

Supporting Information

Carbon Quantum Dots and Rhodamine Based Ratiometric Fluorescent Complex for Recognition of Histidine in Aqueous System

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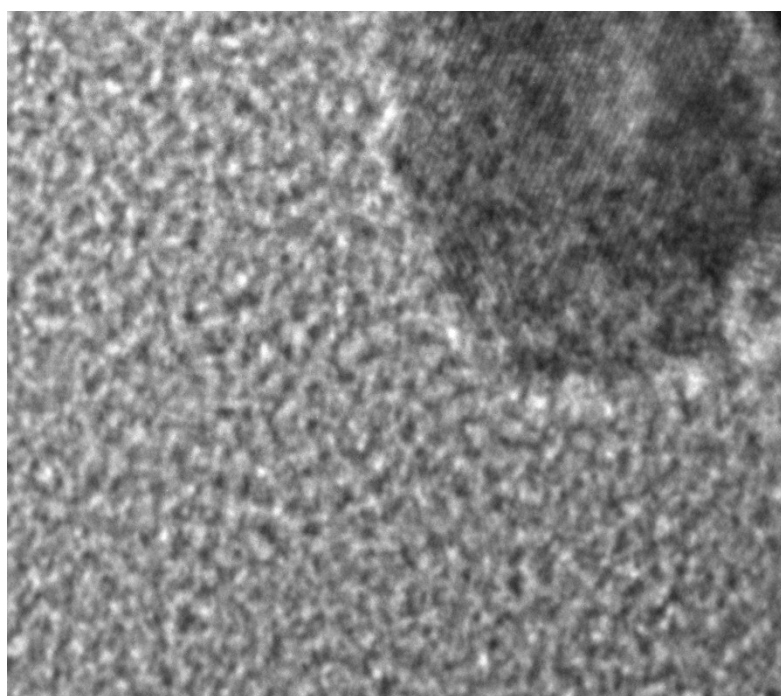


Figure S1: TEM image of CQDs

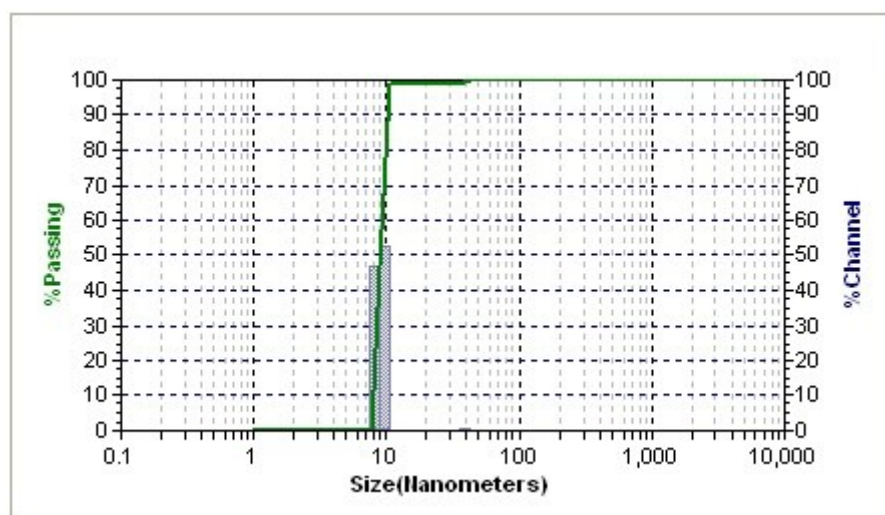


Figure S2: DLS histograms of CQDs

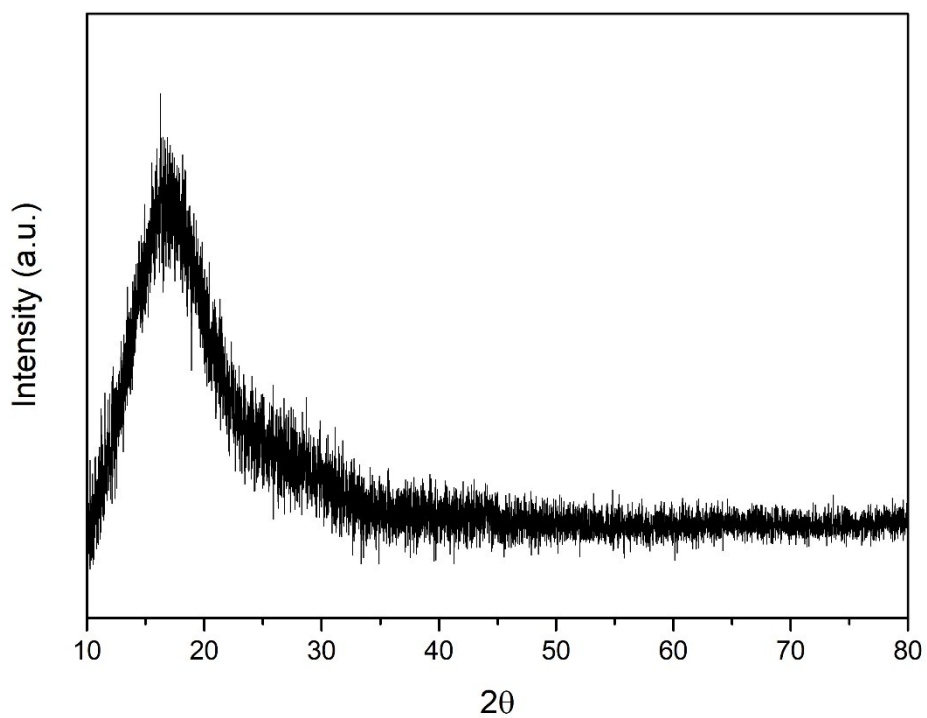


Figure S3: XRD pattern of CQDs

No.	Method	LOD (μM)	Ref.
1.	HPLC	1.1	[1]
2.	Capillary Electrophoresis	0.14	[2]
3.	Electrochemical Analysis	5	[3]
4.	Photoluminescence	1.6	[4]
5.	Photoluminescence	0.33	[5]
6.	Photoluminescence	1.5	This Work

Figure S4: Comparison of LODs of reported references and our work

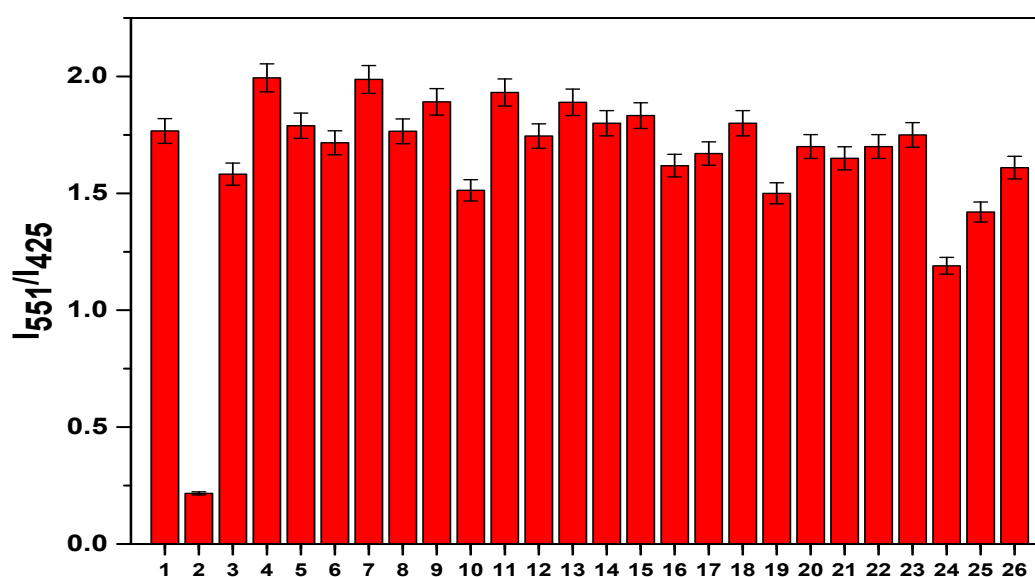


Figure S5. Bar diagram for selectivity study of CQDs-Fe-HS30 in the presence of various biomolecules and anions. (1) CQDs-Fe-HS30 (2) Histidine (3) L-Glutamine (4) Arginine (5) Glycine (6) Alanine (7) Valine (8) Leucine (9) Isoleucine (10) Tryptophan (11) Histamine (12) Spermine (13) Tyramine (14) Cadaverine (15) Perchlorate (16) Nitrate (17) Chloride (18) Hydroxide (19) Acetate (20) Iodide (21) Cyanide (22) Bisulphate (23) Fluoride (24) Citric Acid (25) Ascorbic Acid (26) Glutamic Acid. The selectivity studies were carried out using 75 μM of 2-26.

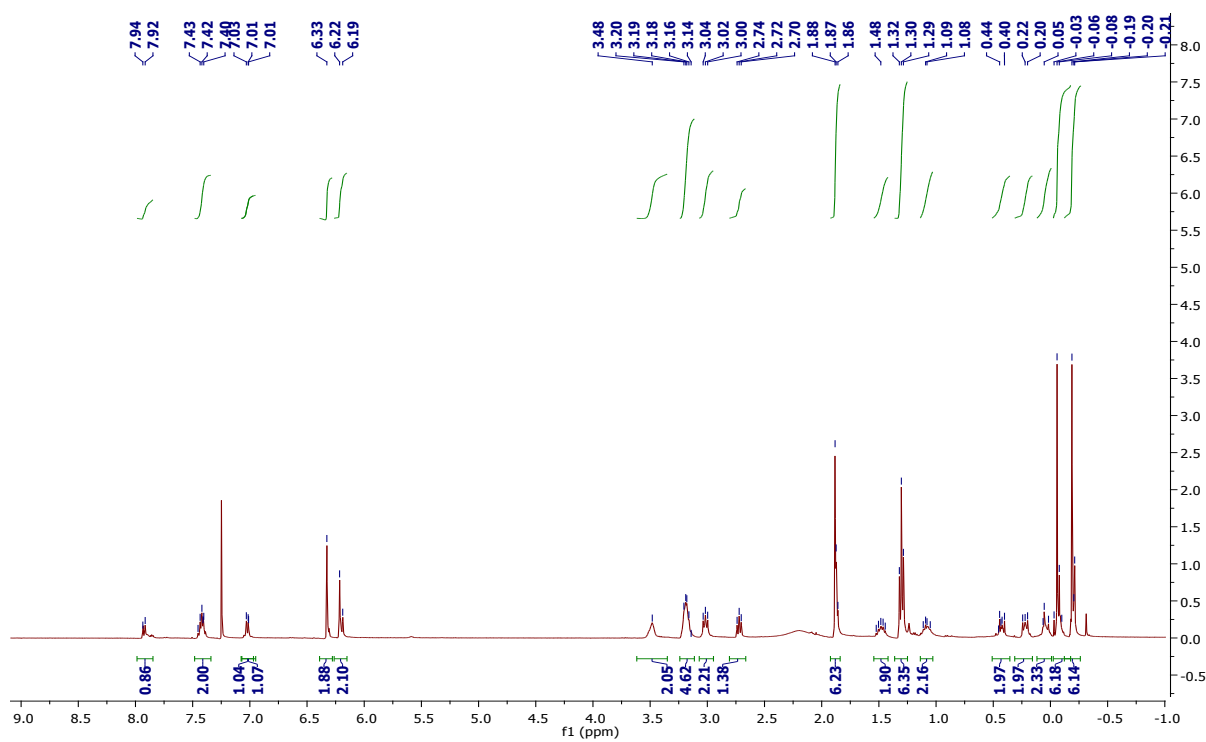


Figure S6: ¹H-NMR of HS30

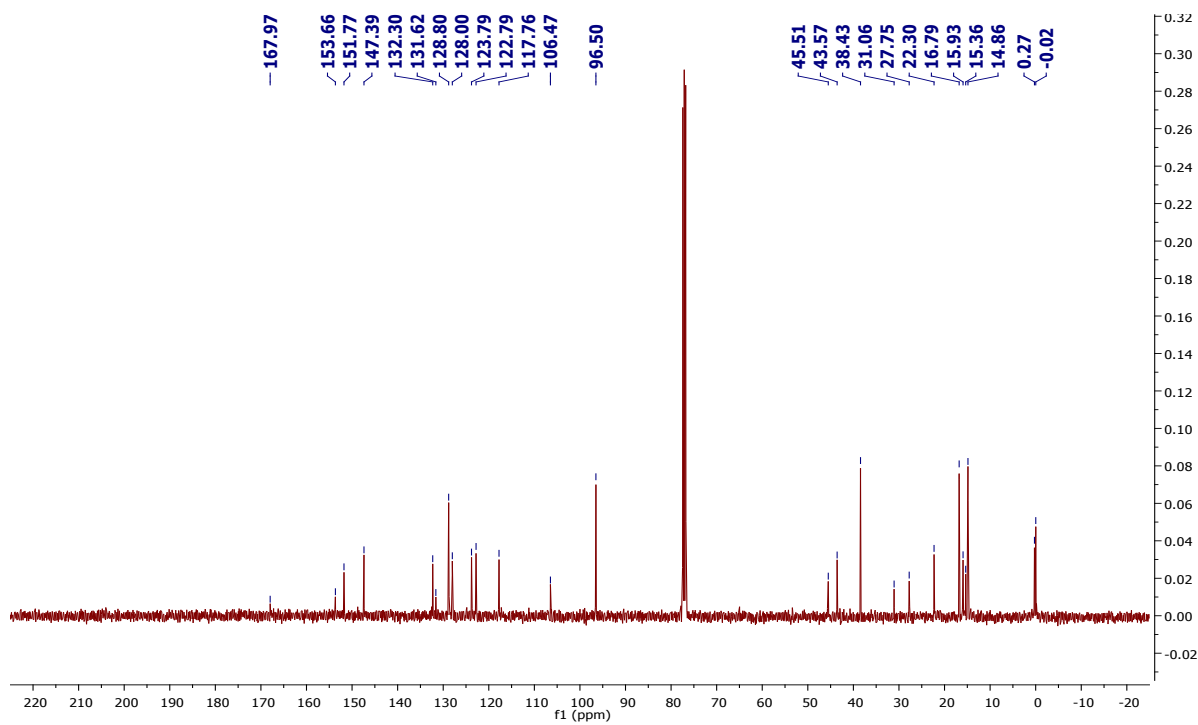


Figure S7: ¹³C-NMR of HS30

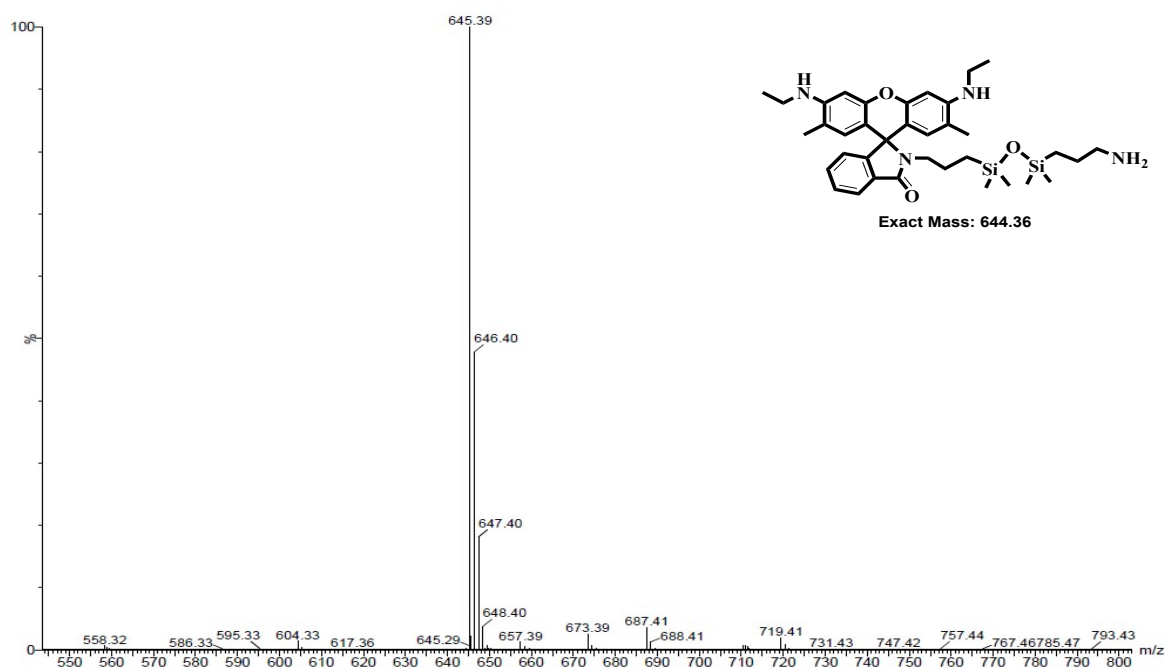


Figure S8: Mass Spectra of HS30

References

- [1] S. Wadud, M. M. Or-Rashid and R. Onodera, *J. Chromatogr. B: Anal. Technol. Biomed. Life Sci.*, 2002, **767**, 369–374.
- [2] J. Meng, W. Zhang, C. X. Cao, L. Y. Fan, J. Wu and Q. L. Wang, *Analyst*, 2010, **135**, 1592–1599.
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- [4] X. Wang, Q. Miao, T. Song, Q. Yuan, J. Gao and G. Liang, *Analyst*, 2014, **139**, 3360–3364.
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