

## Supporting Information

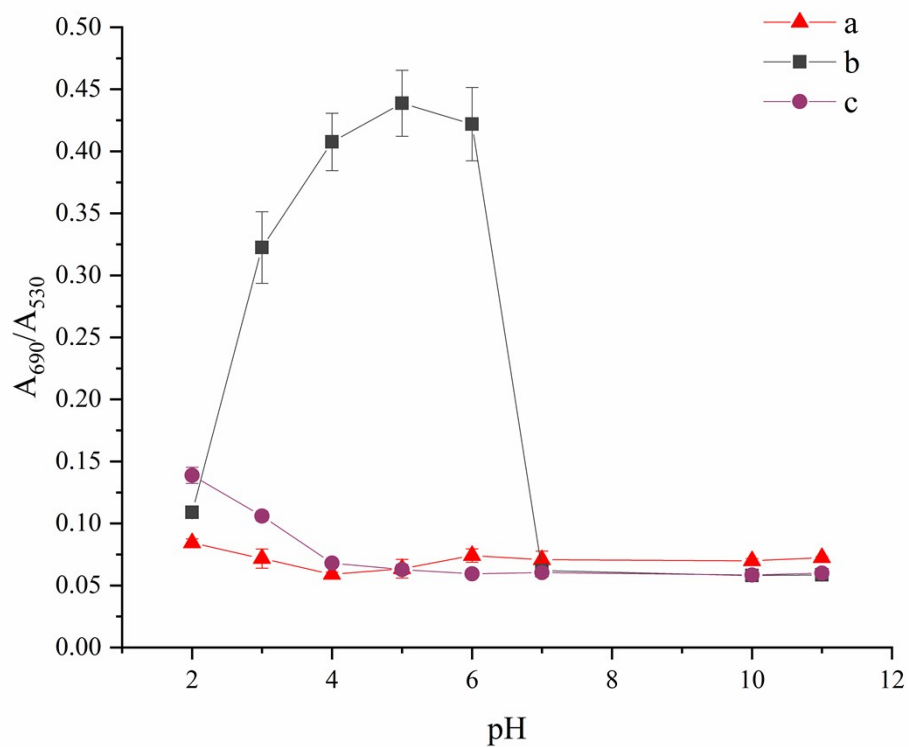
### **Rapid determination of the pesticide ametryn based on a colorimetric aptasensor of gold nanoparticles**

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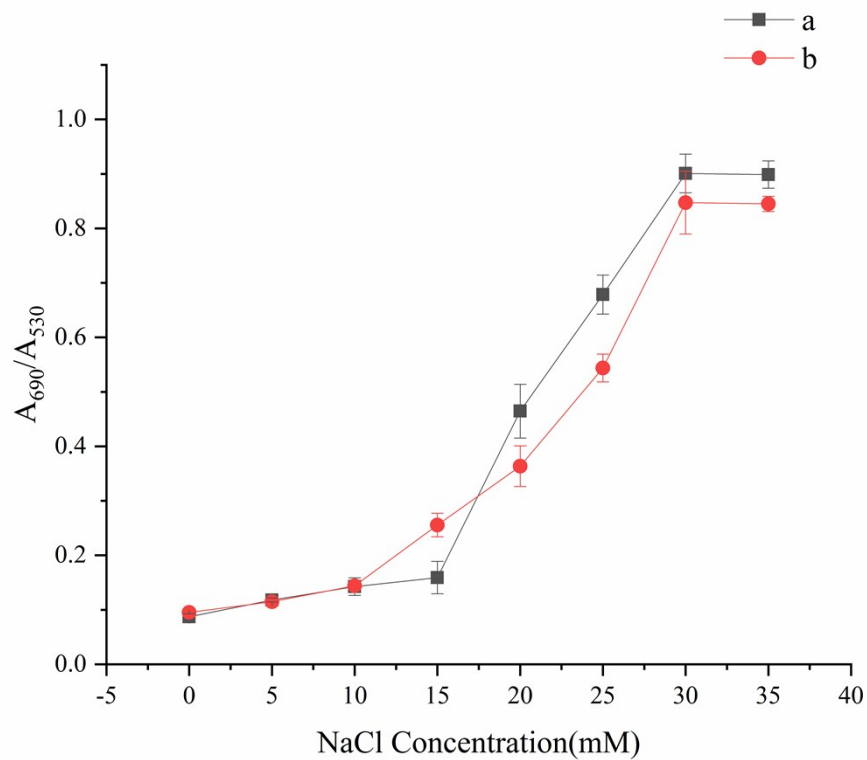
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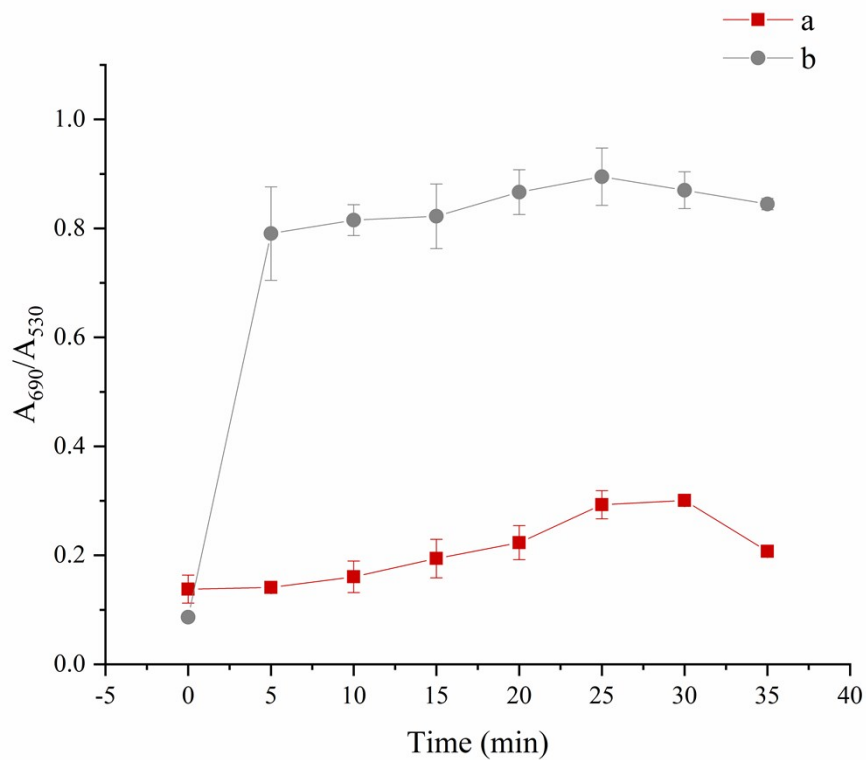
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**Fig. S1.** Dependence of the pH on the absorption ratio ( $A_{690}/A_{530}$ ) of AuNPs in the (a) absence and (b) presence of  $1.0 \mu\text{g}\cdot\text{L}^{-1}$  (c) presence of  $0.1 \mu\text{g}\cdot\text{L}^{-1}$  ametryn. Error bars represent the standard deviation (n = 3).



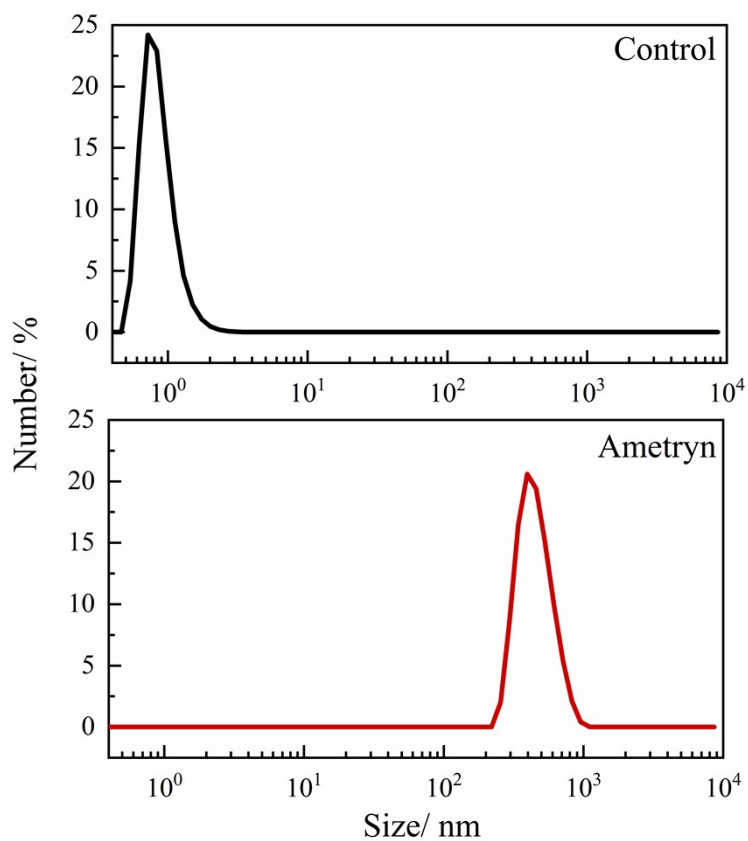
**Fig. S2.** Effect of NaCl concentrations on the absorption ratio ( $A_{690}/A_{530}$ ) of AuNPs in the (a) absence and (b) presence of  $0.1 \mu\text{g}\cdot\text{L}^{-1}$  ametryn. Error bars represent the standard deviation ( $n = 3$ ).



**Fig. S3.** Influence of incubation time (after addition of NaCl, HCl and ametryn into the AuNP-based sensor) on the absorption ratio ( $A_{690}/A_{530}$ ) of AuNPs in the presence of (a)  $0.2 \mu\text{g}\cdot\text{L}^{-1}$  and (b)  $0.4 \mu\text{g}\cdot\text{L}^{-1}$  ametryn. Error bars represent the standard deviation ( $n = 3$ ).

**Table S1.** Zeta Potential of the AuNP-based aptasensor at different conditions (Mean  $\pm$  SD, n = 3).

Samples	AuNP-based sensor	AuNP-based sensor + HCl (pH=4) + NaCl (5 mM)	AuNP-based sensor + HCl (pH=4) + NaCl (5 mM) + Ametryn (4.4 $\mu$ M)
Zeta Potential (mV)	-46.8 $\pm$ 2.2	-40.2 $\pm$ 2.3	-17.2 $\pm$ 0.3



**Fig. S4.** Size distributions of the citrate-stabilized AuNPs at different conditions determined by DLS. Control: AuNPs (4.4 mL,  $C_{Au} = 0.45$  mM) incubated (5 min) with 10  $\mu$ L of HCl (pH=4) plus 50  $\mu$ L of NaCl (5 mM); Ametryn: AuNPs (4.4 mL,  $C_{Au} = 0.45$  mM) incubated (5 min) with 10  $\mu$ L of HCl (pH=4), 50  $\mu$ L of NaCl (5 mM) plus 100  $\mu$ L of Ametryn (4.4  $\mu$ M).