

Electronic Supplementary Information

Reduction of Blood Volume Required to Perform Paper-Based Hematocrit

Assays Guided by Device Design

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Figure S1. Schematic displaying the channel layer of device **1** and **4c**. The readout channel is shown as percent distance traveled (0–100%). The length of the readout channel is shown in parentheses and is used to normalize the distance traveled by the sample.

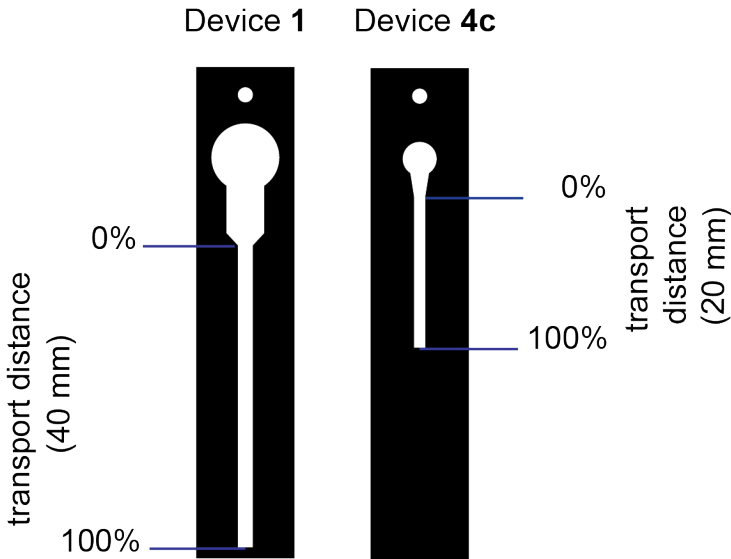


Figure S2. Comparison of the distance traveled for the liquid component of a range of hematocrit percentages. Each data point is the average of five replicates and the error bars represent the standard error of the mean. The data sets are fit to linear regression lines (device 1: $R^2=0.984$; device 2: $R^2=0.994$; device 3: $R^2= 0.969$; device 4: $R^2=0.933$).

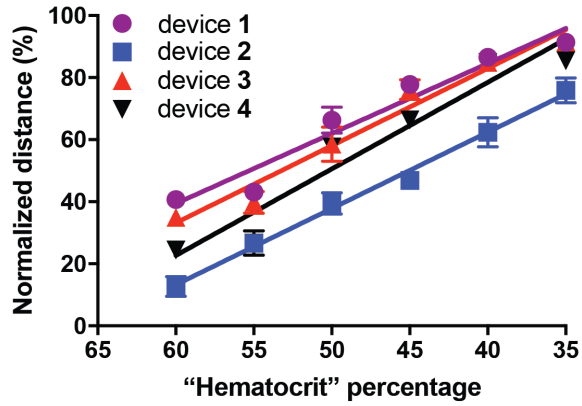


Figure S3. Reproducibility of paper-based hematocrit assays performed using device **4c**, which required only 10 μL of sample. Samples of RBCs suspended in Alsever's solution were prepared at a hematocrit of 41% and were applied to twenty devices. The samples were transported an average distance of 17.1 ± 0.8 mm (red line) with a coefficient of variation (CV) of 4.7%.

