Electronic supplementary information (ESI)

Optimum synthesis of Au@Ag nanoparticle as plasma amplifier to detect trace concentration of AFB1 via object-binder-metal SERS method

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1. **Fig. S1** Stability test of nano-substrate :(a) SERS spectra of CV were tested under different storage times (refrigerator storage at -4℃). (b) Peak intensity change at 1187 cm^{-1} (stored in a refrigerator at -4℃). (c) SERS spectra of CV were tested under different storage times (stored at room temperature and protected from light). (b) Peak intensity change at 1187 cm^{-1} (stored at room temperature and away from light).

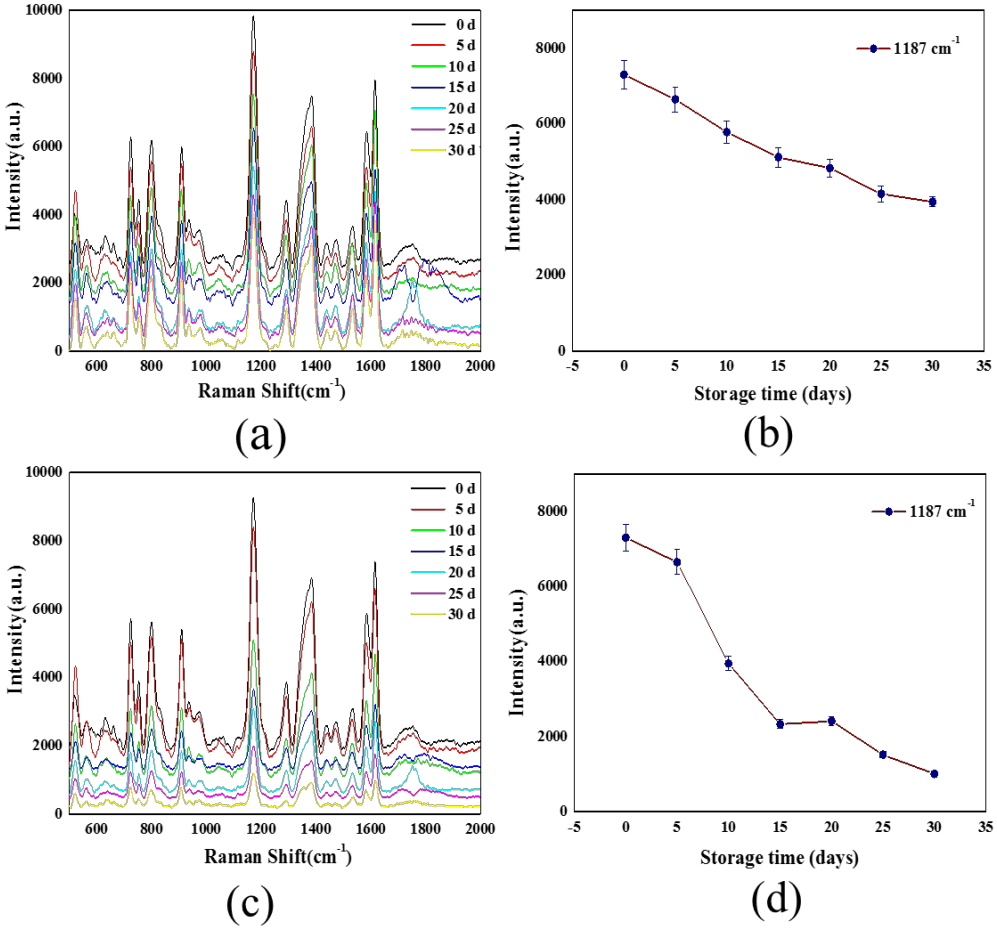

Fig. S1

2. **Fig. S2** SERS spectra of mixtures of melamine and AFB1 at different concentrations on Au @Ag NPs substrate.

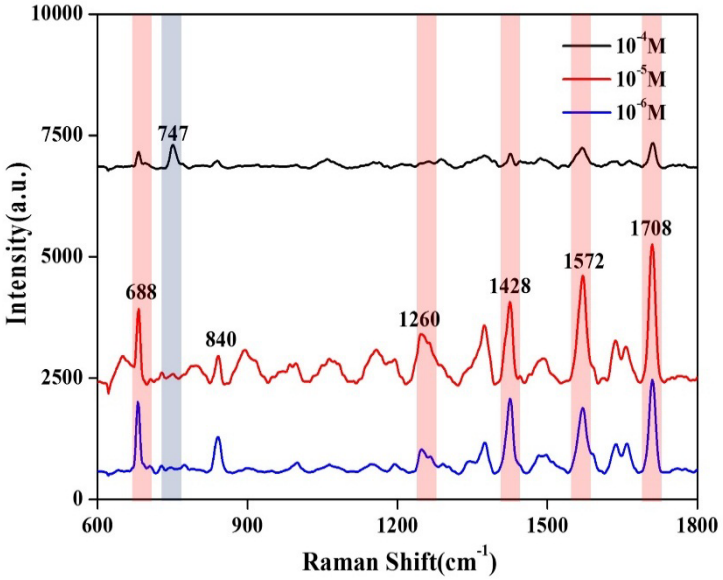

Fig. S2

Table S1

Substrate	Methods	LOD (Single product)	Detection object	LOD (practical samples)	years
silica-encapsulated gold nanoparticles[1]	SERS immunoassay	0.1ng/mL			2015
Fe3O4@Au NFs-cDNA[2]	SERS aptamer	0.4pg/mL	peanut oils	0.1ng/mL	2020
gold nanobipyramids[3]	SERS (AAO)template		peanut extracts	0.5 μg/L	2020
graphene oxide-Au@Ag core-shell[4]	SERS aptamer		peanut samples	0.1 pg/mL	2022
Au nanoparticle[5]	SERS aptamer	0.6pg/mL			2022
Au@Ag nanoparticle	SERS	10^{-8} mol/L	tea oil	10^{-6} mol/L	2022 (this paper)

3. **Table S1** Comparison of the year of publication and limit of detection (LOD) of the SERS substrates for the analytes of AFB1.

References

[1] Ko J, Lee C, Choo J. Highly sensitive SERS-based immunoassay of aflatoxin B1 using silica-encapsulated hollow gold nanoparticles. J Hazard Mater 2015;285:11-7.
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