Integrated Micropillar Polydimethylsiloxane Accurate CRISPR Detection (IMPACT) System for Viral DNA Sensing

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Keywords: micropillar, DNA, CRISPR, microfluidics, fluorescence, point-of-care

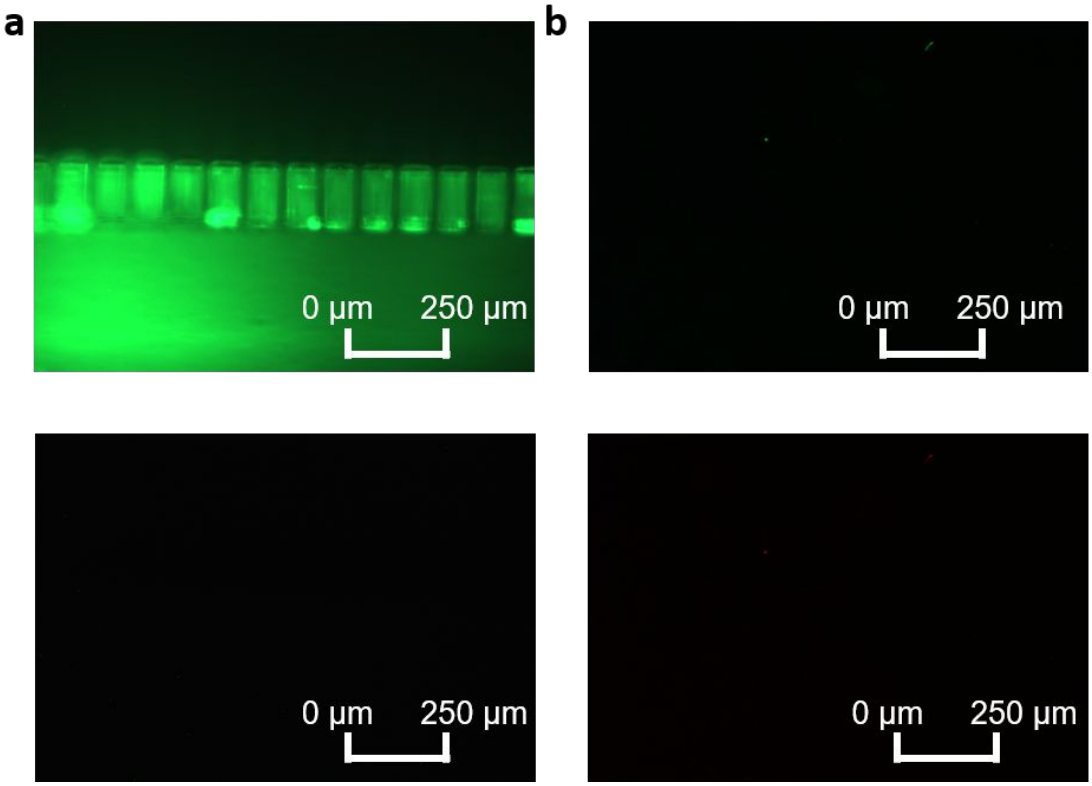

Figure S1: a) Fluorescent microscope image showing APTES + glutaraldehyde treated channel (top) and APTES + valeraldehyde treated channel (bottom). Only the channel treated with both glutaraldehyde and APTES shows autofluorescence, and uniform

fluorescence shows uniform coating of the channel b) Negative controls for Figures 1f (top) and 1g (bottom). Fluorescent image of channel with no chemical treatment or DNA at different excitation wavelengths (450-490 nm, top) (540-580 nm, bottom)

Reagents and Materials	**Unit Costs**
Polydimethylsiloxane (PDMS)	$ 0.50
Glass slide	$ 1.68
(3-Aminopropyl)triethoxysilane (APTES)	$ 0.30
Glutaraldehyde	$ 2.56
Streptavidin	$ 4.43
DNA reporter probe with a biotin label	$ 0.08
LbCas12a	$ 0.13
crRNA	$ 0.04
Total	$ 9.72

Table S1: Estimated costs per test in this study.

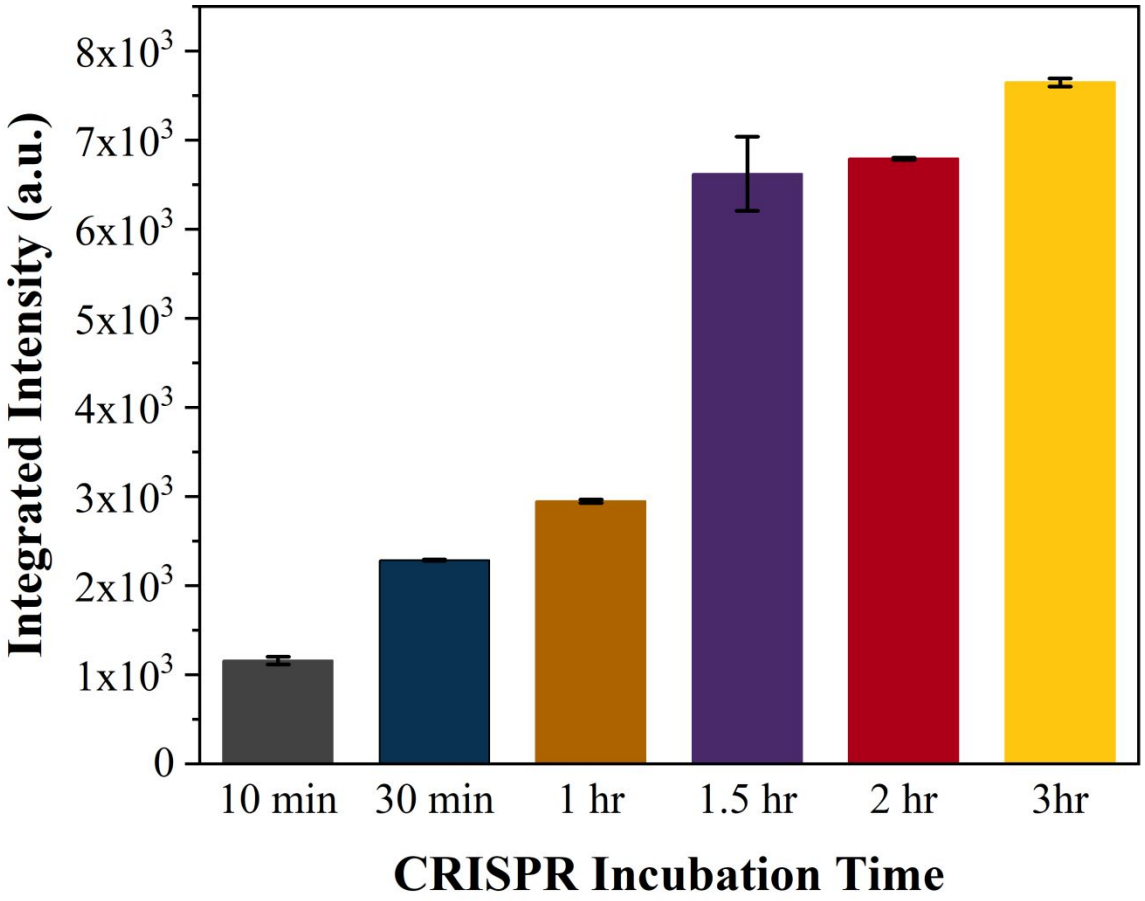

Figure S2: Measured intensity versus CRISPR incubation time (10 min to 3 hrs). Experiments were conducted in the liquid phase, with 1 nM of target DNA, and 0.01 nmoles of reporter probes (/56-FAM/TTATT/3IABkFQ). Samples were then measured using a commercial spectrometer (JASCO FP-8500). Error bars are standard deviation of the mean.