Supplementary Materials

Microfluidic-Based Measurement Method of Red Blood Cell Aggregation under Hematocrit Variations

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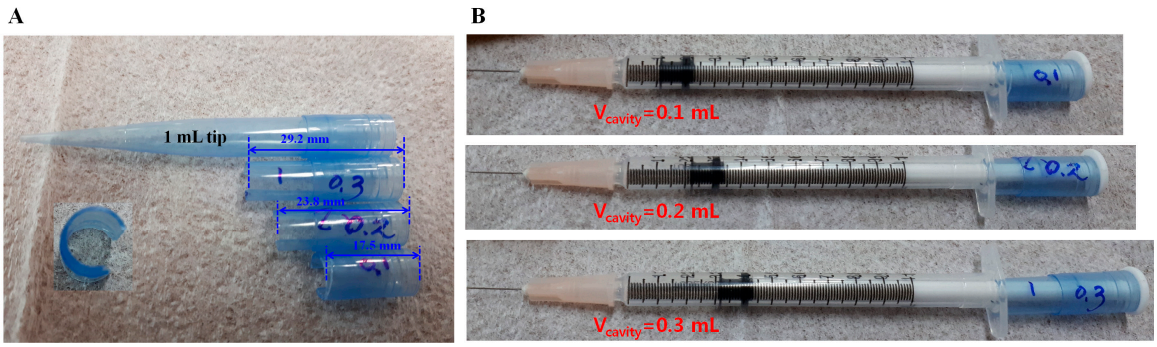

Figure S1. (A) Preparation of three spacers to secure cavity volume (V_{cavity}). The spacer for the corresponding cavity volume was cut at **(a)** L=17.5 mm (V_{cavity}=0.1 mL), **(b)** L=23.8 mm (V_{cavity}=0.2 mL), and **(c)** L=29.2 mm (V_{cavity}=0.3 mL) using a 1 mL pipette tip. The round wall of a spacer was partially cut. **(B)** A disposable suction pump with respect to cavity volume (V_{cavity}) (V_{cavity}=0.1 mL, 0.2 mL, and 0.3 mL).

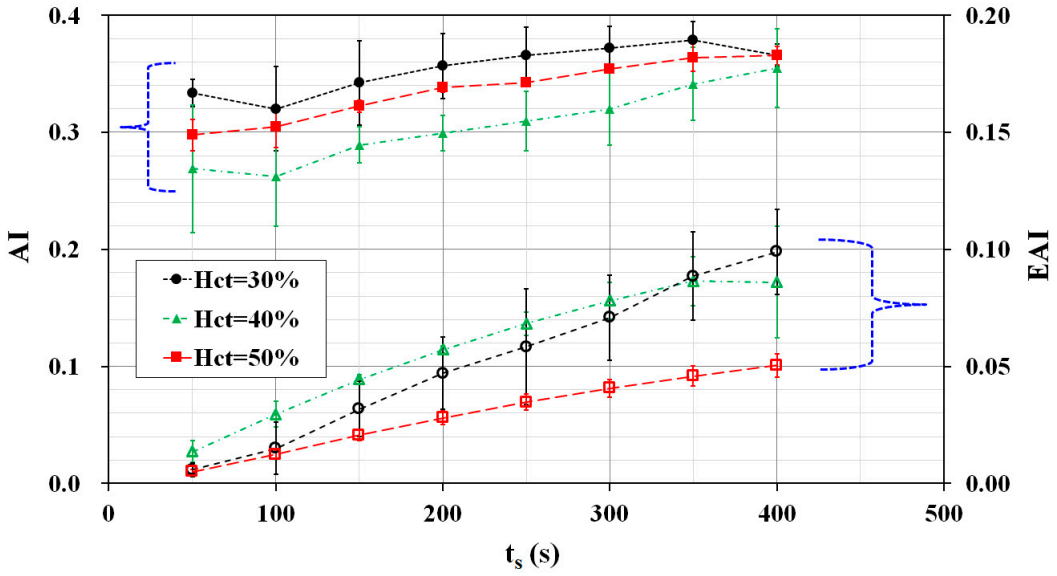

Figure S2. Variations of AI and EAI with respect to hematocrit (H_{ct}) and specific duration of time (t_s).

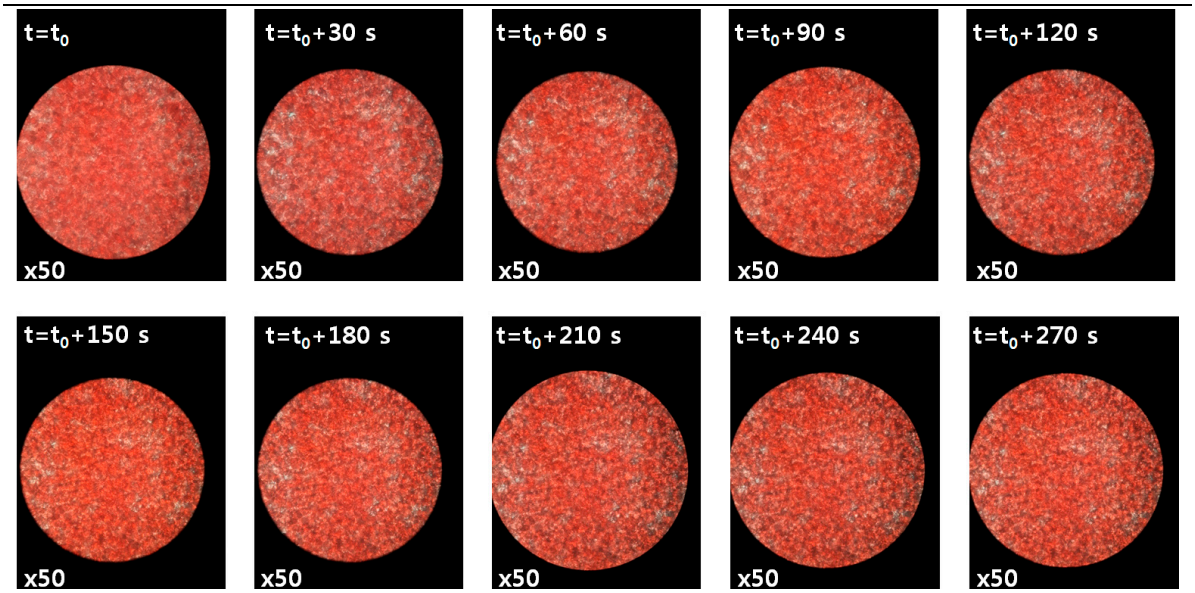

Figure S3. Sequential snapshot images captured with smartphone-based camera at intervals of 30 s after clamping the tube with pinch valve. Here, 50x objective lens (NA=0.5) was applied to monitor RBCs behaviors in details. RBCs-depleted regions (i.e., plasma) were expanded with an elapse of time. Since RBCs were distributed as multiple layers in depth direction, it is impossible to see rouleaux formation clearly.

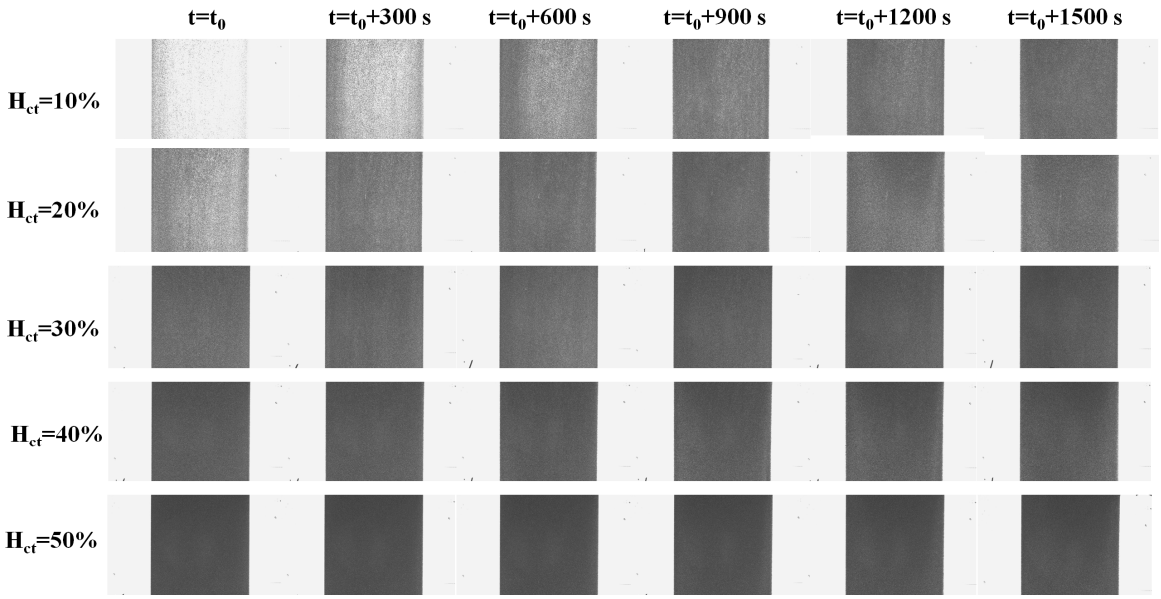

Figure S4. Sequential microscopic images obtained at intervals of 300 s with respect to hematocrit (H_{ct}) (H_{ct}=10%, 20%, 30%, 40%, and 50%). From these sequential images, image intensity was deceased over time. This results indicates that hematocrit variations in the conical pipette tip cause to decrease image intensity over time.