Development of a Dual Mode UCNPs-MB Biosensor in Combination with PCR for Sensitive Detection of *Salmonella*

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Table S1. The primer sequence for PCR amplification [1].

Primer	Sequence (5'-3')	Length (bp)
Primer1	TGTCCTCCGCCCTGTCTACT	20
Primer2	CGCCATCTAGTAACAATACTTCC	23

Table S2. The detail composition of a 40 μL PCR amplification reaction.

Composition	Concentration	Volume (μL)
2×Taq Master Mix	-	20
Primer1	10 μM	2
Primer2	10 μM	2
Template DNA	-	4
ddH2O	-	12

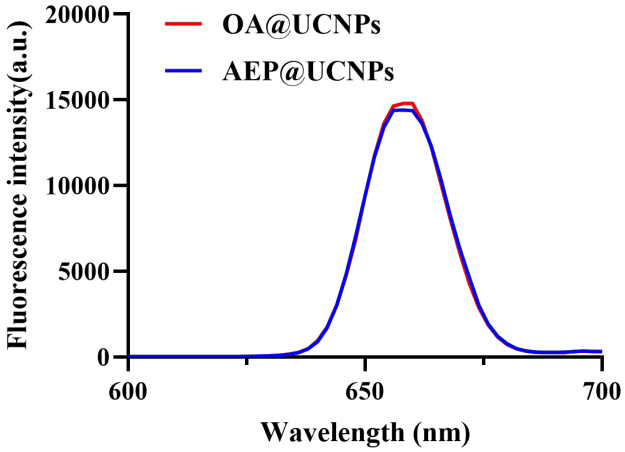

Figure S1. Upconversion fluorescence spectra of OA@UCNPs and AEP@UCNPs.

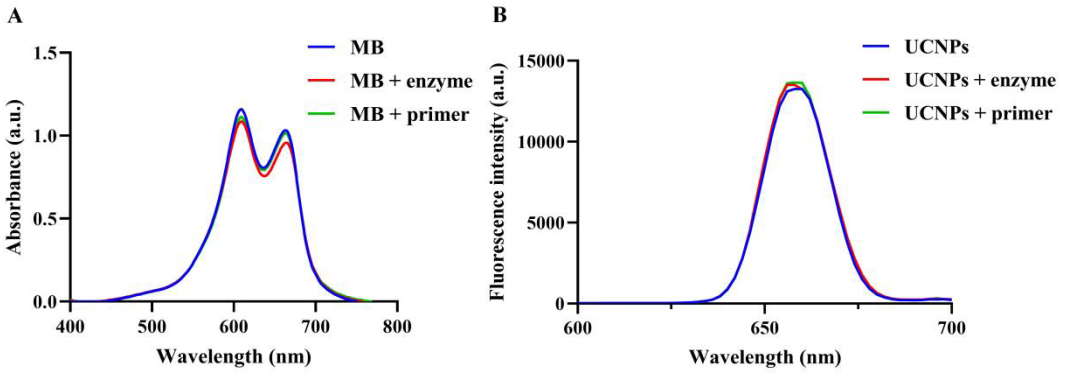

Figure S2. (**A**) UV absorption spectra of MB, MB + enzyme and MB + primer (**B**) upconversion fluorescence spectra of UCNPs, UCNPs + enzyme, UCNPs + primer.

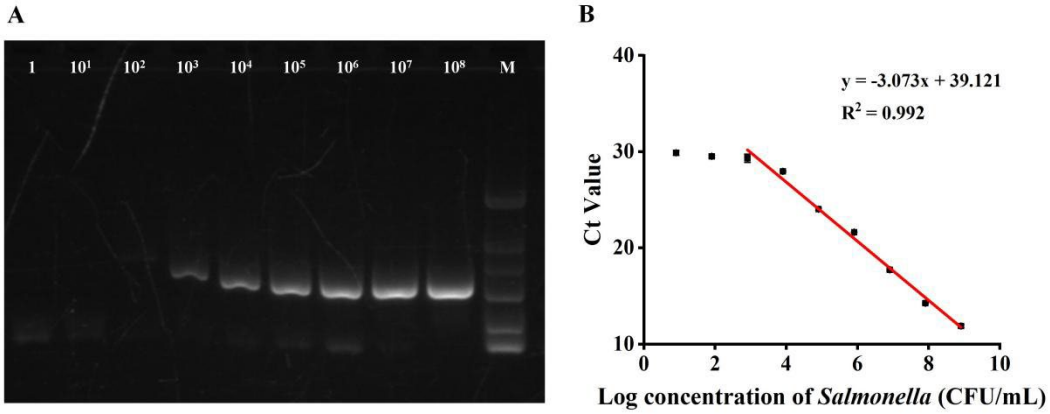

Figure S3. The gel electrophoresis of PCR solution (A) and Ct value of qPCR solution (B) with various *Salmonella* concentrations.