Supporting Information

Red Fluorescent Graphene Quantum Dots from Guava Leaf as Turn-Off Probe for Sensing Aqueous Hg(II)

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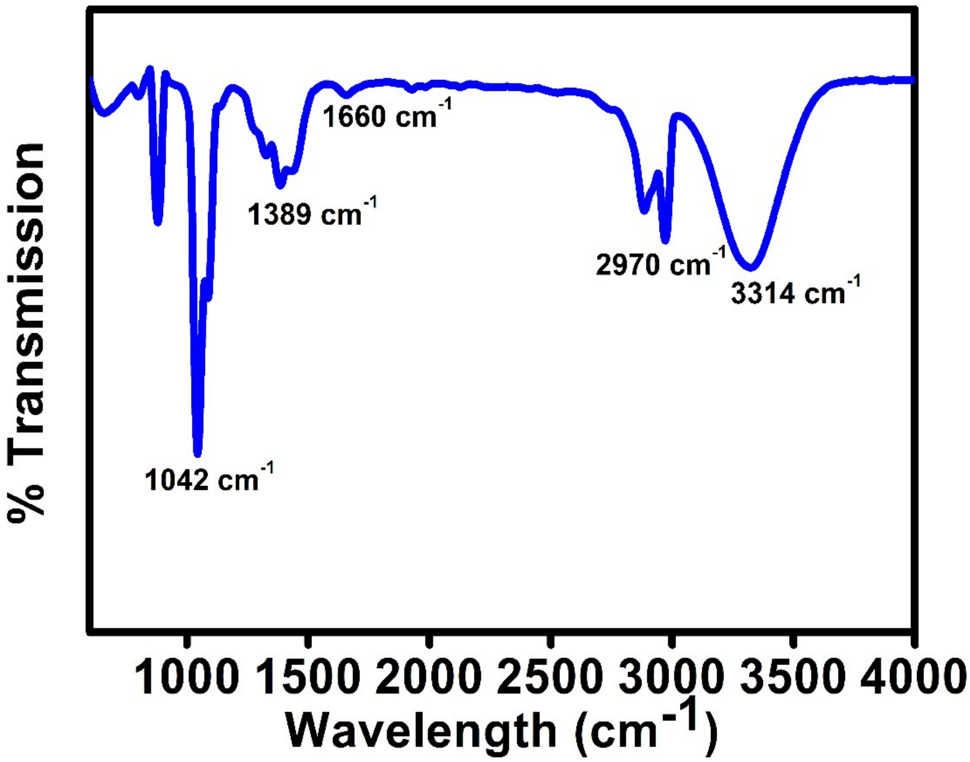

Figure S1. IR spectrum of the synthesized G-GQD-Hg^{2+}.

In the IR spectrum of G-GQD-Hg^{2+} system, the peak present at 3314 cm^{-1} shows presence of -OH functionality, peak at 2970 cm^{-1} shows presence of C-H stretching, the peak present at 1389 cm^{-1} and 1042 cm^{-1} show presence of C-H bending and C-O stretching, respectively.[74]

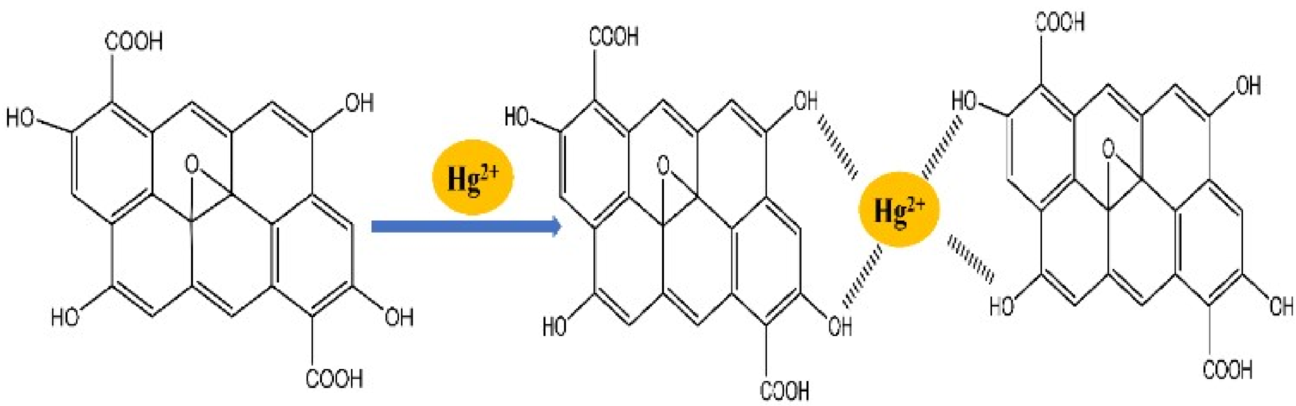

Figure S2. Schematic representation of G-GQD-Hg^{2+} Ion.

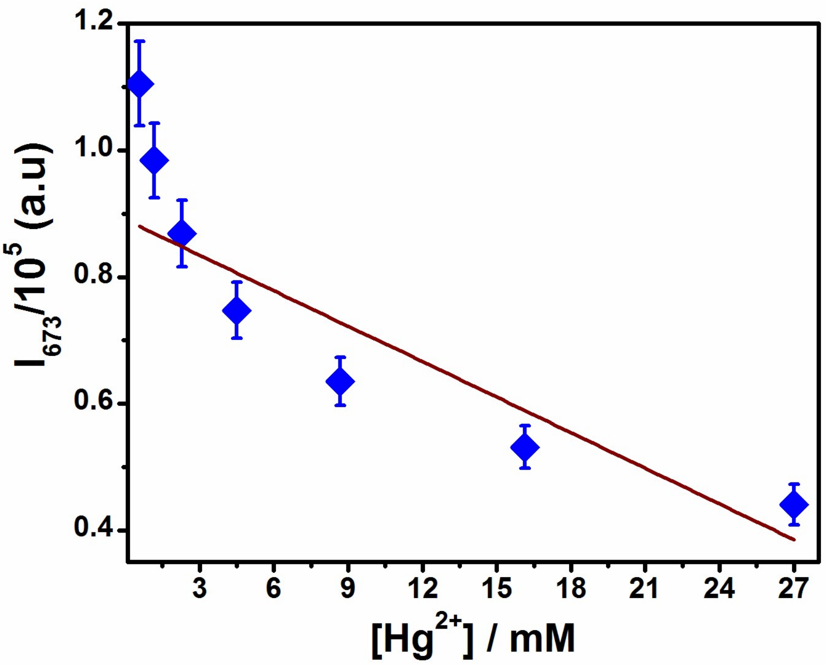

Figure S3. Linear plot of the changes in the emission intensity of G-GQD with the increasing Hg(II) concentration from 0.58 to 27 mM in 9:1 water: ethanol solution (pH = 2). (I_{673} = 1.88 [Hg(II)/mM] + 89087.3, R^2 = 0.772)

Table No. S1. A comparative list of present deep-red emitting G-GQD and other reported GQDs

Sr. No.	QDs	Emission wavelength	Application	References
1	GQDs	680 nm	Imaging and for cancer treatment.	1
2	R-GQDs/GO	630 nm	Cell imaging	2
3	mGQDs.	650-750 nm	Bioimaging and Intracellular Nano-thermometry	3
4	PEI-coated GQDs	600 nm	Cell Imaging	4
5	RF-GQDs	610 nm	Bioimaging	5
6	MCF GQDs	625 nm	Bioimaging	6
7	GQDs	585	Vivo imaging and sensing	7
8	G-GQD	620-780 nm	Metal Sensing	This Work

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