## Supplementary information

## Rapid ultra-sensitive diagnosis of clostridium difficile infection using a SERS-based lateral flow assay

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Figure S1. Extinction spectra of AuNPs and SERS nanotags of (A) SIpA and (B) ToxB.



**Figure S2.** Average results of **(A)** DLS measurements, and **(B)** zeta potential analysis (n=3) for AuNPs and SERS nanotags of SIpA and ToxB. Error bars indicate standard deviations from three measurements.



Figure S3. SEM images for the prepared gold nanoparticles from different spots.



**Figure S4**. Bar charts for the dynamic ranges of the calibration curves used for the quantification of **(A)** SlpA and **(B)** ToxB. Error bars indicate standard deviations from three measurements. All the SERS measurements were carried out using a handheld Raman spectrometer equipped with a 638 nm laser excitation source at 5 mW laser power with an acquisition time of 0.5 s at ORS mode.