## A multi-channel smartphone-based spectroscopic system for high-throughput biosensing in low-resource settings

Iftak Hussain,<sup>a</sup> Andrea Locke, <sup>a</sup> Emily Kight, <sup>a</sup> Joseph D. Malone, <sup>a</sup> Fedrick Haselton, <sup>a</sup> and Audrey Bowden\*<sup>a,b</sup>

<sup>a</sup>Department of Biomedical Engineering, Vanderbilt University, Nashville, TN 37235, USA <sup>b</sup>Department of Electrical Engineering and Computer Science, Vanderbilt University, Nashville, TN 37235, USA. Email: <u>a.bowden@vanderbilt.edu</u>



## **Distortion correction Algorithm**

Fig. S1 Algorithm used to correct distortion in the spectrum captured by the MSSS

Product	Quantity	Cost (\$)
Light emitting diode (MWWHL4, Thorlabs)	1	187.45
Optical fiber patch cable (M53L01, Thorlabs)	1	87.72
Cylindrical lens (Stock #68-169, Edmund Optics)	1	154.00
Achromatic doublet lens (AC127-050-A, Thorlabs)	2	113.14

Visible Transmission Grating (GT13-12, Thorlabs)	1	84.85
3D printed parts	1	10
PDMS sample holder	1	5
Mirror (PF05-03-P01, Thorlabs)	1	32.84
Total fabrication cost of the MSSS =		\$675