

Supplemental Information

for

Hierarchical Au nanoclusters electrodeposited on amine-terminated ITO glass as a SERS-active substrate for the reliable and sensitive detection of serotonin in a Tris-HCl buffer solution

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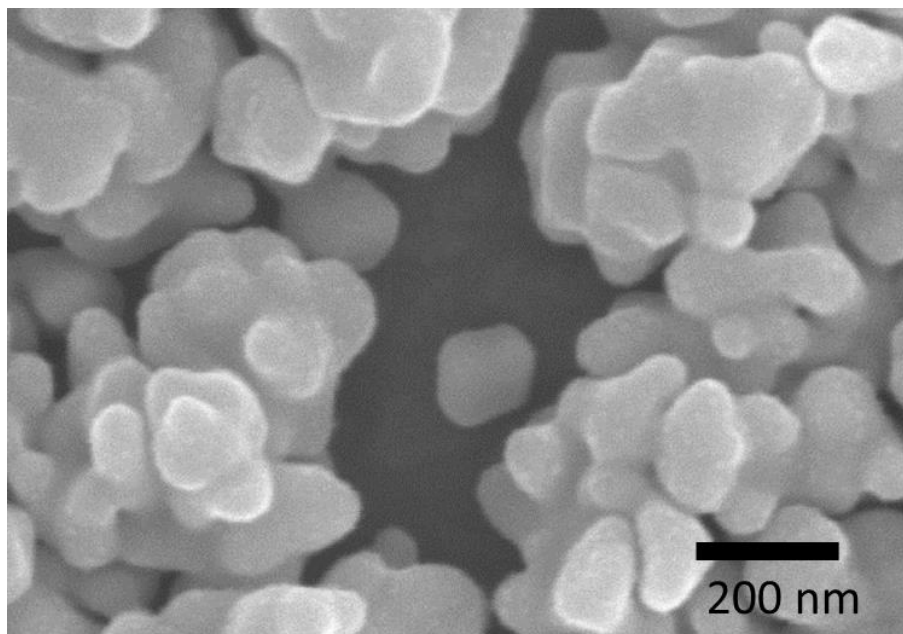


Figure S1. SEM image of Au NPs deposited on the NH_2/ITO glass with a high magnification.

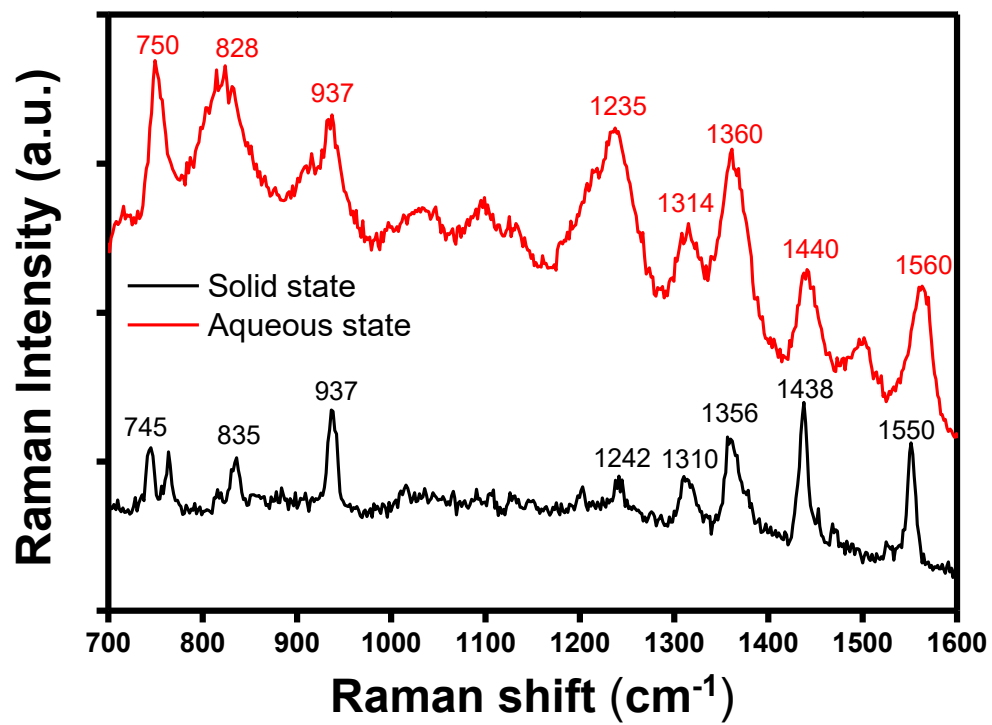


Figure S2. Raman spectra of 5-HT in solid state (powder) and aqueous state (0.24 M).

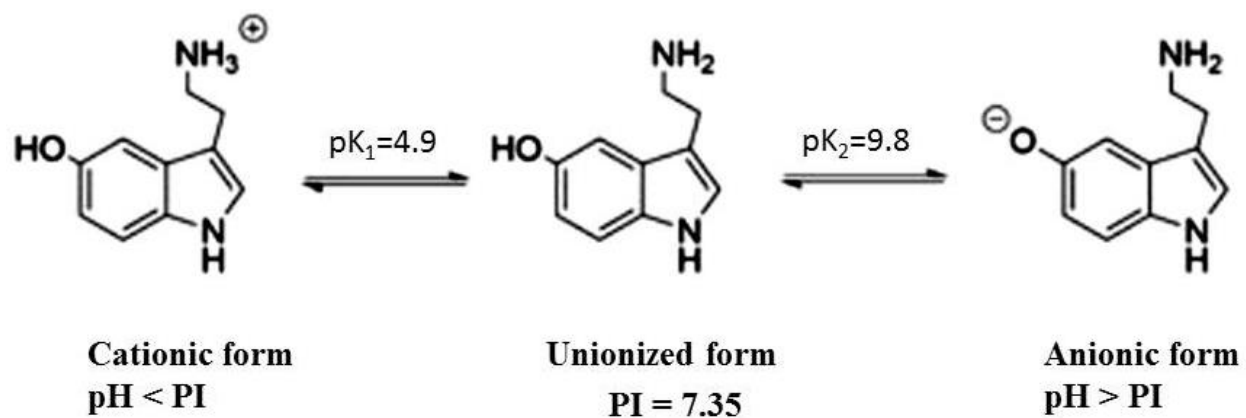


Figure S3. The ionized form of 5-HT depends on the solution pH. 5-HT with hydroxyl and amine groups is amphoteric because it has $\text{pK}_1=4.9$, $\text{PI} = 7.35$, and $\text{pK}_2=9.8$ values in aqueous state.^{1, 2}

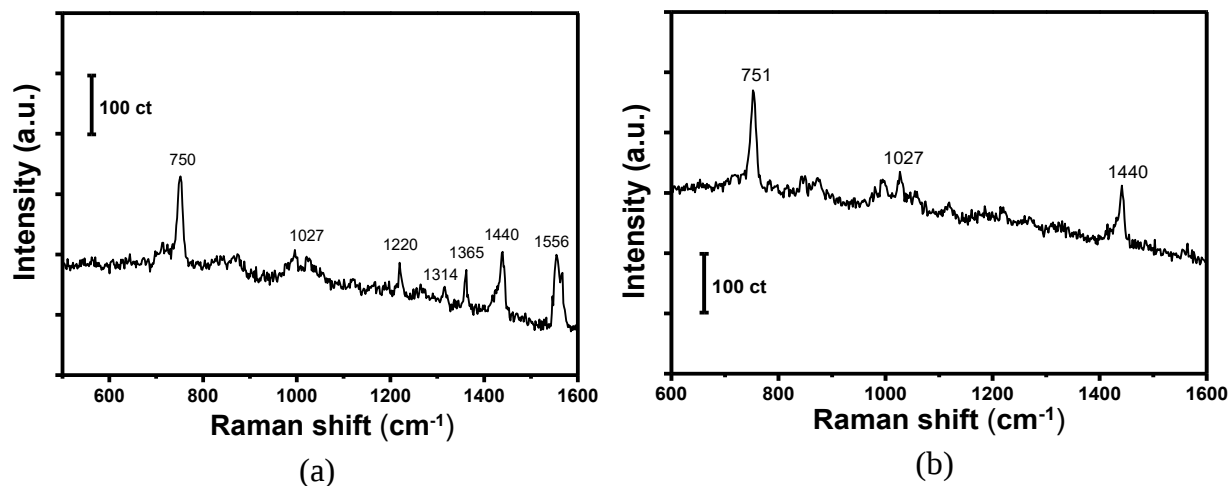


Figure S4. Raman spectra of 5-HT dissolved in Tris-HCl buffer solution: (a) 10⁻⁹ M of 5-HT, (b) 10⁻¹⁰ M of 5-HT.

References

1. P. Song, X. Guo, Y. Pan, Y. Wen, Z. Zhang and H. Yang, *Journal of Electroanalytical Chemistry*, 2013, **688**, 384-391.
2. A. Szeitz and S. M. Bandiera, *Biomedical chromatography : BMC*, 2018, **32**.