Electronic Supplementary Material

Dual role of BSA for synthesis of MnO2 nanoparticles and their mediated fluorescent turn-on probe for glutathione determination and cancer cell recognition

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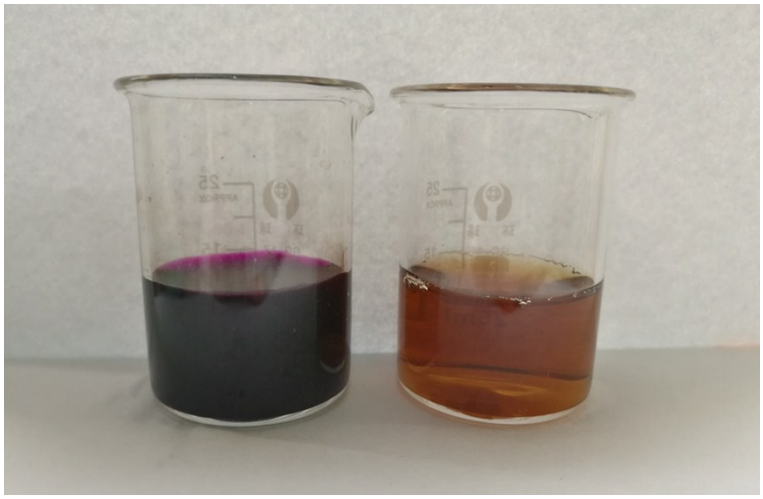

Fig. S1 Photos of system before and after reaction.

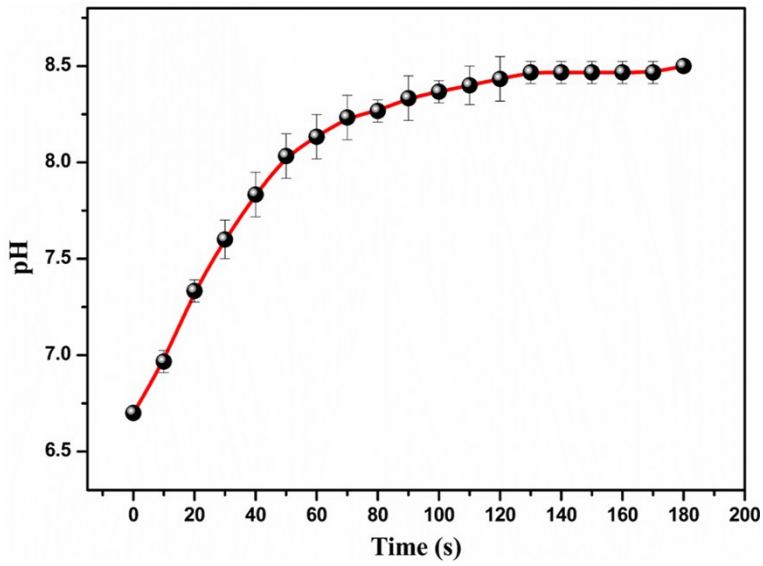

Fig. S2 Time dependent pH variation of reaction system.

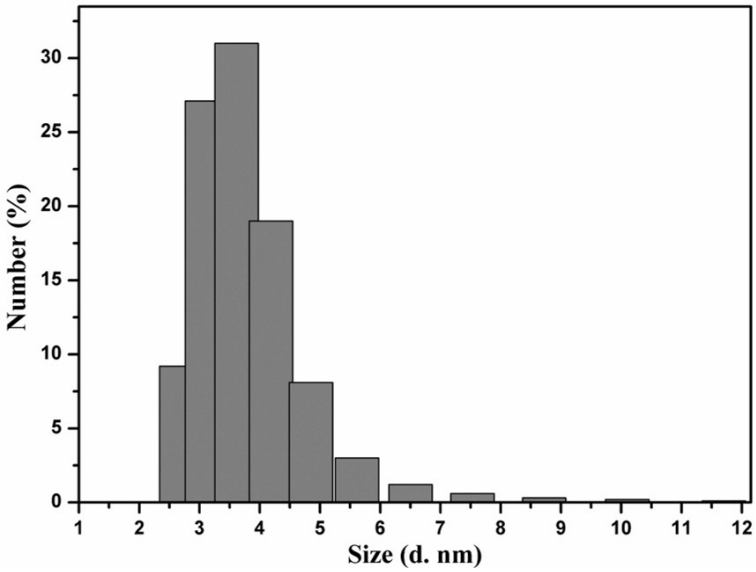

Fig. S3 Size distribution of as-prepared MnO_2 NPs.

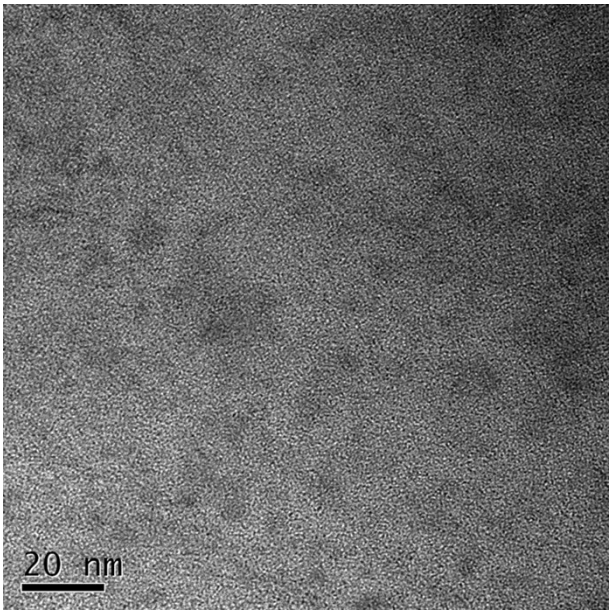

Fig. S4 TEM image of CDs.

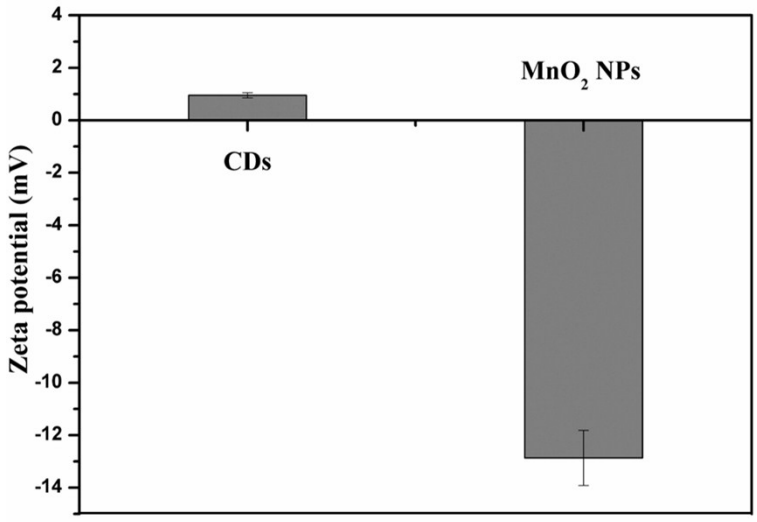

Fig. S5 Zeta potential of CDs and MnO_2 NPs, respectively.

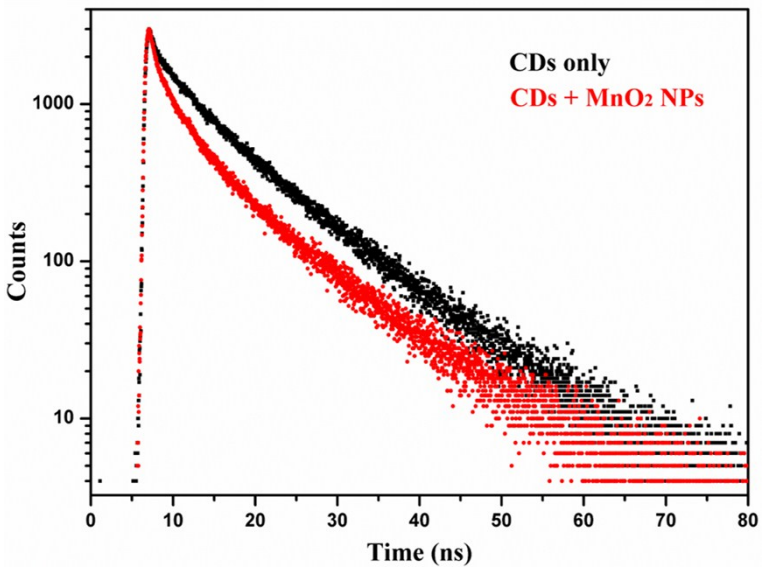

Fig. S6 Time-resolved fluorescence decay spectra at 450 nm from CDs only (black) and CDs+MnO_2 NPs (red).

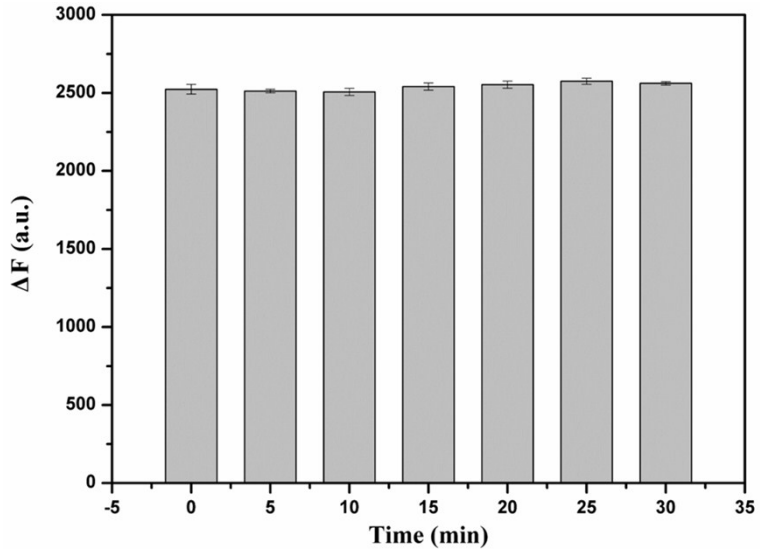

Fig. S7 Time dependent fluorescence quenching of CDs by MnO_2 NPs.

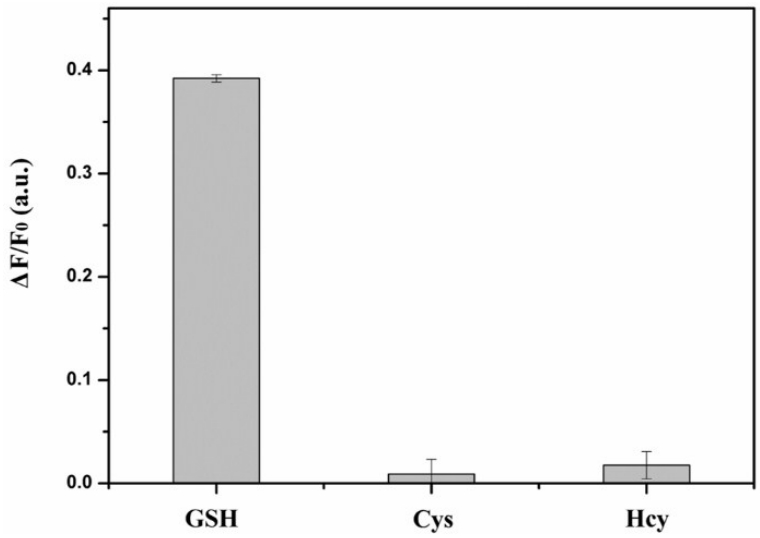

Fig. S8 The effect of Cys and Hcy with low concentration (one thousandth of the one of GSH) on detection of GSH.

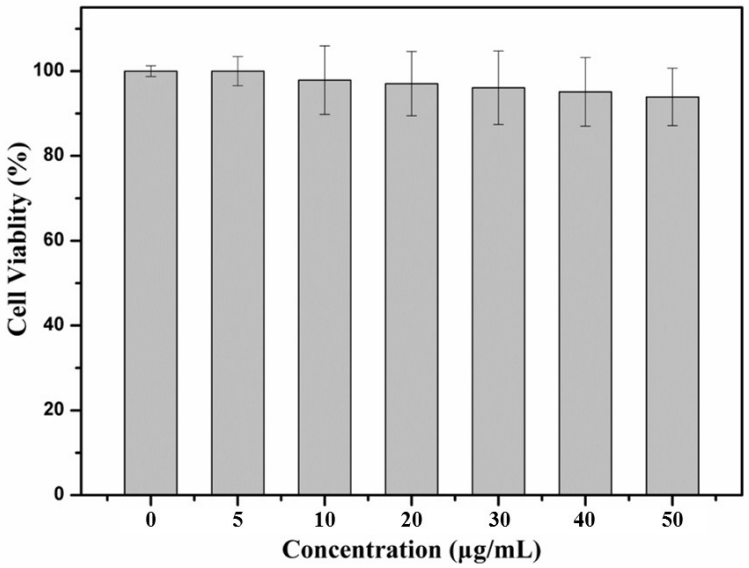

Fig. S9 Viability of SMMC-7721 cells after being incubated with different concentrations of MnO_2 NPs-CDs for 24 h.

Table S1 Parameters of multi-exponential fits to the fluorescence decay of CDs only and CDs+MnO_2 NPs.

Species	τ_1 (ns)	τ_2 (ns)	τ_3 (ns)	B_1 (%)	B_2 (%)	B_3 (%)	χ^2	τ_{ave} (ns)
CDs only	0.66	4.67	11.47	2.59	28.71	68.70	1.041	9.24
CDs+MnO_2 NPs	0.73	3.78	11.68	7.34	39.75	52.91	1.007	7.74