Supporting Information

Coating Fe_3O_4 quantum dots with Glutamic Acid showing enhanced catalysis for facile and sensitive detection of Chromium(VI) in water

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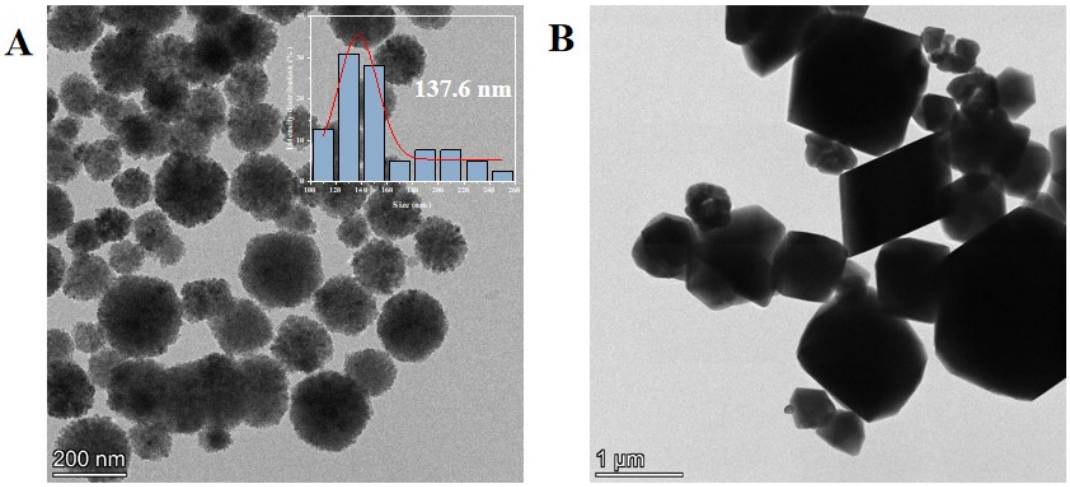

Figure S1. TEM image of Fe_3O_4 NPs (A) and Bare-Fe_3O_4 QDs (B) (inset: particle size distribution histogram).

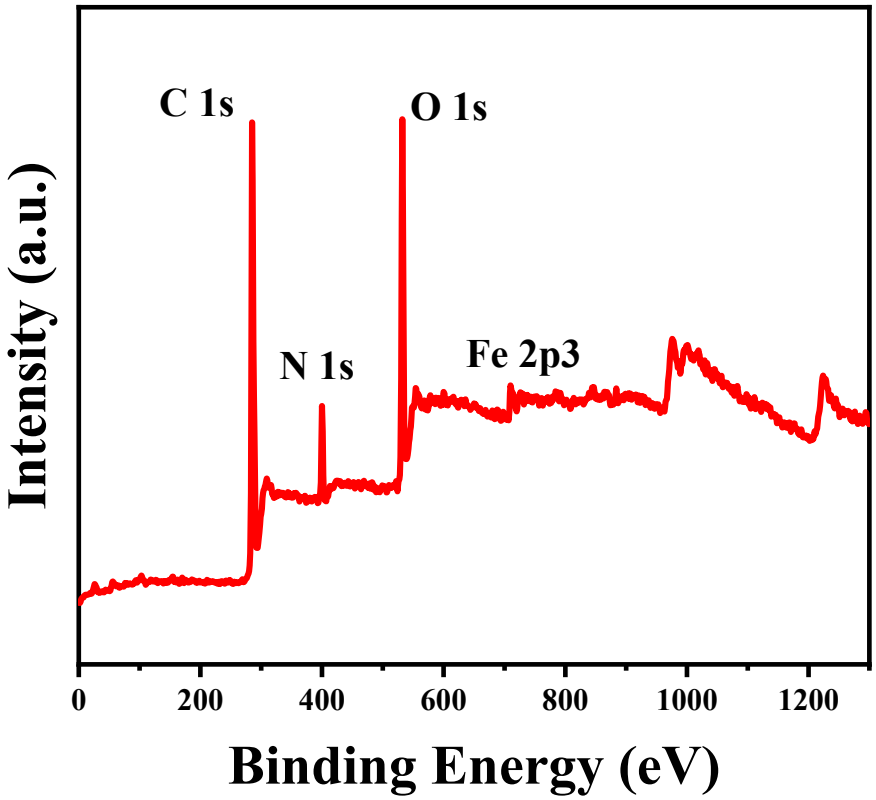

Figure S2. XPS spectra of Glu-Fe_3O_4 QDs.

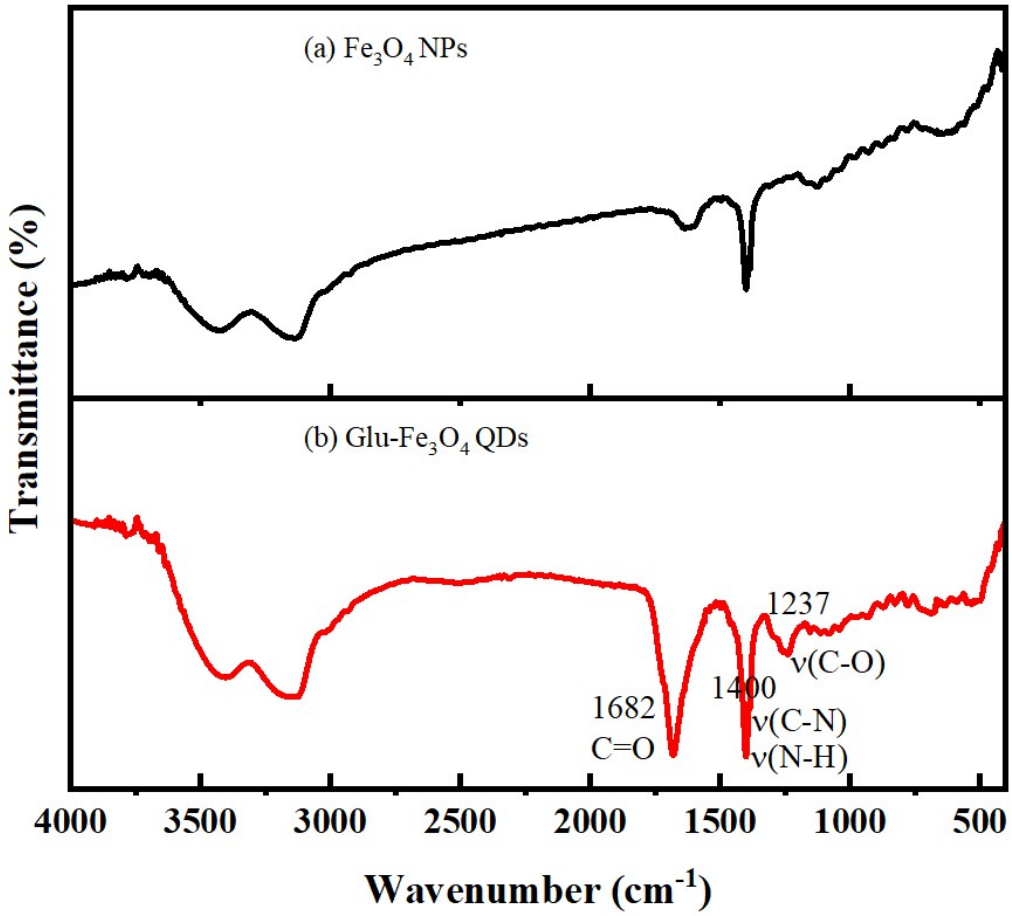

Figure S3. Infrared spectra of Fe_3O_4 NPs and Glu-Fe_3O_4 QDs.

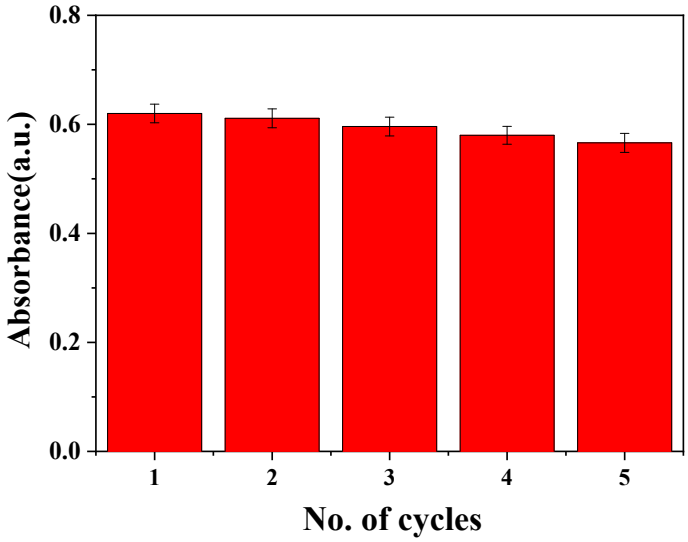

Figure S4. Recyclability test for Glu-Fe_3O_4 QDs.

Table S1 Performance of the proposed approach compared to others

Method	Detecting element	Analytical range	LOD	Ref.
Colorimetric	Fe_3O_4 QDs	1-8 μM	31.02 nM	**This work**
Colorimetric	Cu-PyC-MOF	0.5-50 μM	51 nM	[26]
Colorimetric	BSA-Au NPs/STCPs	0.5 nM-50 μM	280 nM	[27]
Colorimetric	Au@Hg	1 nM-2 μM	0.71 nM	[18]
Colorimetric	Fe_3O_4/Ti_3C_2 MXene QDs	0-60 μM	260 nM	[28]
Colorimetric	Au-Ag/l-Cys-rGO	0-200 μM	26.39 μM	[29]
Colorimetric	$CoFe_2O_4/H_2PPOP$	0.6–100 μM	26 nM	[30]
Colorimetric	MOF-199	0.1-30 μM	20 nM	[31]
Electrochemical	Honeycomb-like AuNPs	0.5-300 μM	0.15 μM	[32]
Fluorescence	SQDs@UiO-66-NH_2	0-220 μM	170 nM	[33]
Fluorescence	Co(II)-CDs	5-125 μM	1.17 μM	[34]