Supporting Information

Target-triggered 'colorimetric-fluorescence' dual-signal sensing system based on the versatility of MnO_2 nanosheets for rapid detection of uric acid

Hao Liang[a#], Danliang Li[a,b#], Xuebing Zhang[a], Deshuai Zhen[a], Yunfei Li[a], Yuchen Luo[a], Yuyun Zhang[a], Dongyun Xu[c], Lili Chen[a*]

[a] Department of public health laboratory sciences, school of public health, Hengyang Medical School, University of South China, Hengyang, Hunan, China

[b] Zhuzhou Hetang District Center for Disease Control and Prevention, Zhuzhou ,Hunan, China

[c] Hengyang Center for Disease Control and Prevention, Hengyang, Hunan, China

Corresponding author:

chlili720612@163.com ([*]Prof. Lili Chen)

RESULTS

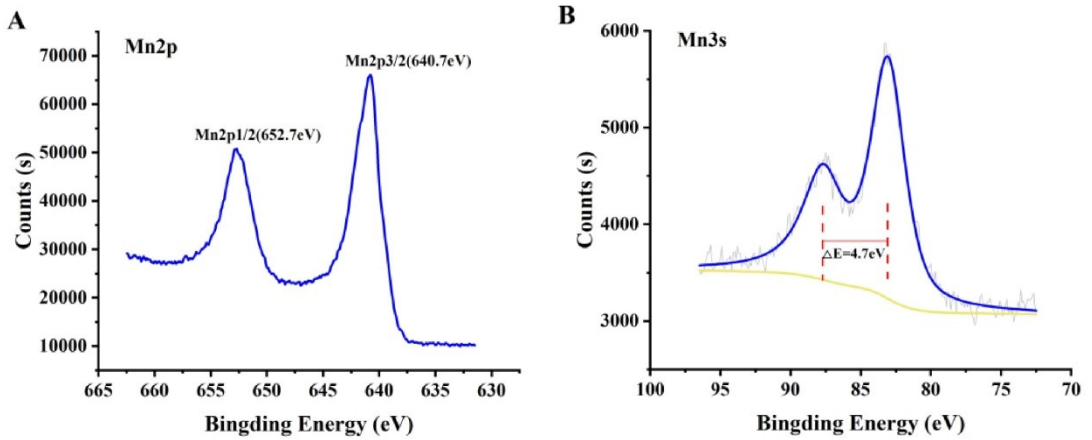

Fig. S1. High resolution XPS spectrum of MnO_2 nanosheet for Mn2p (A) and Mn3s (B), respectively.

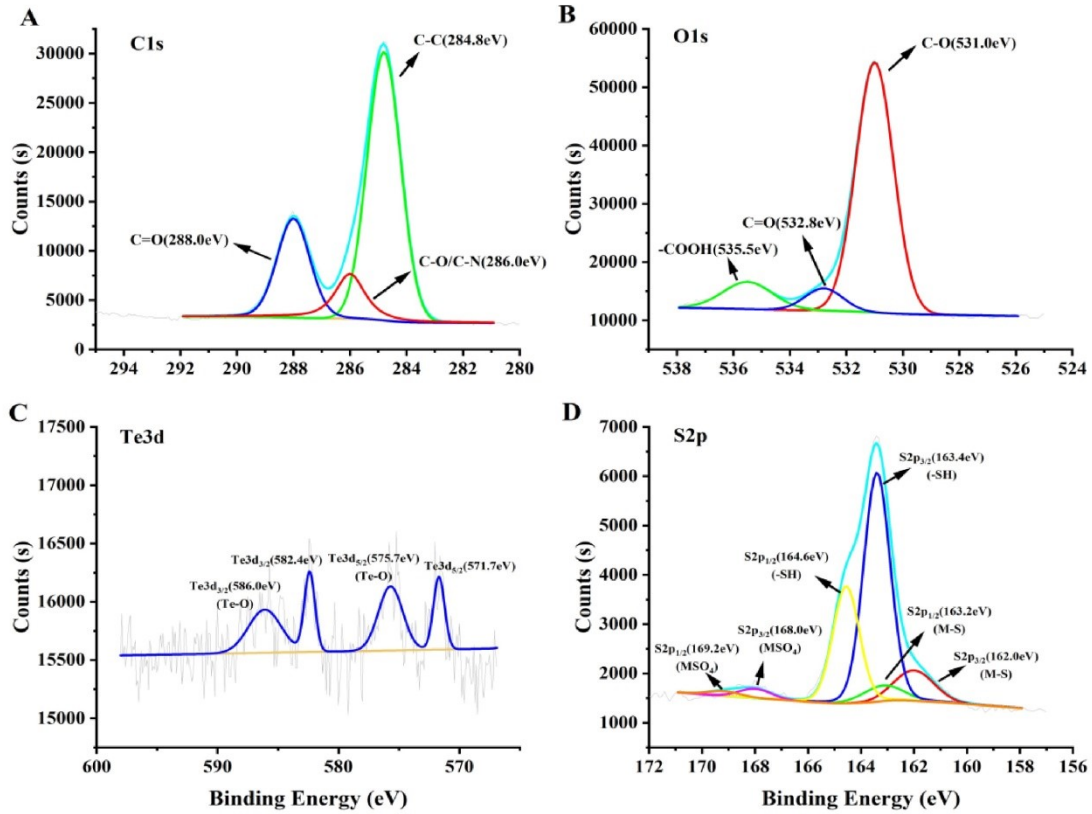

Fig. S2. High resolution XPS spectrum of CdZnTeS QDs for C1s (A), O1s (B), Te3d (C) and S2p (D), respectively.

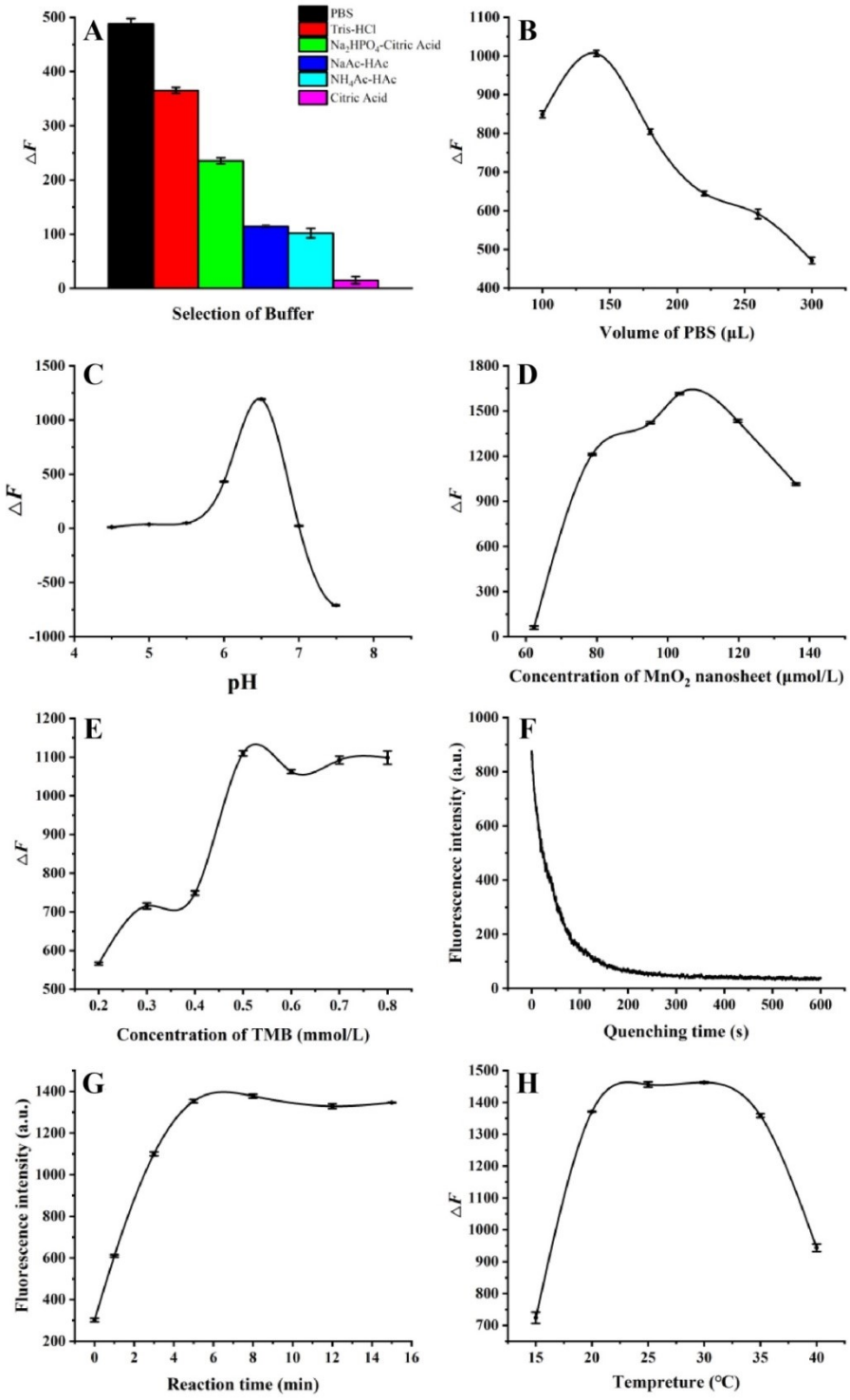

Fig. S3. Optimization of experimental conditions. (A) Type of buffer. (B) pH. (C) Volume of PBS. (D) Concentration of TMB. (E) Concentration of MnO_2 nanosheet. (F) Quenching of detection system fluorescence over time. (G) Recovery of detection system fluorescence over time. (H) Temperature.

Table S1. Detection results of UA spiked in 5% human serum (n=6)

Samples	Detection mode	Spiked(μmol/L)	Measured(μmol/L)	Recovery(%)	RSD(%)
5% human serum	Colorimetric	10.00	9.50	95.05	3.36
		30.00	31.32	104.40	1.78
		50.00	50.28	100.55	3.79
	Fluorescence	20.00	19.89	99.45	2.20
		60.00	60.91	101.52	4.26
		100.000	101.54	101.54	2.51