

Supporting Information

Label-Free Quantification of Single-Stranded DNA Utilizing Enzymatic Digestion and an Off-the-shelf Glucose Test Strip

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Table S1. Comparison of the performance of the current method with previously reported DNA detection methods.

Analyte	Nucleotide Length	Measurement Technique	Labeling required?	Limit of Detection	Reference
Hepatitis B Virus DNA	3.2 kbp	Paper-based electrochemical	Yes	85 pM	1
Human Cytomegalovirus DNA	~235 kbp	Disposable electrochemical	Yes	0.6 fM	2
ssDNA	60	Carbon-nanotube derived amplification and electrochemical	Yes	54 aM	3
ssDNA	200	Lead-magnesium niobate–lead titanate piezoelectric plate	Yes	100 zM	4
ssDNA	18	Nanoelectrode platform using Au nanowires	No	~1 pM	5
ssDNA	22-87	This study	No	329-780 nM	-

References:

- (1) Li, X.; Scida, K.; Crooks, R. M. *Analytical Chemistry* **2015**, 87, 9009.
- (2) Azek, F.; Grossiord, C.; Joannes, M.; Limoges, B.; Brossier, P. *Analytical Biochemistry* **2000**, 284, 107.
- (3) Wang, J.; Liu, G.; Jan, M. R. *Journal of the American Chemical Society* **2004**, 126, 3010.

(4) Kirimli, C. E.; Shih, W.-H.; Shih, W. Y. *Analyst* **2014**, *139*, 2754.

(5) Gasparac, R.; Taft, B. J.; Lapierre-Devlin, M. A.; Lazareck, A. D.; Xu, J. M.; Kelley, S. O. *Journal of the American Chemical Society* **2004**, *126*, 12270.