

Supplementary Information

SERS characterization of dopamine and *in situ* dopamine polymerization on silver nanoparticles

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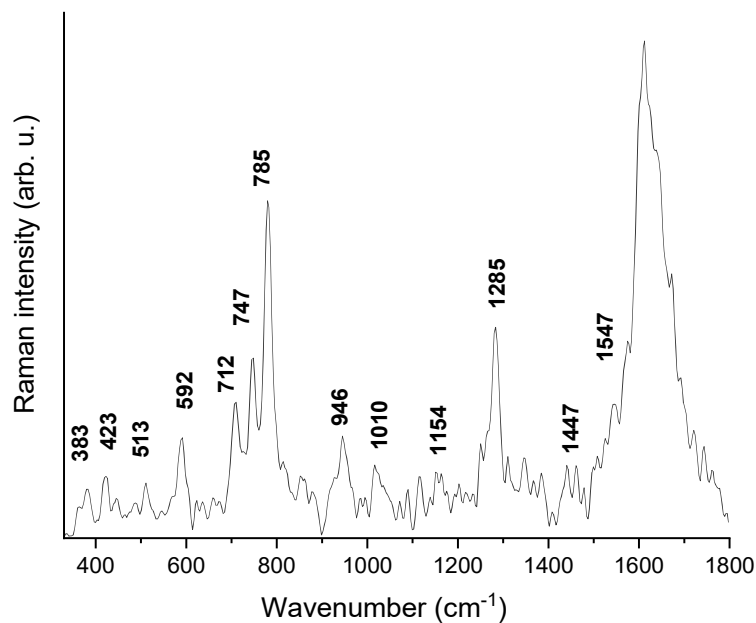


Figure S1. Raman spectrum, collected with a 488 nm laser excitation, of a saturated DA solution (> 5mM) in ultra pure water.

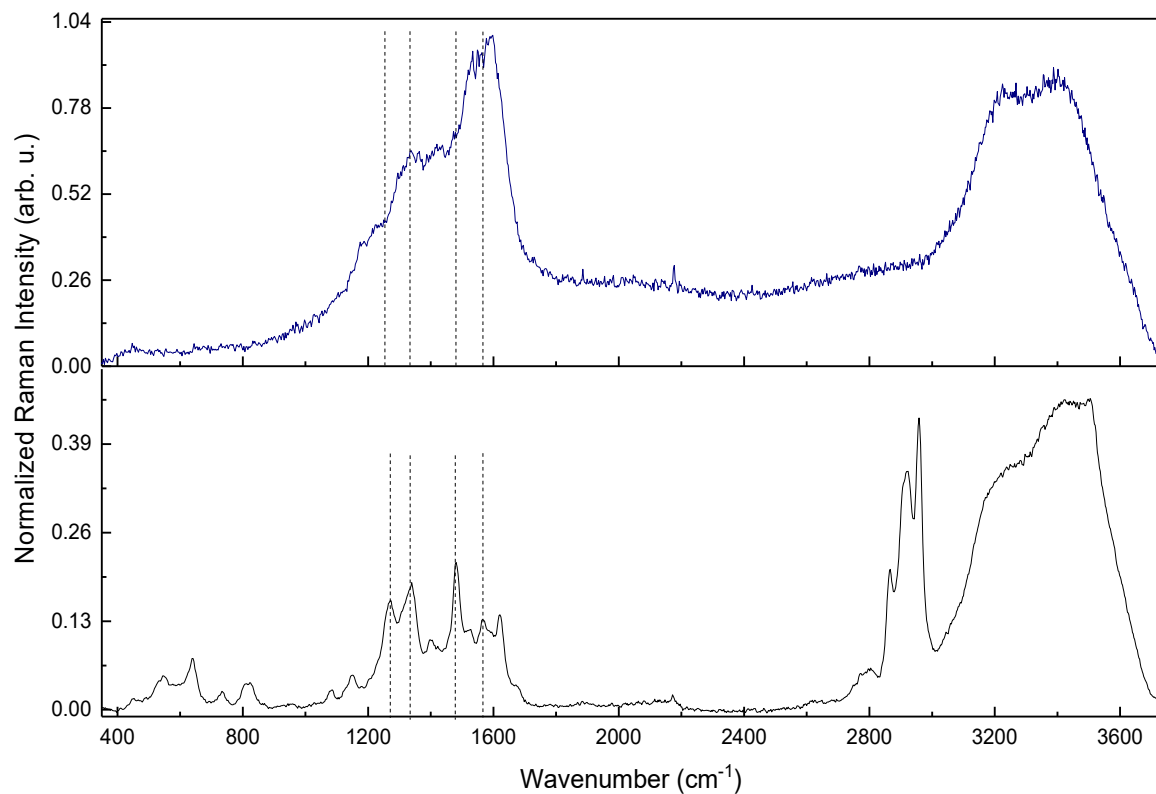


Figure S2. Comparative SERS profile of DA collected in c-AgNPs (black line) and in h-AgNPs at 5 min of mixture (blue line). Dotted lines indicate the similar wavenumber band positions found in each spectrum.

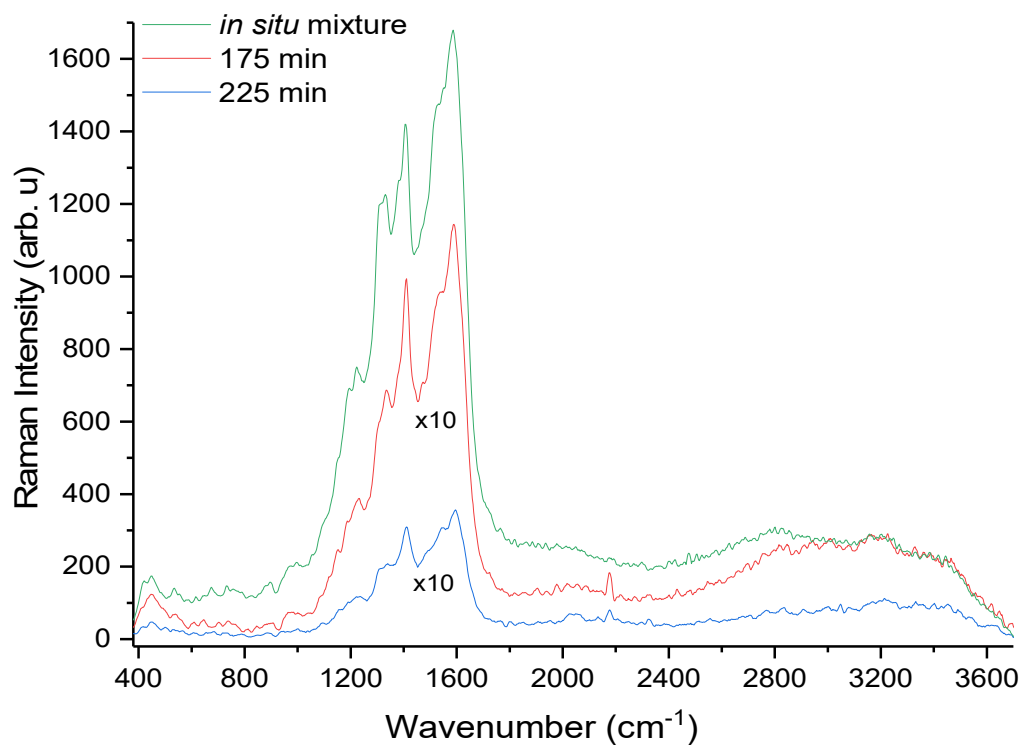


Figure S3. SERS spectra of DA collected in h-Ag NPs after 175 and 225 min with further in situ mixture of colloidal solution.

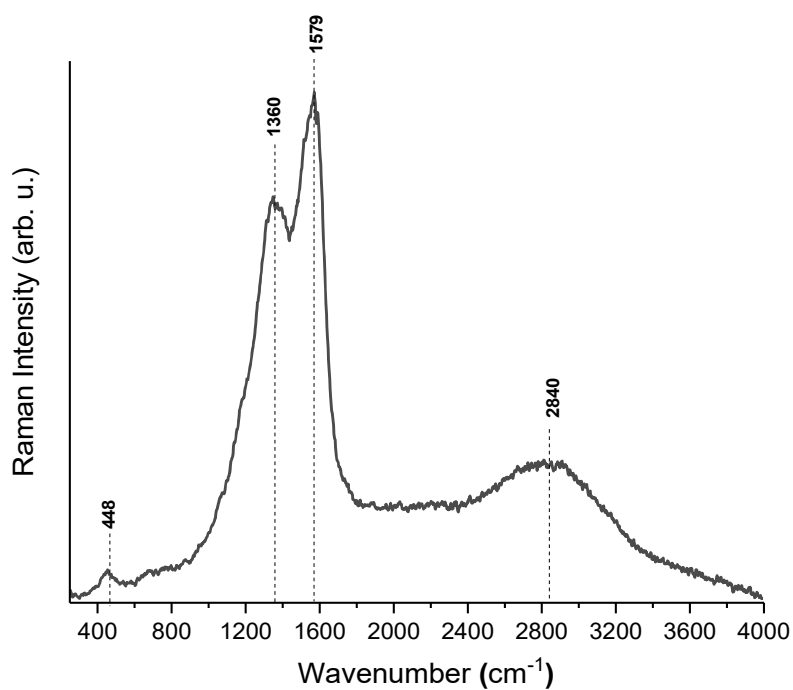


Figure S4. Full Raman spectrum of PDA film, obtained from the oxidation of DA in h-AgNPs at pH 9, incubated for 24 h and dried at room temperature.

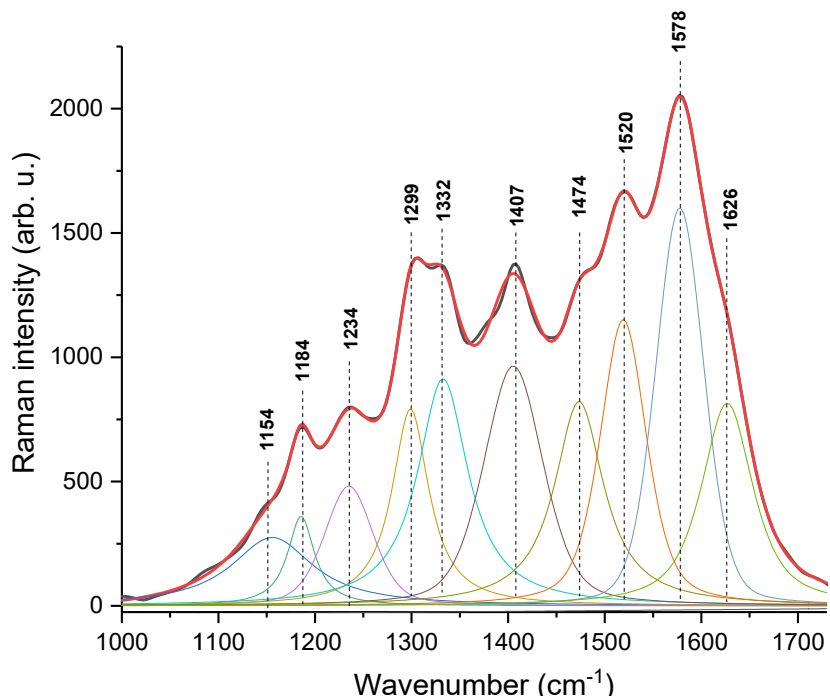


Figure S5. Peak fitted of the SERS spectrum of DA in h-AgNPs in pH 12, collected after 15 min of consecutive laser radiation at 488 nm. Wavenumber positions in each band were assigned in Table 1, main text.

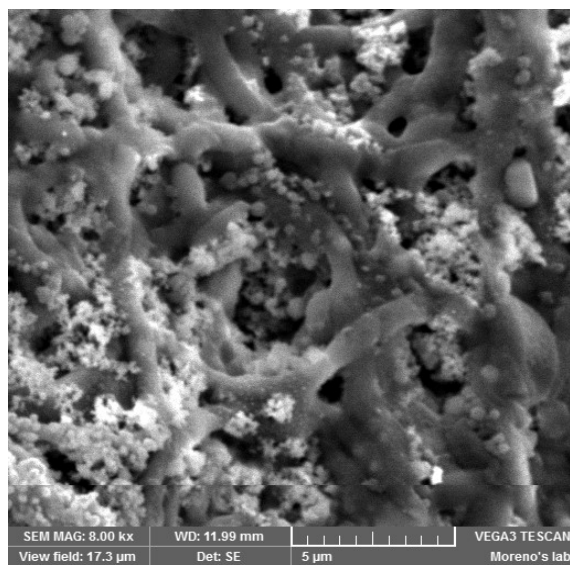


Figure S6. SEM image of the AgNP-PDA complex structures, obtained after the 24 h incubation of DA at pH 9 with h-AgNPs and the laser radiation at 488 nm.