Electronic Supplementary Information (ESI)

2D g-C_3N_4-MnO_2 Nanocomposite for Sensitive and Rapid Turn-On Fluorescence Detection of H_2O_2 and Glucose

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S-11. References.

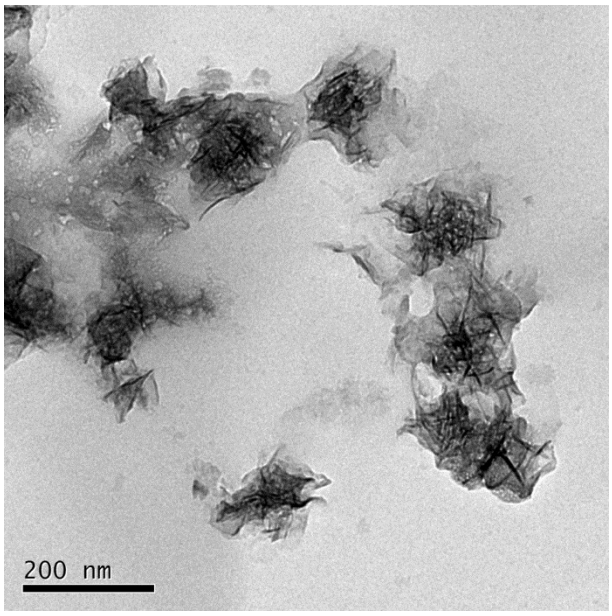

Fig. S1 TEM of MnO_2 nanosheets. Scale bar: 200 nm.

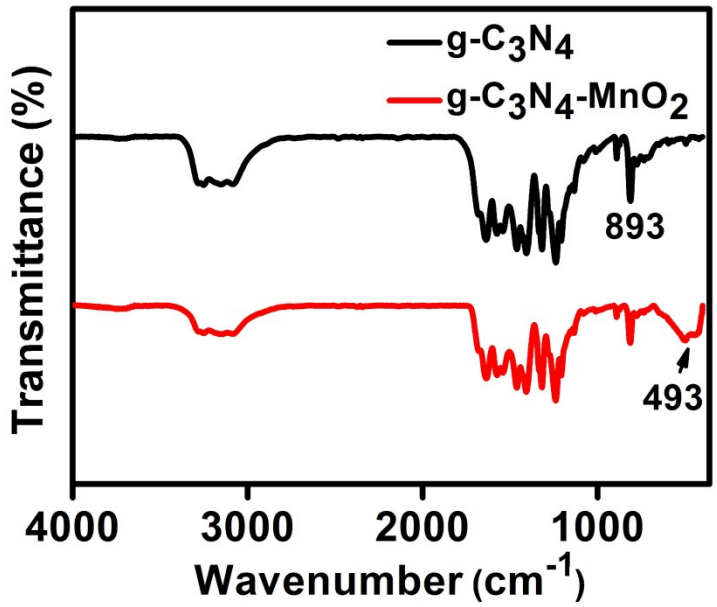

Fig. S2 FITR spectra of g-C_3N_4 (top, black) and g-C_3N_4-MnO_2 nanocomposite (bottom, red).

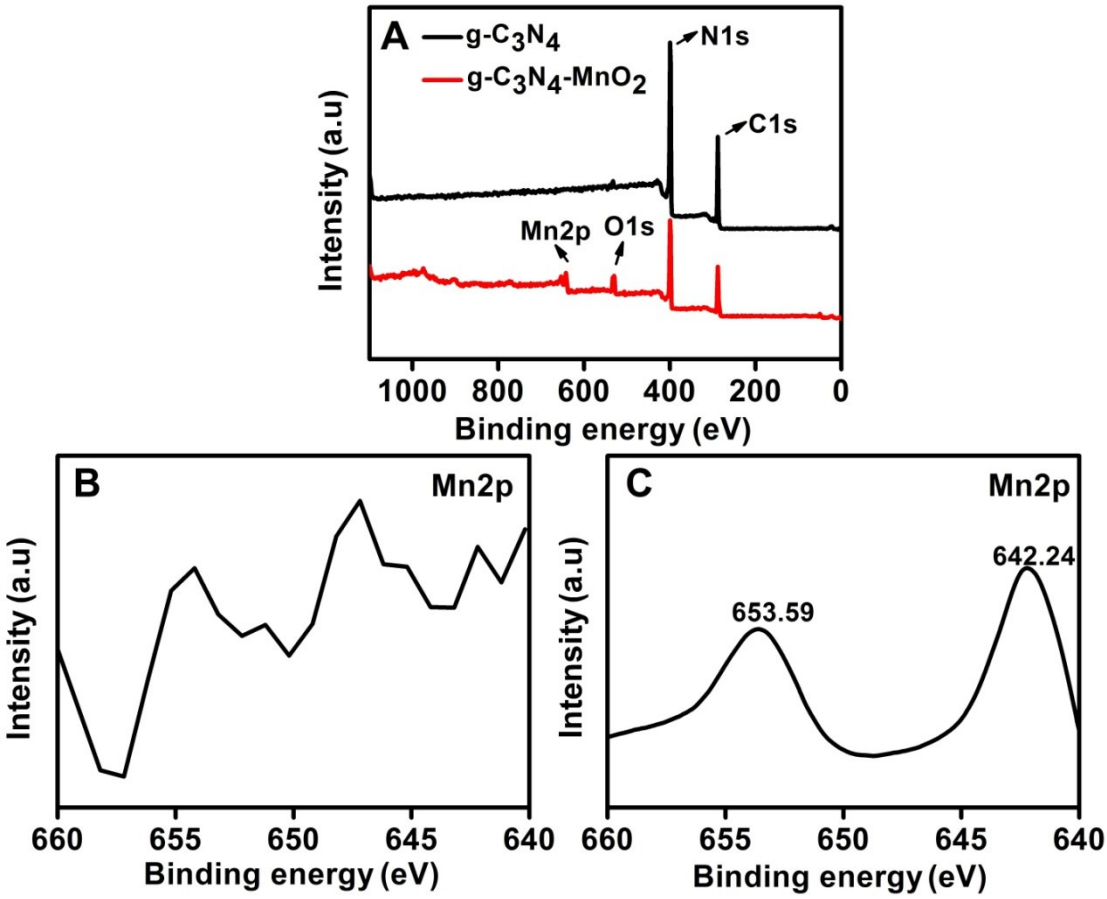

Fig. S3 (A) XPS spectra of g-C_3N_4 (top, black) and g-C_3N_4-MnO_2 nanocomposite (bottom, red). (B) High resolution Mn (2p) XPS spectra of g-C_3N_4. (C) High resolution Mn (2p) XPS spectra of g-C_3N_4-MnO_2 nanocomposite.

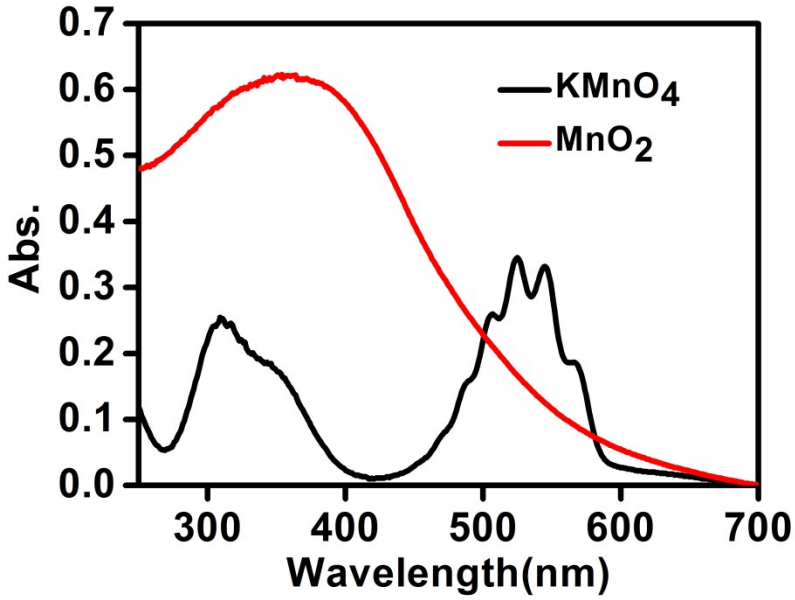

Fig. S4 UV-vis absorption spectra of aqueous solutions of $KMnO_4$ (black) and MnO_2 nanosheets (red).

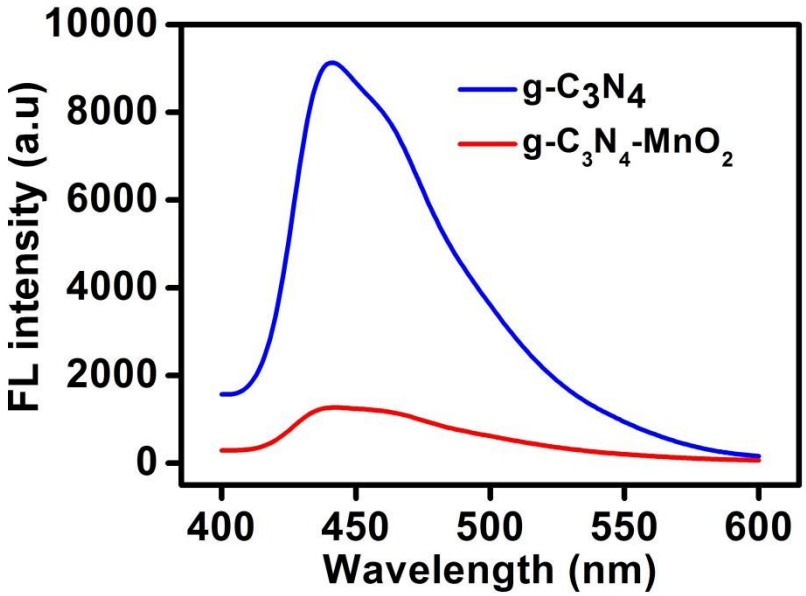

Fig. S5 Fluorescence spectra of g-C_3N_4 nanosheets (blue) and g-C_3N_4-MnO_2 nanocomposite (red).

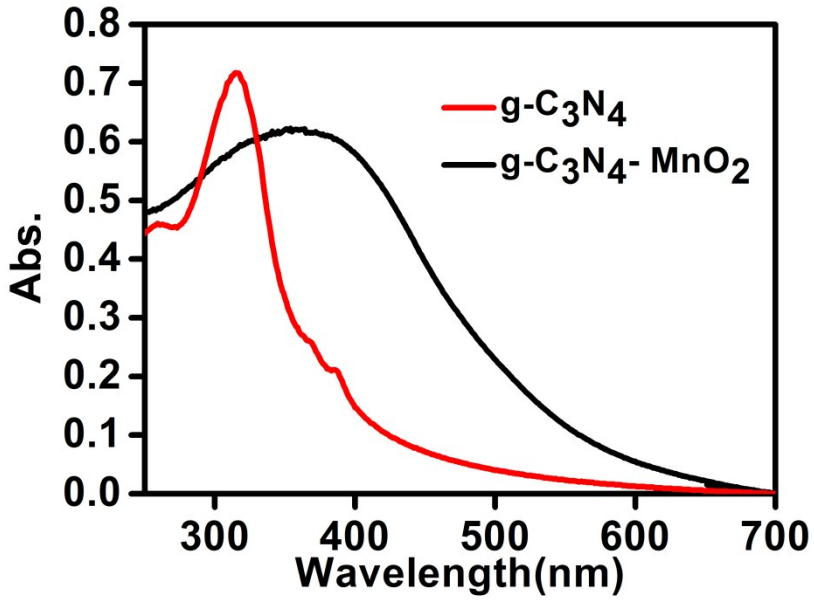

Fig. S6 UV-vis absorption spectra of aqueous solutions of g-C_3N_4–MnO_2 nanocomposite (black) and g-C_3N_4 nanosheets (red).

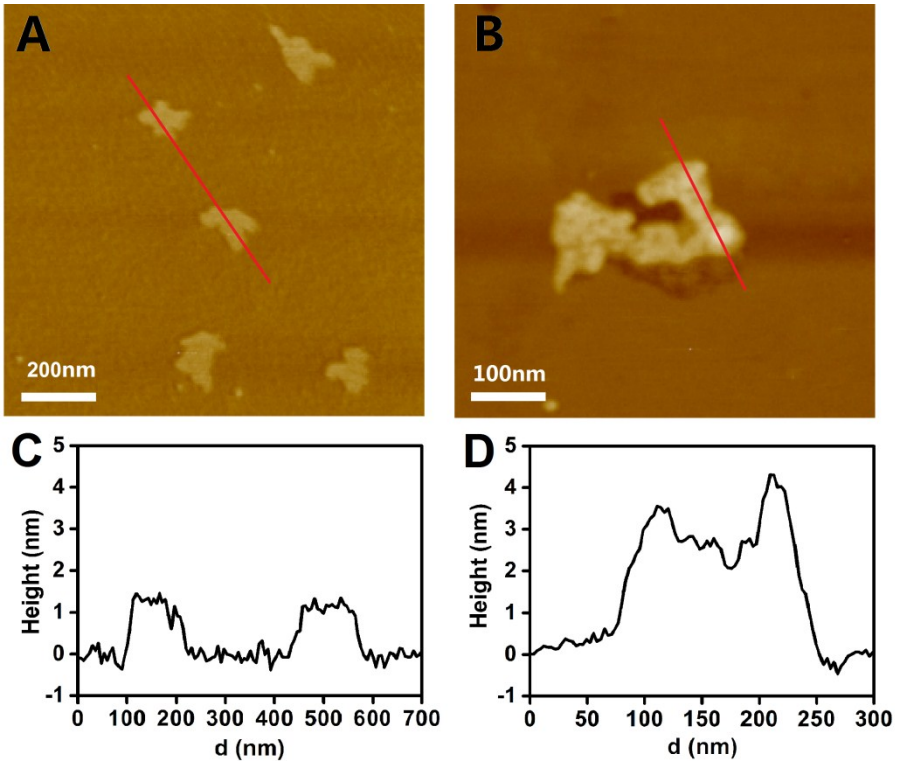

Fig. S7 AFM images of (A) the g-C_3N_4 nanosheets and (B) the g-C_3N_4-MnO_2 nanocomposite. The corresponding height of (C) the g-C_3N_4 nanosheets and (D) the g-C_3N_4-MnO_2 nanocomposite.

Table S1 An overview on recently reported methods for the detection of glucose.

Materials	Method	Detection range	Limit of detection	Reference
nanoCoPc/Gr	Electrochemical	16.7 to 1600 µM	14.6 µM	S1
Pd_1Pt_3-graphene	Electrochemical	1 to 23 µM	5 µM	S2
DNA/CuAl-LDH nanohybrids	Colorimetry	40 to 200 µM	8 µM	S3
Fe_3O_4/C	Colorimetry	6 to 100 µM	2 µM	S4
QD-AuNP /silica/GOx	Fluorometry	5 to 200 µM	1.32 µM	S5
CdTe QDs	Fluorometry	20 to 260 µM	20 µM	S6
g-C_3N_4-MnO_2 nanocomposite	Fluorometry	10 to 300 µM	1.5 µM	This work

References

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