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## Supplementary Information

### **An aptamer-based colorimetric/SERS dual-mode sensing strategy for the detection of sulfadimethoxine residues in animal-derived foods**

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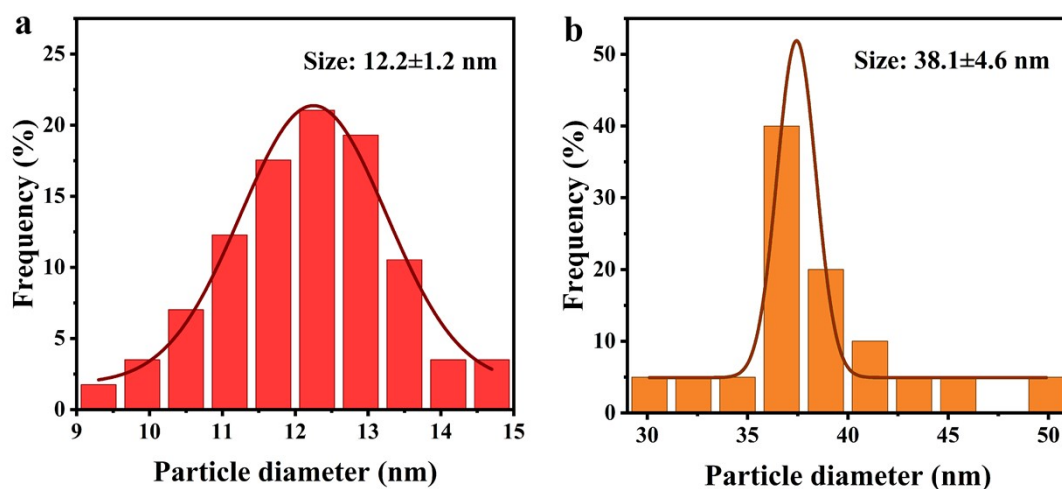
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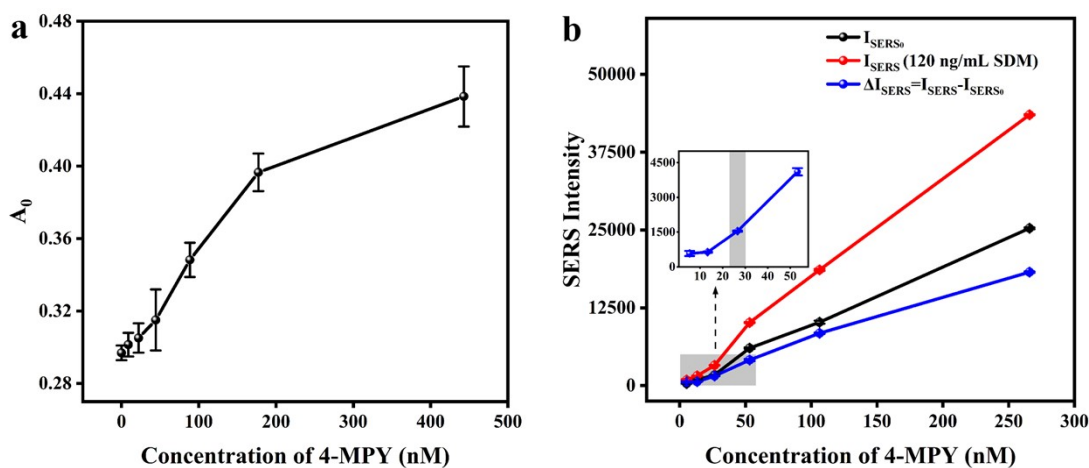
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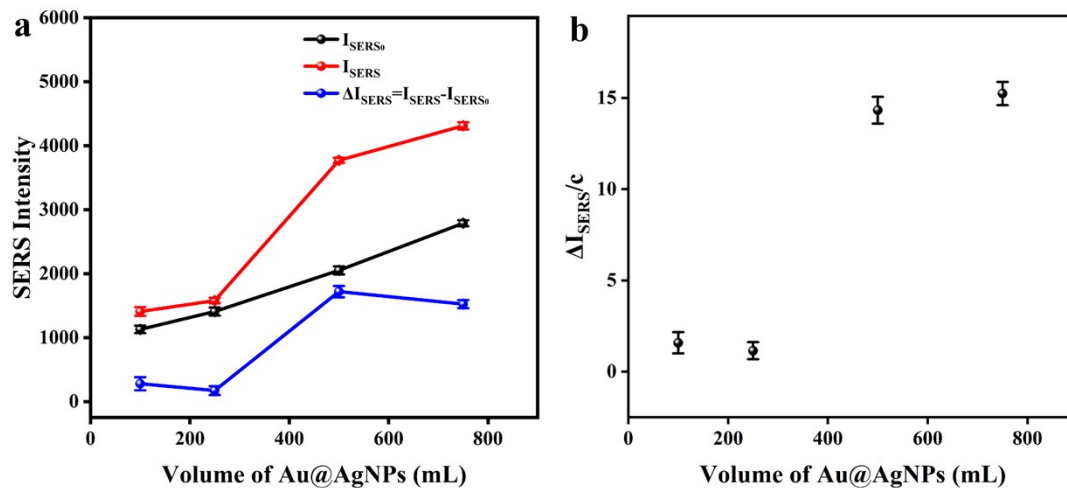
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 19 **Fig. S1** (a) Statistical analysis of the diameter distribution of AuNPs determined by  
 20 TEM in Fig 3b. (b) Statistical analysis of the diameter distribution of Au@AgNPs  
 21 determined by TEM in Fig 3b.

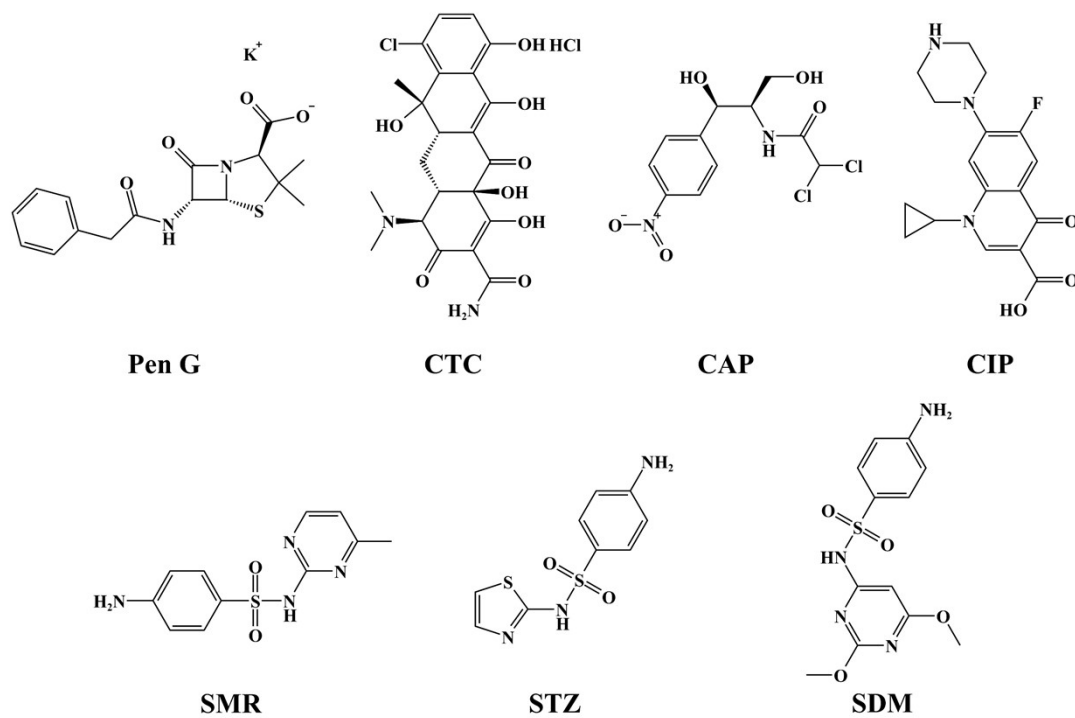


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 23 **Fig. S2** (a) Effect of the concentration of 4-MPY on  $A_0$  (the absorbance ratio  $A_{650}/A_{520}$   
 24 of pure AuNPs). (b) Effect of the concentration of 4-MPY on SERS intensity at  
 25  $1007\text{cm}^{-1}$ . (The variation in the SERS intensity of the SERS peak at  $1007\text{ cm}^{-1}$  is  
 26 expressed as  $\Delta I_{\text{SERS}} = I_{\text{SERS}} - I_{\text{SERS}_0}$ , where  $I_{\text{SERS}}$  and  $I_{\text{SERS}_0}$  represent the SERS intensity  
 27 at  $1007\text{ cm}^{-1}$  in the presence and absence of SDM, respectively).



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29 **Fig. S3** (a) Effect of the volume of Au@AgNPs on SERS intensity at  $1007\text{cm}^{-1}$ . (b)  
 30 Effect of the volume of Au@AgNPs on the estimated slope of the standard curve. The  
 31 error bars represent standard deviations from three parallel measurements.



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33 **Fig. S4** The chemical structures of Penicillin G potassium salt (Pen G),  
 34 chlortetracycline hydrochloride (CTC), Chloramphenicol (CAP), ciprofloxacin (CIP),  
 35 Sulfamerazine (SMR), sulfathiazole (STZ) and sulfadimethoxine (SDM).