

Silicon-based functional self-assembled aptasensor for detection aflatoxin B1 by SERS sensing

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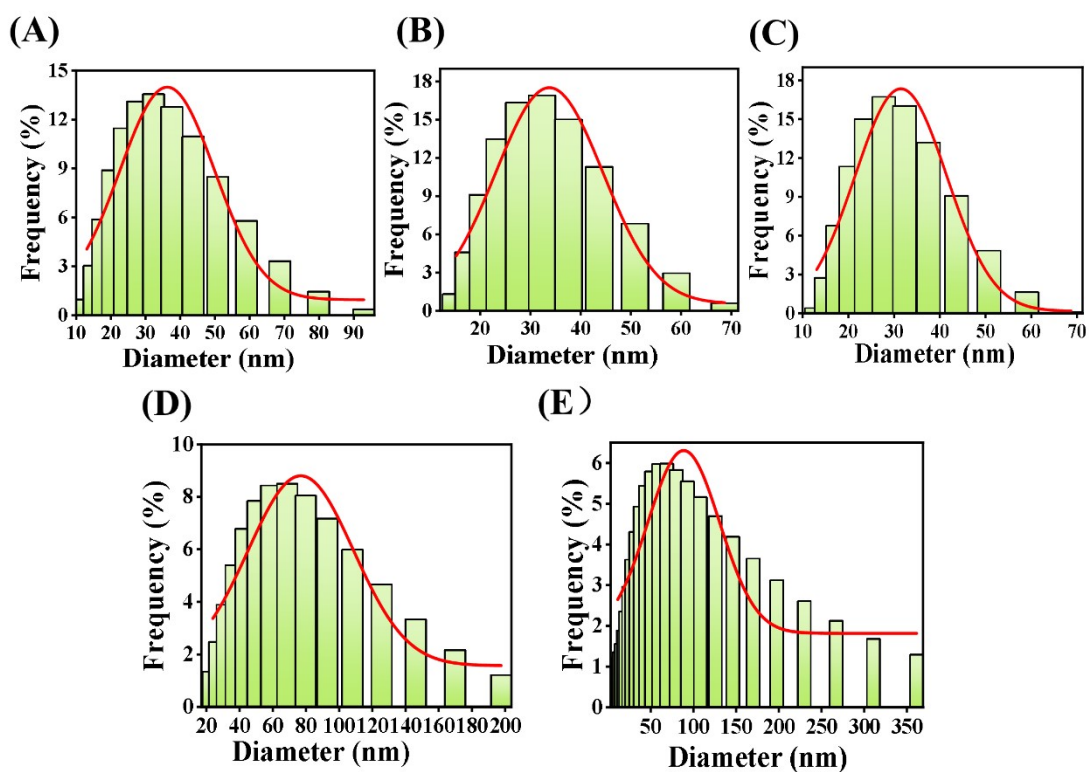


Fig. S1 Particle size distribution from DLS results of Au@Ag NPs synthesized with different volumes of AgNO₃, (A) 90 uL, (B) 120 uL, (C) 150 uL, (D) 180 uL, (E) 210 uL.

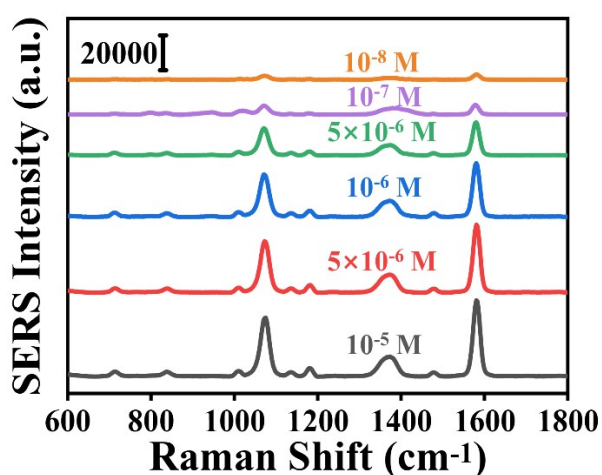


Fig. S2 Raman characterization of Au^{MBA}@Ag NPs synthesized using different concentrations of 4-MBA.

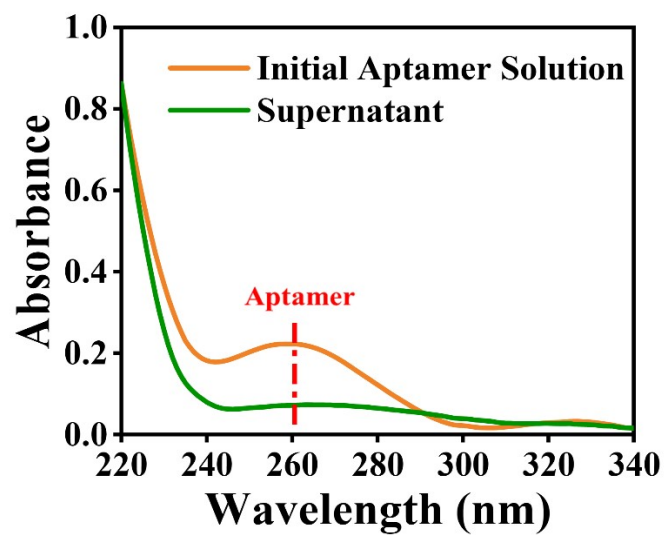


Fig. S3 UV-vis spectra of aptamers before and after binding to Si@AgNPs.

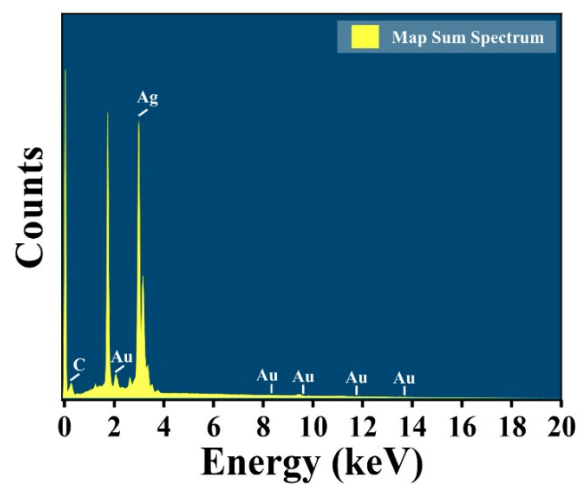


Fig. S4 Map sum spectrum of EDS for SERS aptasensor.

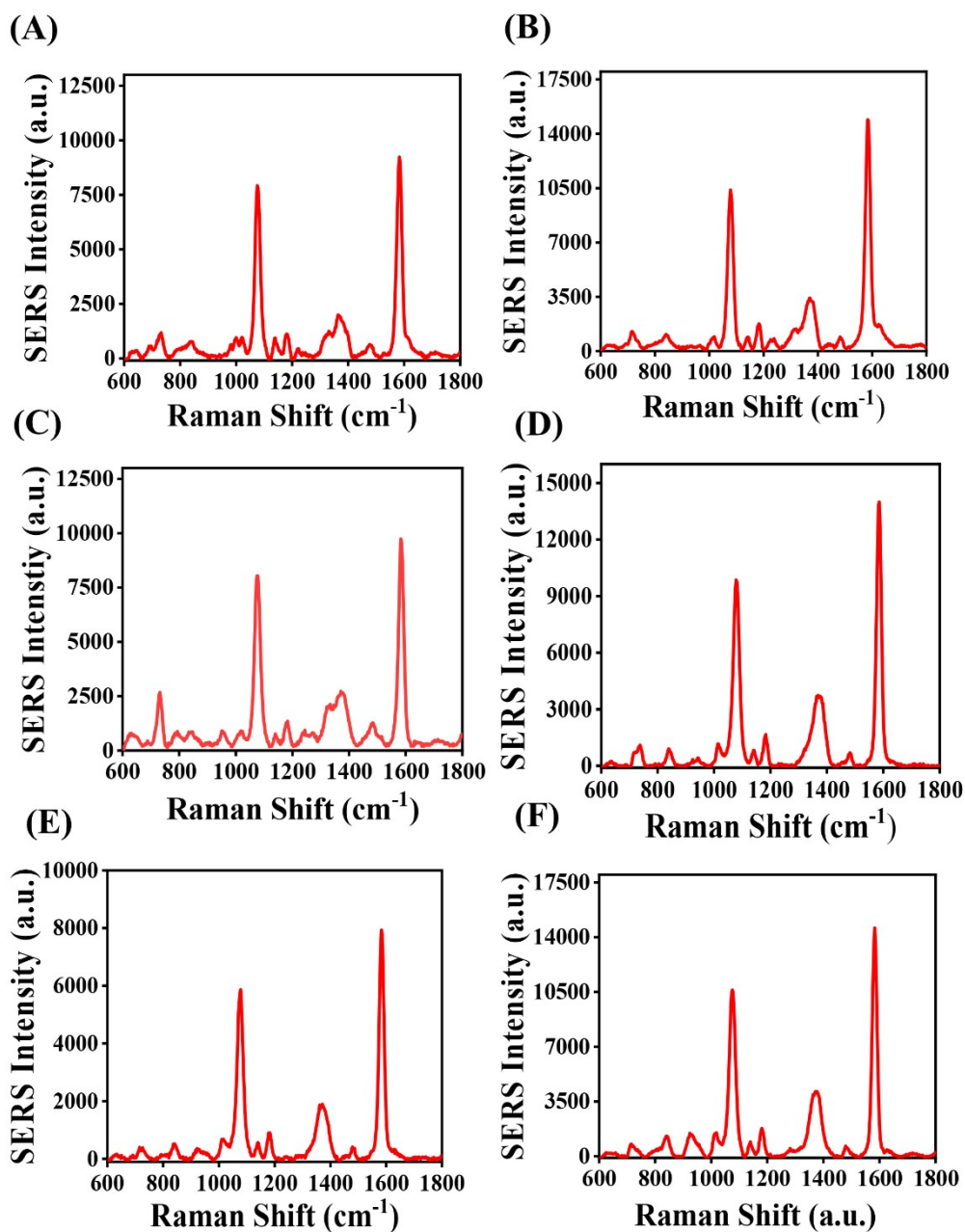


Fig. S5 SERS spectra of positive corn samples contaminated by AFB1 with 9.71 ng/mL (A), 2.55 ng/mL (B), HPLC chromatogram of spiked corn samples: 10 ng/mL (C), 5 ng/mL (D), HPLC chromatogram of spiked corn oil samples: 10 ng/mL (E), 2.5 ng/mL (F).

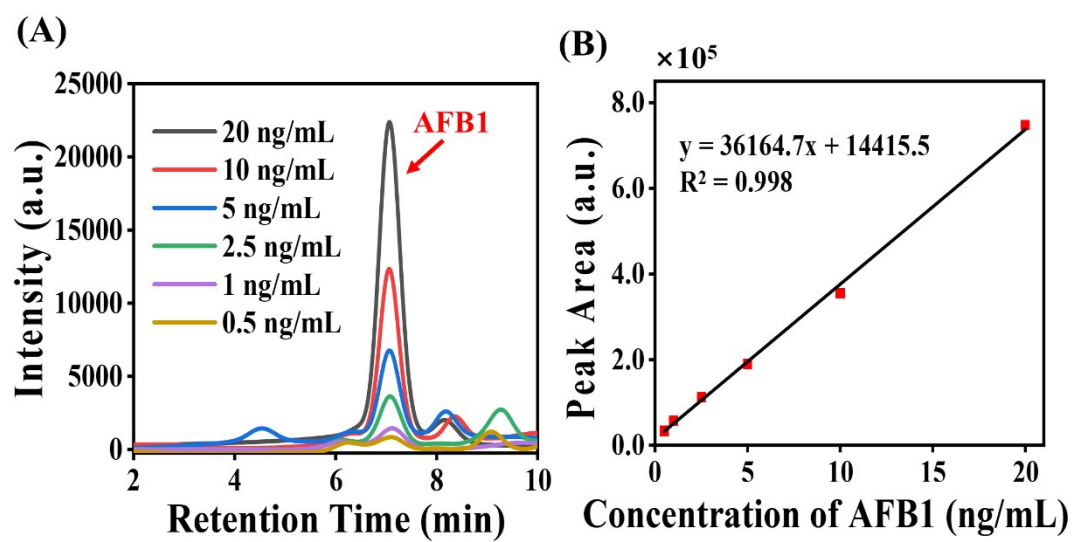


Fig. S6 (A) HPLC chromatogram and (B) calibration curve of AFB1 standard solution.

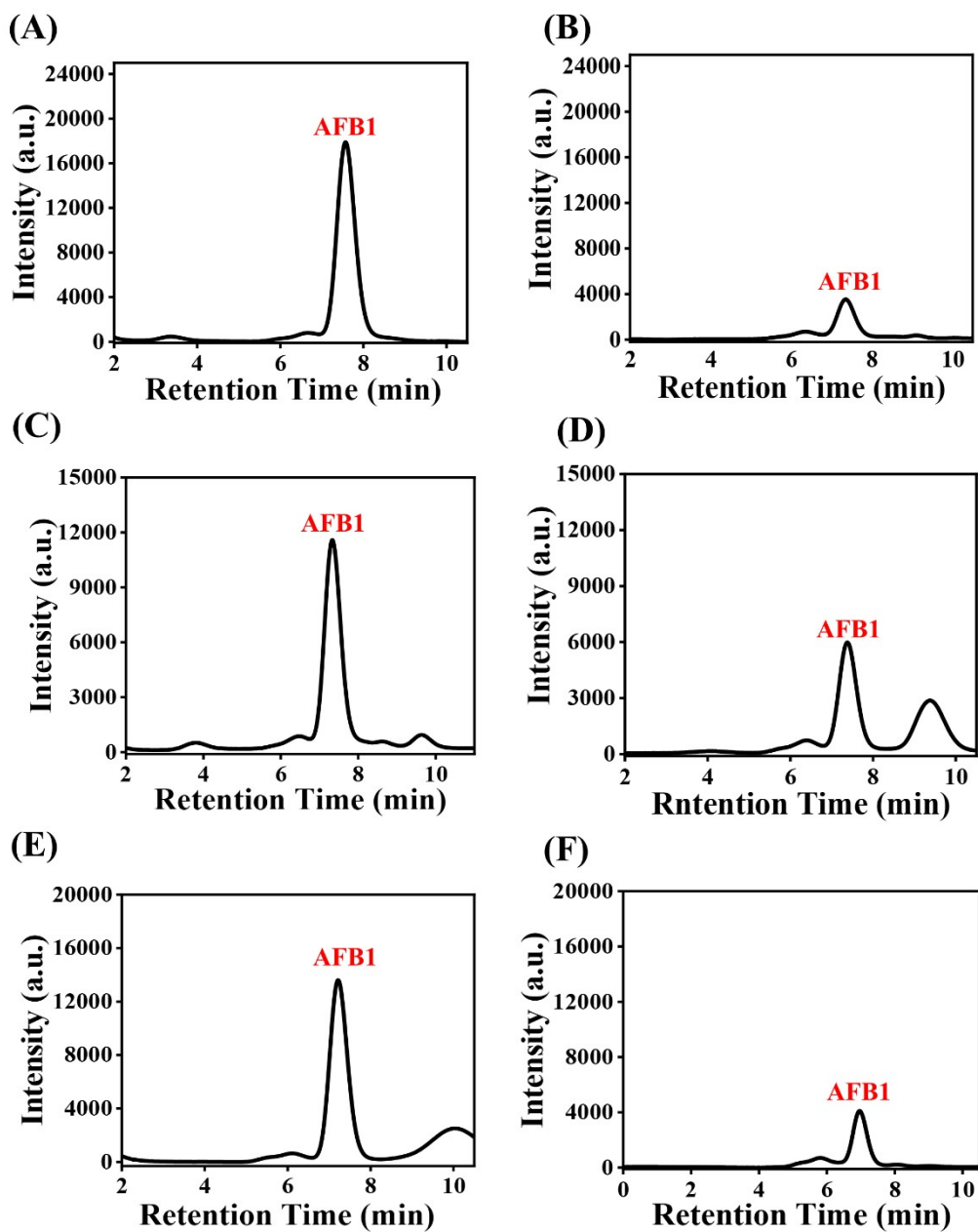


Fig. S7 HPLC chromatogram of positive corn samples contaminated by AFB1 with (A) 9.71 ng/mL, (B) 2.55 ng/mL, Spiked corn samples: (C) 10 ng/mL, (D) 5 ng/mL, Spiked corn oil samples: (E) 10 ng/mL, (F) 2.5 ng/mL.

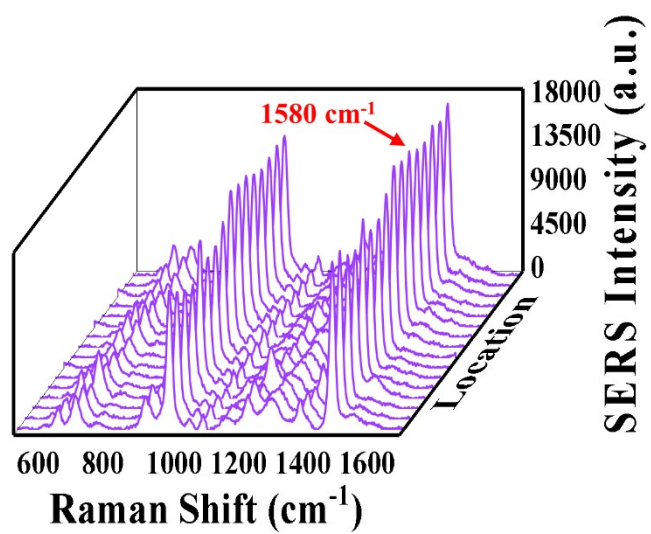


Fig. S8 Raman spectra collected from 16 random points of SERS aptasensor after incubation with 0.1 ng/mL AFB1 standard solution