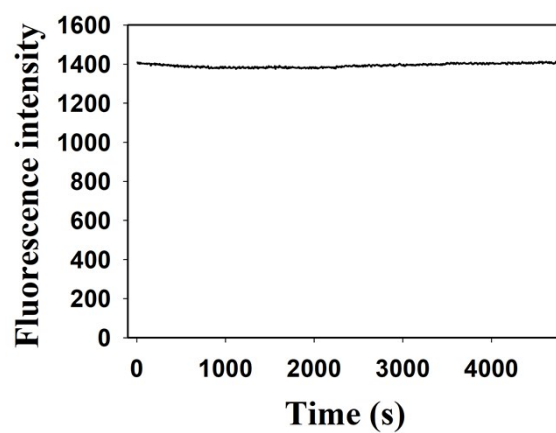
**Fig. S1.** Fluorescence intensity variation of SiNPs at various pH values.



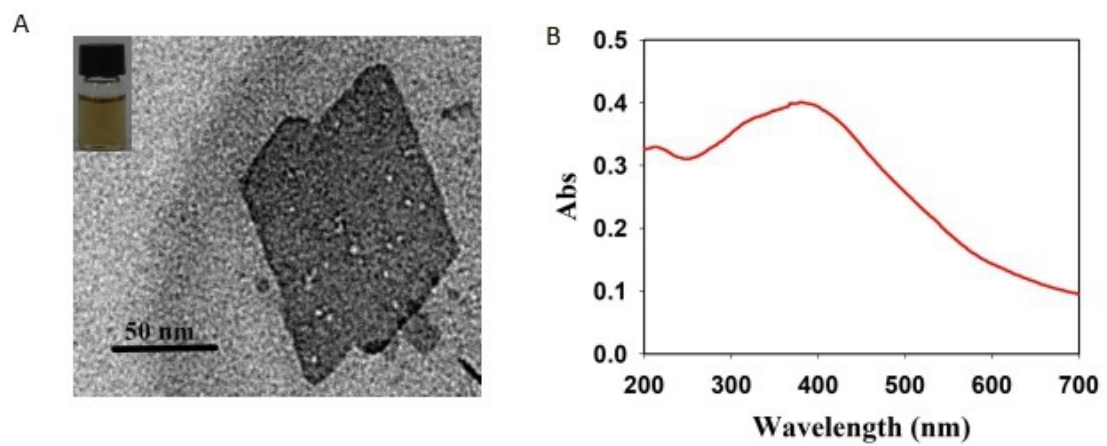
**Fig. S2.** Fluorescence intensity variation of SiNPs at various concentrations of NaCl.



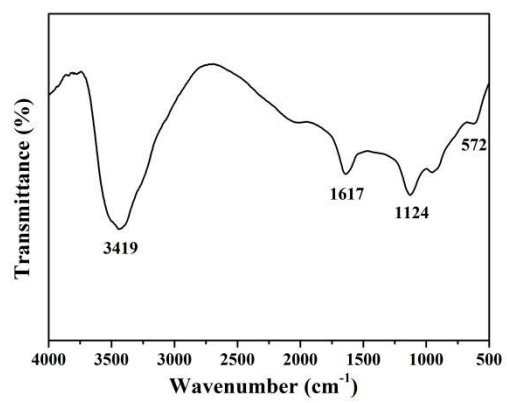
**Fig. S3.** Effects of UV irradiation time on the fluorescence intensity variation of the SiNPs.



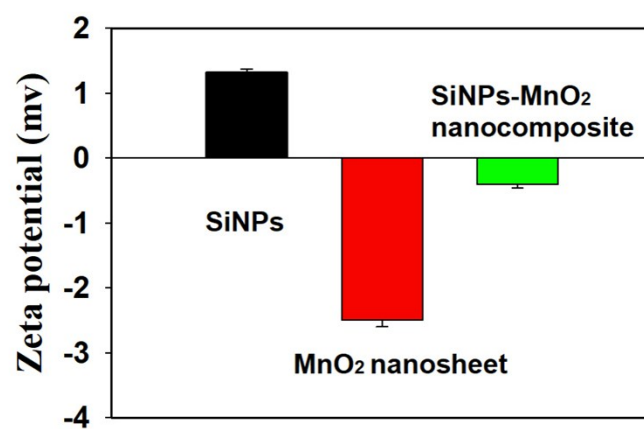
**Fig. S4.** TEM image of prepared BSA-templated MnO<sub>2</sub> nanosheets (A) and UV-vis absorption spectrum of MnO<sub>2</sub> nanosheets.



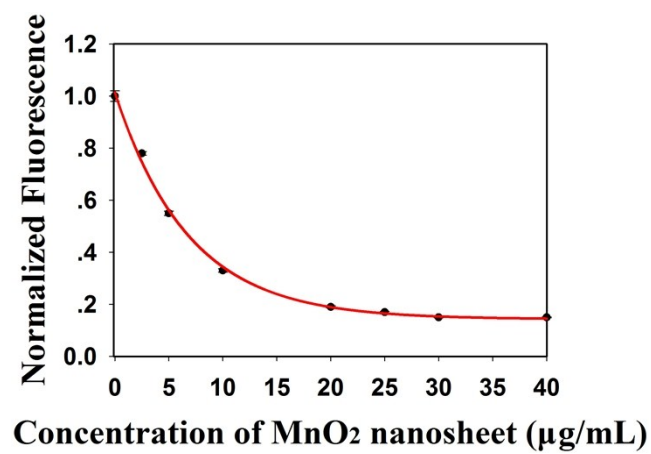
**Fig. S5.** FT-IR spectrum of BSA-templated MnO<sub>2</sub> nanosheets.



**Fig. S6.** Zeta potential of SiNPs, BSA-templated MnO<sub>2</sub> nanosheets, and the SiNPs-MnO<sub>2</sub> nanocomposites.



**Fig. S7.** Effect of the amount of BSA-templated MnO<sub>2</sub> nanosheets as quenchers on the fluorescence of the nanosystem. Error bars are standard deviation of three repetitive experiments.





**Fig. S8.** Effect of reaction time on the fluorescence of the SiNPs-MnO<sub>2</sub> nanocomposites with ascorbic acid. Error bars are standard deviation of three repetitive experiments.

