Electronic Supplementary Material (ESI) for Analytical Methods.

Supporting Information

Colorimetric assay based on arginine-functionalized gold nanoparticles for detection of dibutyl phthalate in Baijiu samples

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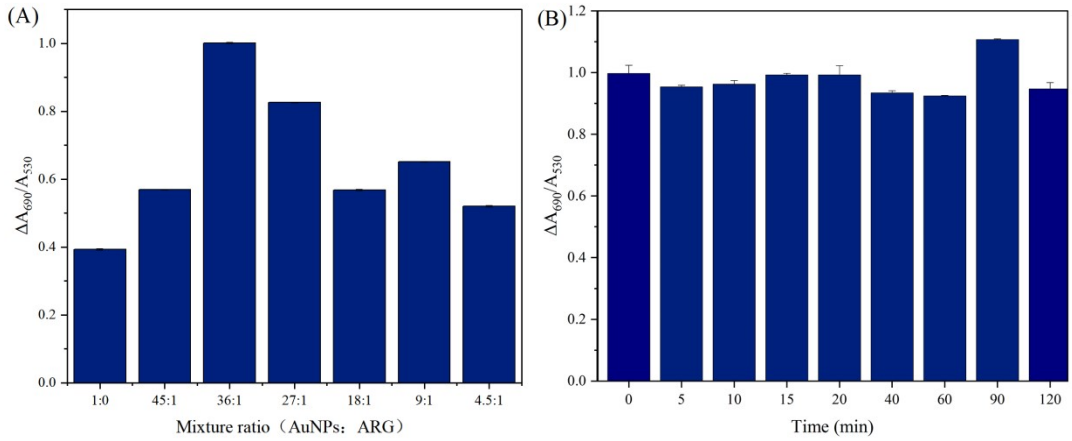

Fig. S1 Absorbance ratio of different AuNPs to ARG ratio (A) different reaction time (B) in the presence of 1.0 mg • L^{-1} DBP(n=3).

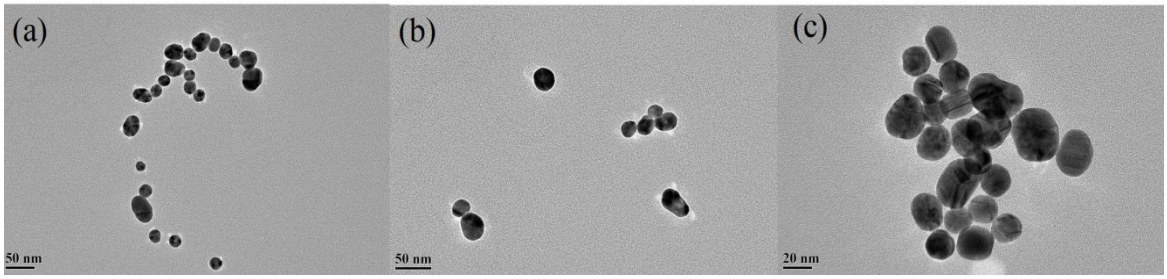

Fig. S2 TEM images of (a) AuNPs, (b) ARG-AuNPs and (c) the aggregation of ARG-AuNPs induced by DBP.

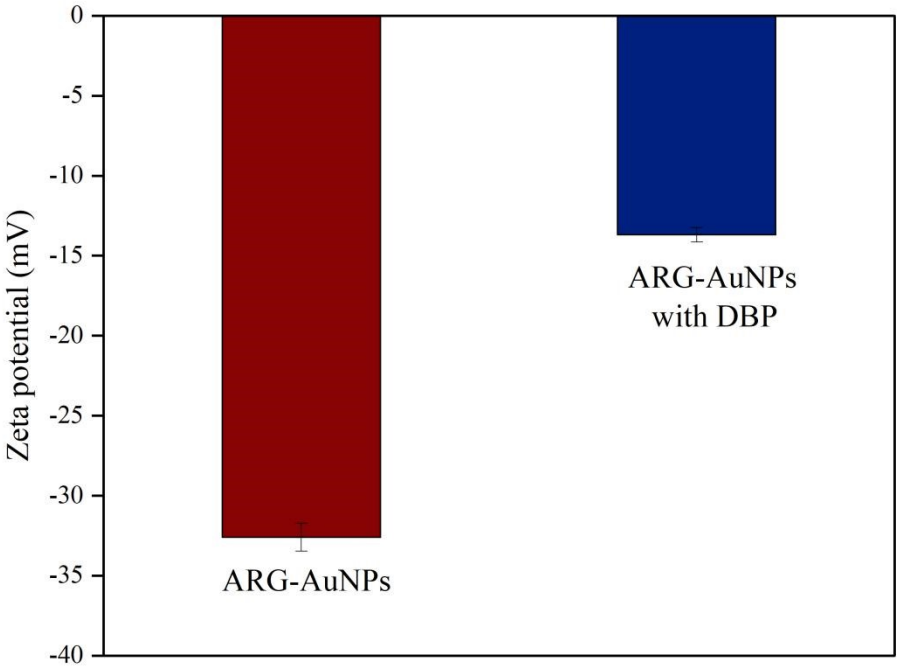

Fig. S3 Zeta potential value of the ARG-AuNPs (red bar) and ARG-AuNPs in the presence of 1.0 mg • L^{-1} DBP (blue bar)(n=3).

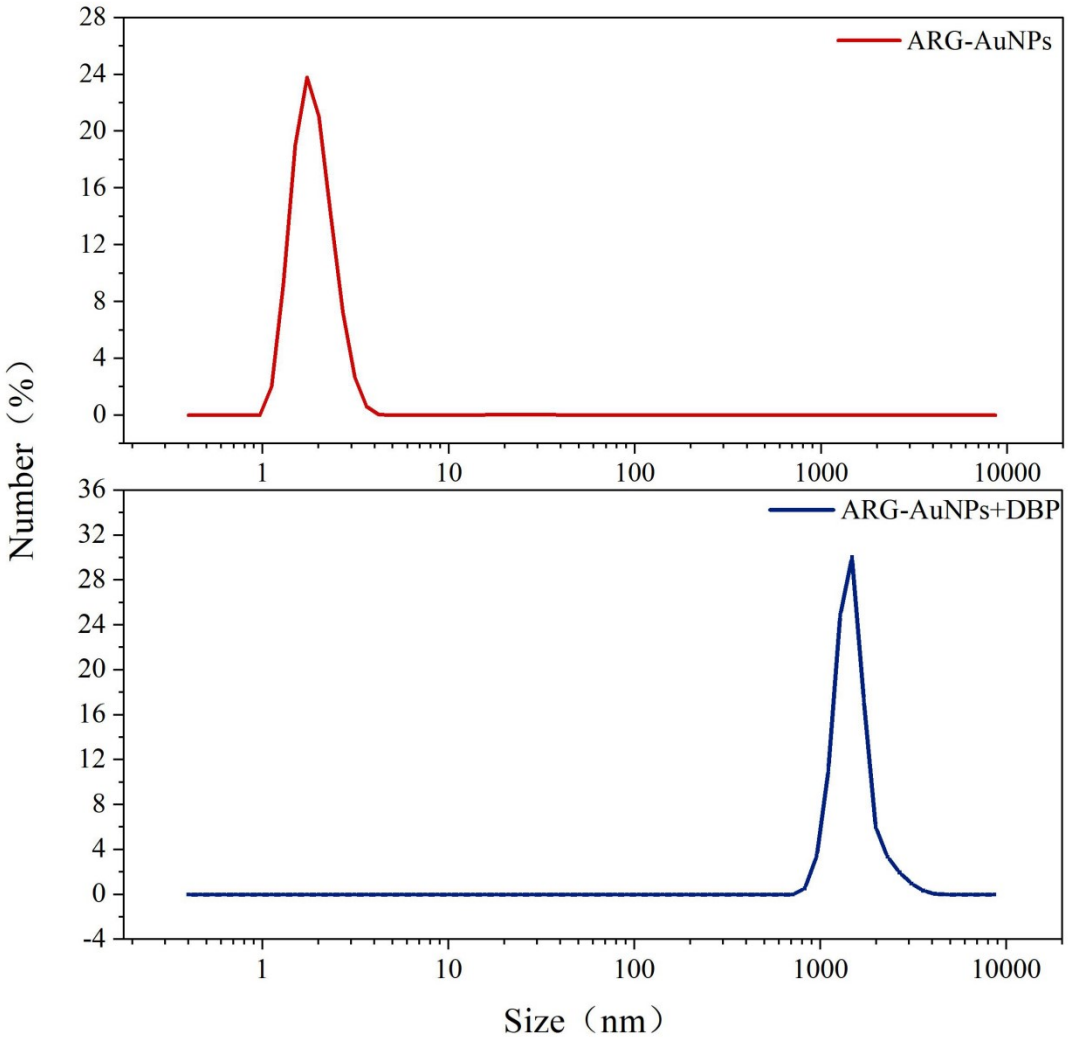

Fig. S4 size distribution graph of ARG-AuNPs (red line) and ARG-AuNPs in the presence of 1.0 mg • L^{-1} DBP (blue line).

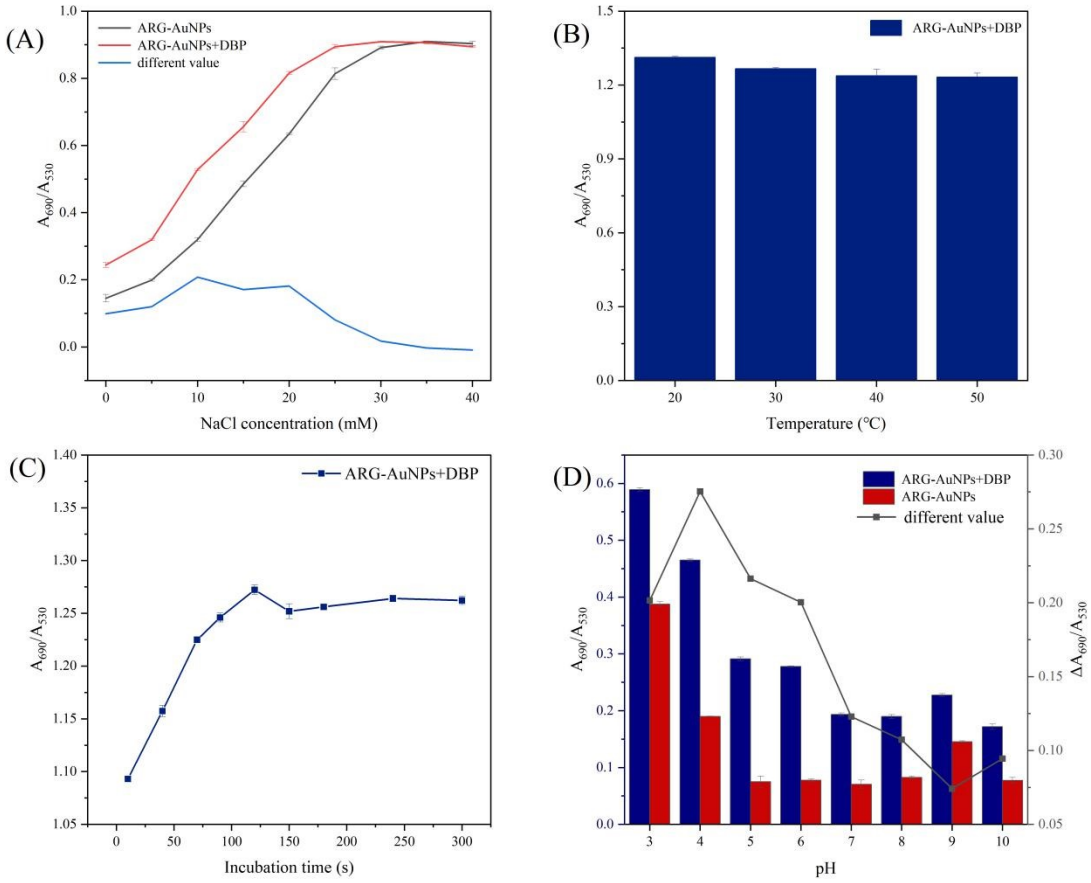

Fig. S5. (A) Effect of NaCl concentrations on the absorption ratio (A_{690}/A_{530}) of ARG-AuNPs in the absence (black line), presence (red line) of 1.0 mg • L^{-1} DBP and different value of absorbance ratio between the two cases (blue line),(n=3) (B) The influence of temperature on ARG-AuNPs and(n=3) (C) Effect of incubation time in the presence of 1.0 mg • L^{-1} DBP,(n=3) (D) Dependence of the pH on the absorption ratio (A_{690}/A_{530}) of ARG-AuNPs in the absence (red bar), presence (blue bar) of 1.0 mg • L^{-1} DBP and different value of absorbance ratio between the two cases (black line)(n=3).

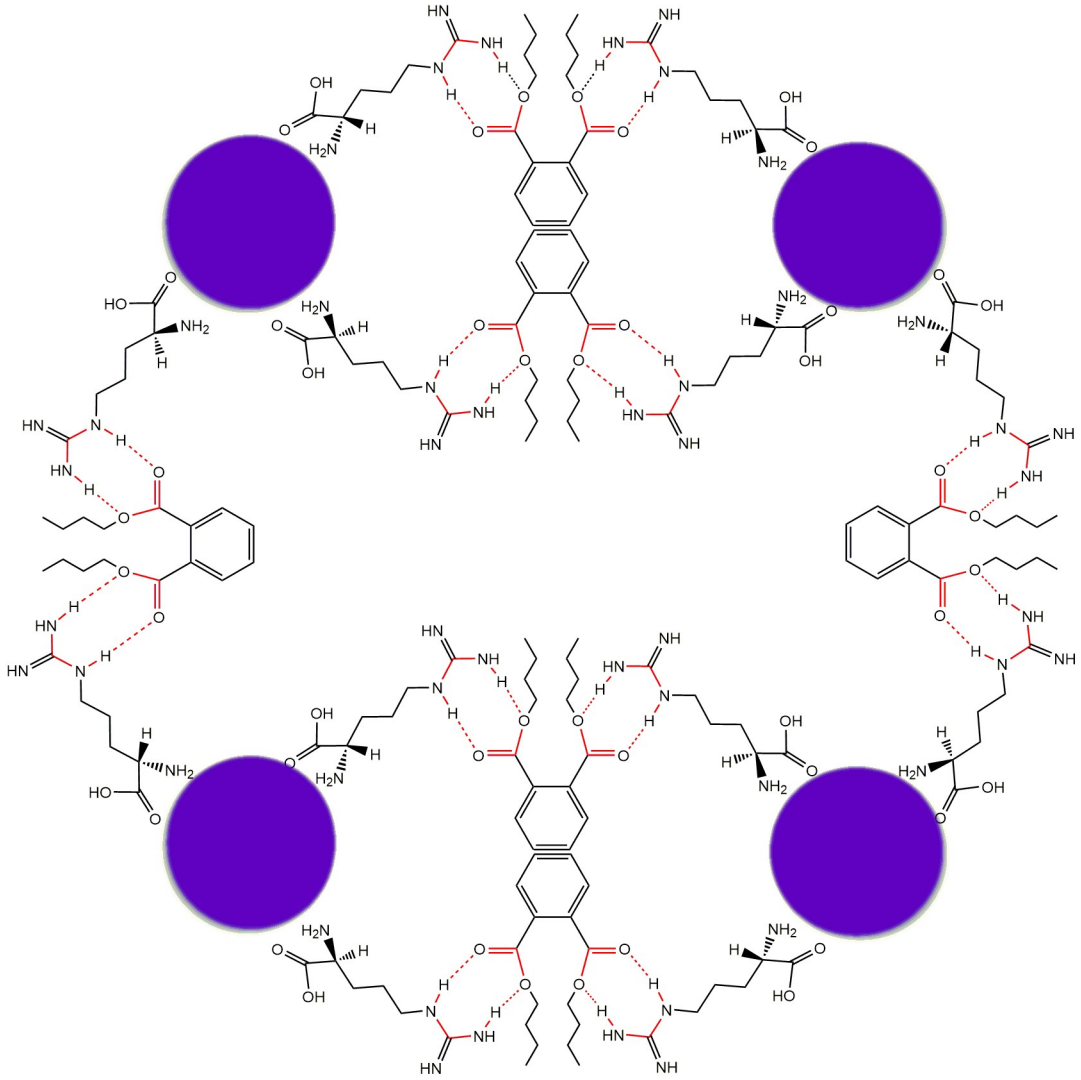

Fig.S6 Schematic diagram of the hydrogen bond interaction between the functionalized molecule arginine on the surface of AuNPs and DBP.