Supplementary information:

Colorimetric molecular diagnosis of HIV *gag* gene using DNAzyme and a complementary DNA-extended primer

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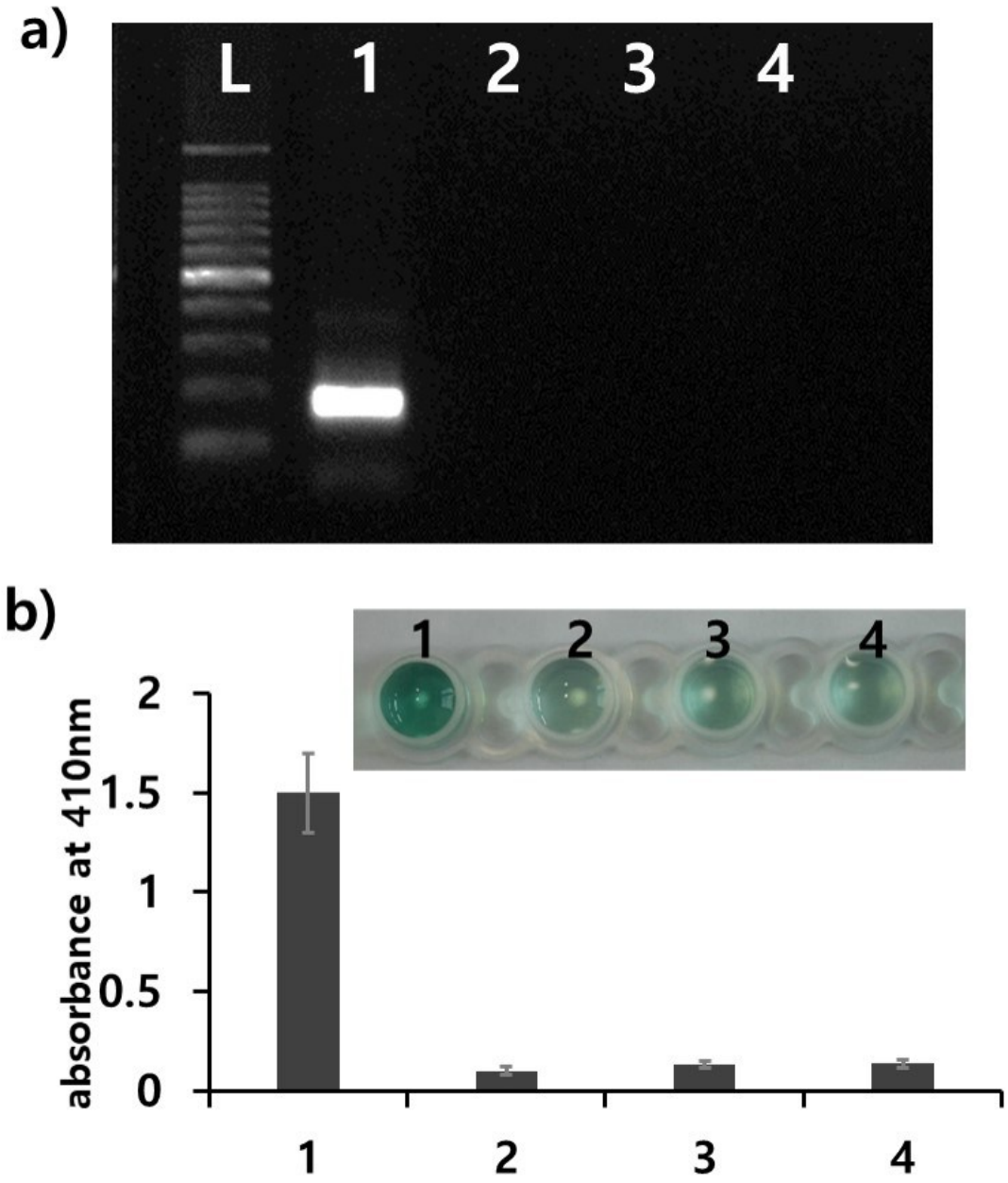

Figure S1. Selectivity test of the proposed colorimetric HIV-I *gag* gene detection. a) Agarose gel electrophoresis analysis. 1. With target; 2. Without target; 3. With human genomic DNA; 4. With *M. tuberculosis* genomic DNA. b) Quantitative data of 1. With target; 2. Without target; 3. With human genomic DNA; 4. With M. tuberculosis. Inset data shows colorimetric images quantitative data. The concentration of the gag gene, human genomic DNA, and *M. tuberculosis* were 10^3, 10^6, 10^6 copies mL^{-1}, respectively. (L, 100-bp ladder).

Table S1 Comparison of analytical performance of the proposed study with previously reported methods of HIV detetion.

Detection method	**Probe**	**Operation process**	**Time consuming (hour)**	**Detection limit**	**Reference**
Electrochemical	Antibody conjugated with enzyme	Time-consuming, high cost	12 - 24	6.7 pM	1
Fluorescence	DNA/un-modified	Complicated, high cost	2 - 2.5	0.3 nM	2
Colorimetric	DNA/un-modified	Time-consuming , low cost	2.5	0.65 pM	3
Colorimetric	Biotin-DNA conjugated with nanofibrous	Complicated, high cost	4	4.8 pM	4
Fluorescence	enzyme-induced silver metallization	Time-consuming, not robust	2.5	10 pM	5
Fluorescence	DNA functionalized AgNCs	Complicated synthesis, not robust	1	0.40 nM	6
Fluorescence	FAM-labeled DNA	target enrichment process needed, high cost	1.33	1000 copies	7
Colorimetric	DNAzyme	Fast, low cost, robust, sensitive	1.16	10 copies	This study

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