

Appendix A. Supplementary data

Ultrafast Point-of-care Colorimetric Detection of Dengue using Gold Nanoparticles Capped with β -Cyclodextrin Modified NS1 Antibody

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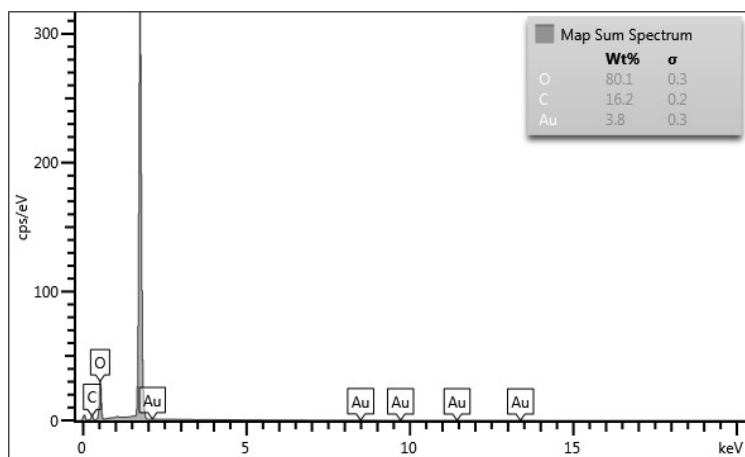
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Results

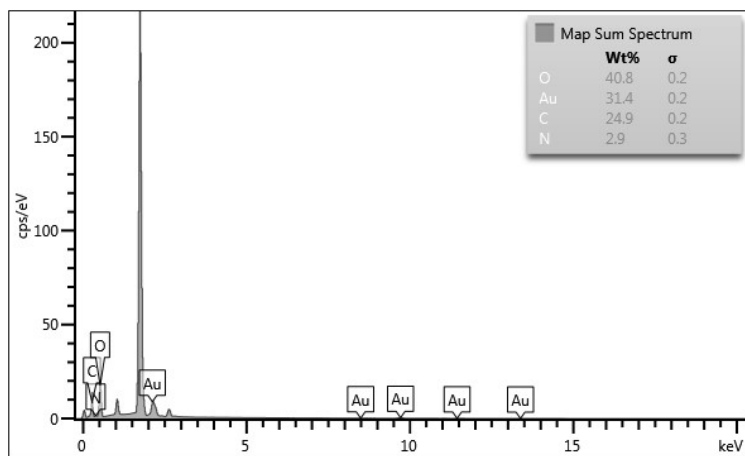
Table S1 Elemental composition of the sample in wt%

Sample Name	Wt% O	Wt% C	Wt% Au	Wt% N
AuNPs- β -CDs	80.1%	16.2%	3.8%	-
AuNPs-mAb	40.8%	31.4%	24.9%	2.9%
AuNPs-NS1	76.8%	15.3%	6.1%	1.8%

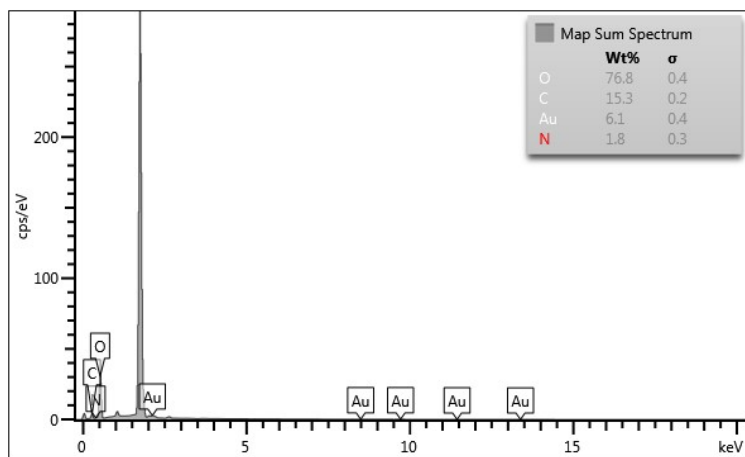
EDX spectrum map results in Wt%



(a)



(b)



(c)

Fig. S1 EDX spectrum maps in wt% of (a) AuNPs- β -CDs, (b) AuNPs-mAb, and (c) AuNPs-NS1.

Table S2 Previous method to detect NS1 antigen

Methods	Targets	Probes	Linear Ranges	LoDs	Time detection	References
Potentiometric	NS1 antigen	GA/CYS/AU	1100–10000 ng/mL	90 ng/mL	-	38
ELISA (enzyme-linked immunosorbent assay)	NS1 antigen	Monospecific anti-NS1 polyclonal antibody	1 to 100 ng/ml	1 ng/mL	4-5 hours	39
LFIA (Lateral Flow Immunoassay)	NS1 antigen	NS1-specific antibody-HRP immunocomplex	1-3000 ng/mL	5 ng/mL	10 min	40
Electrochemical	NS1 antigen	Anti-NS1 monoclonal antibodies	20-800 ng/mL	6.8 ng/mL	30 min	41
Serologic Tests	NS1 antigen	Quartz crystal microbalance (QCM)	-	1–10 µg/L (1-10 ng/mL)	20-30 min	42
Impedimetric label-free immunosensor	DENV, NS1 antigen	SPGE activated with a mixed-SAM layer	0.01–2.00 g/mL	PBS = 3ng/mL Serum = 30 ng/mL	30 min	43
Colorimetry	NS1 antigen	AuNPs capped β-CDs	75-250 ng/mL	39.290 ng/mL	1 min	This work