

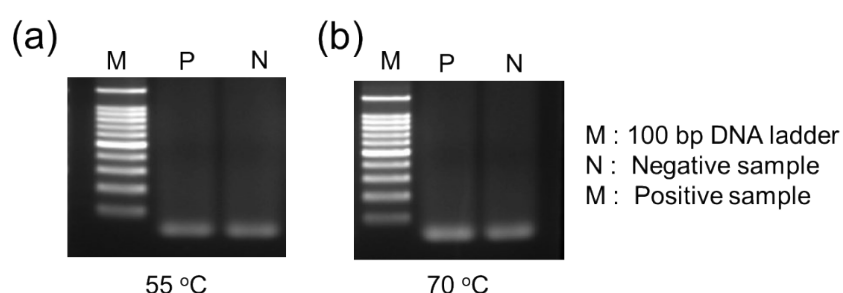
## Ultraviolet-induced *in situ* gold nanoparticles for point-of-care testing of infectious diseases in loop-mediated isothermal amplification

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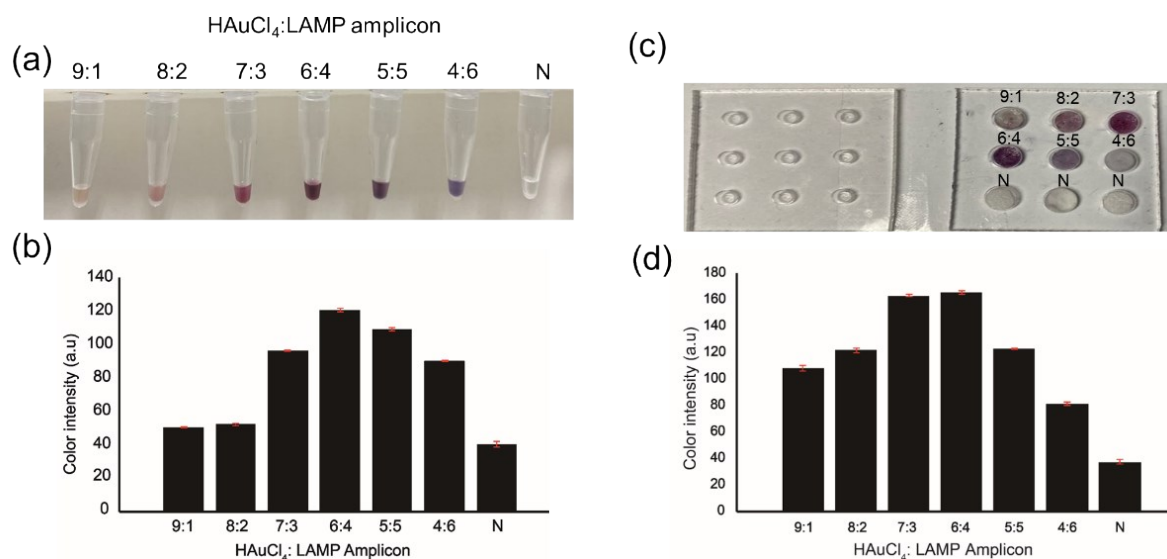
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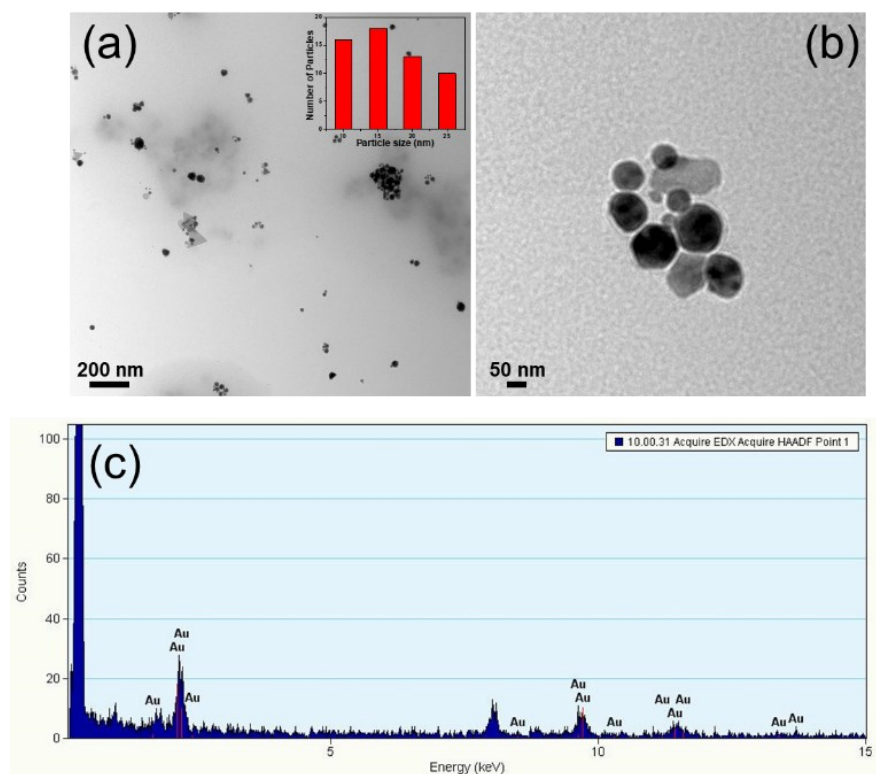
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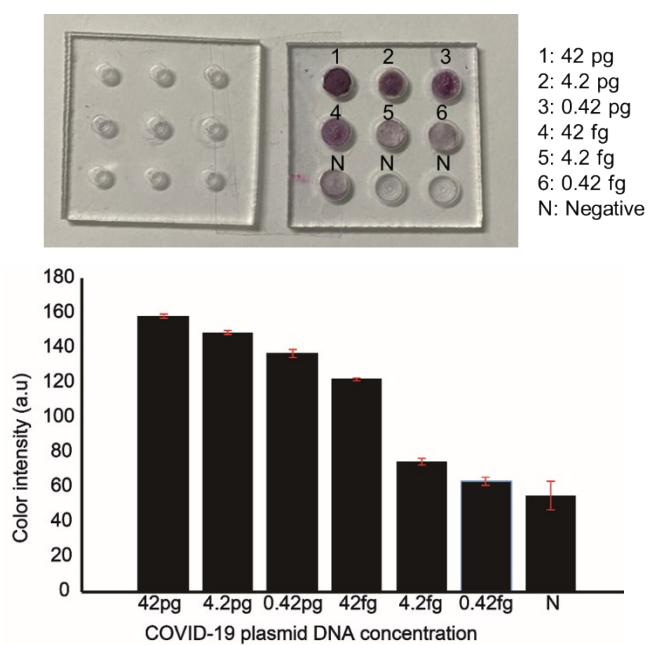
**Fig. S1** Results of agarose gel electrophoresis for LAMP amplification performed at (a) 55 °C and (b) 70 °C.



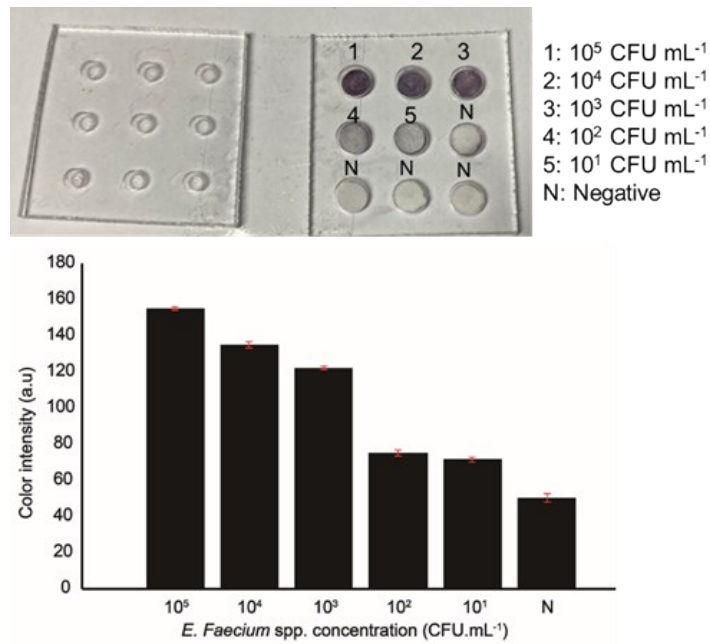
**Fig. S2** Results of colorimetric detection showing the various volumes of HAuCl<sub>4</sub> on the displayed color when mixed with LAMP amplicons examined in the microtubes (a and b) and paper-based portable device (c and d).



**Fig. S3** (a, b) TEM images of AuNPs and (c) TEM-EDX image of AuNPs.



**Fig. S4** Results of 10-fold serial dilution of COVID-19 plasmid DNA observed using a paper-based portable device.



**Fig. S5** Results of 10-fold serial dilution of *E. faecium* spp. observed using a paper-based portable device.

**Table S1** Primers used for amplifying *Enterococcus faecium* spp (esp gene)

Primers	Sequences (5'-3')
F3	CCAGAACACTTATGGAACAG
B3	GTTGGGCTTTGTGACCTG
FIP	CGTGTCTCCGCTCTTCTTTTATTTGCAAGATATTGATGGTG
BIP	ATCGGGAAACCTGAATTAGAAGAAGAACTCGTGGATGAATACTTTC
LB	TGATGTTGACACAACAGTTAAGGG

**Table S2** Primers used for amplifying COVID-19 plasmid DNA

Primers	Sequences (5'-3')
F3	GAAACCGGCACCCTGATC
B3	GGAGCTGTTCAAGTTCTTCA
FIP	TCAGGATAGCCAGGGTCACCACTGAACTCCGTGCTGCTGT
BIP	CGCTCTGAGACTGTGCGCTTCGCGGCTGTACACGTAGA
LF	AGGAACACCACGAAGGCC
LB	ACTGCTGCAACATCGTGAACa