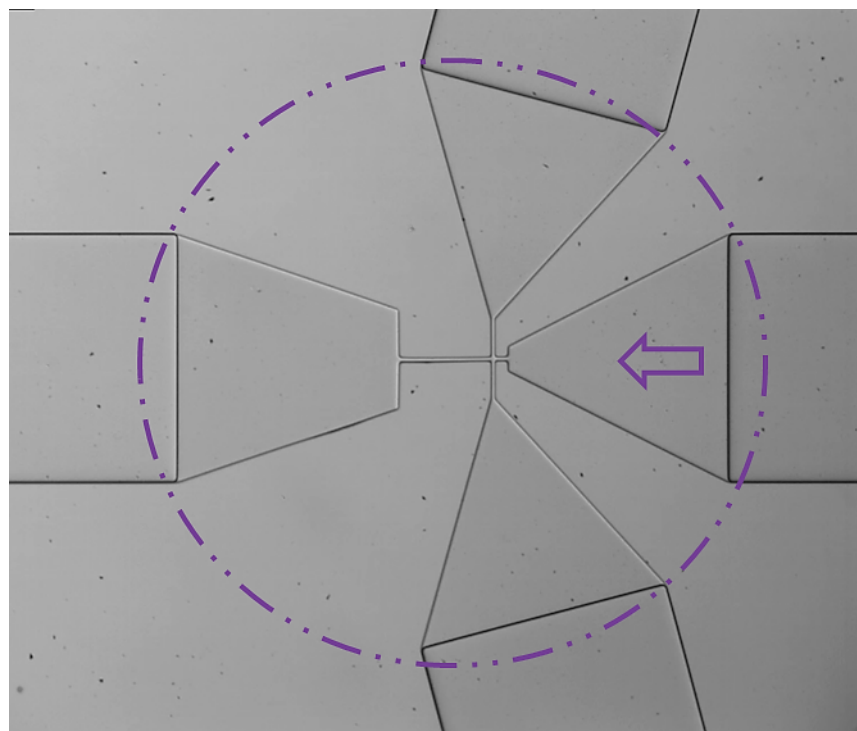
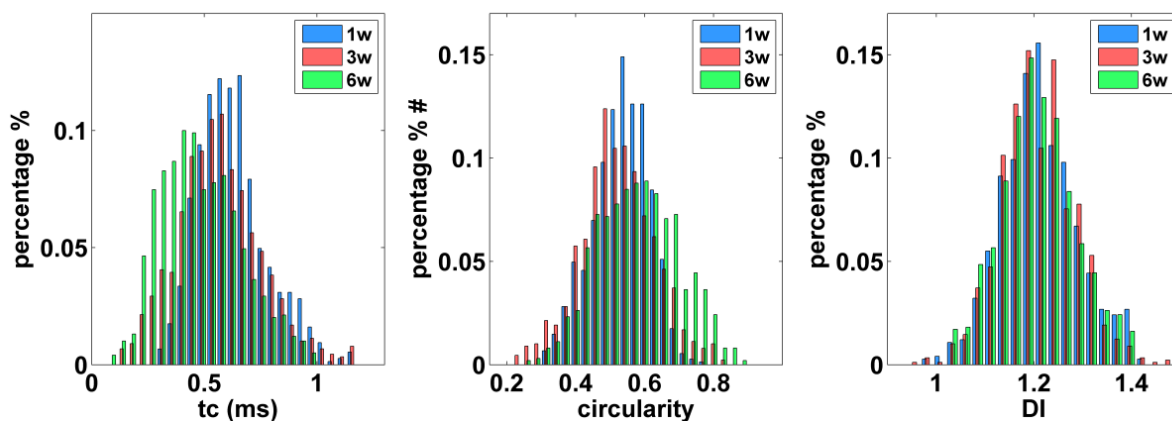


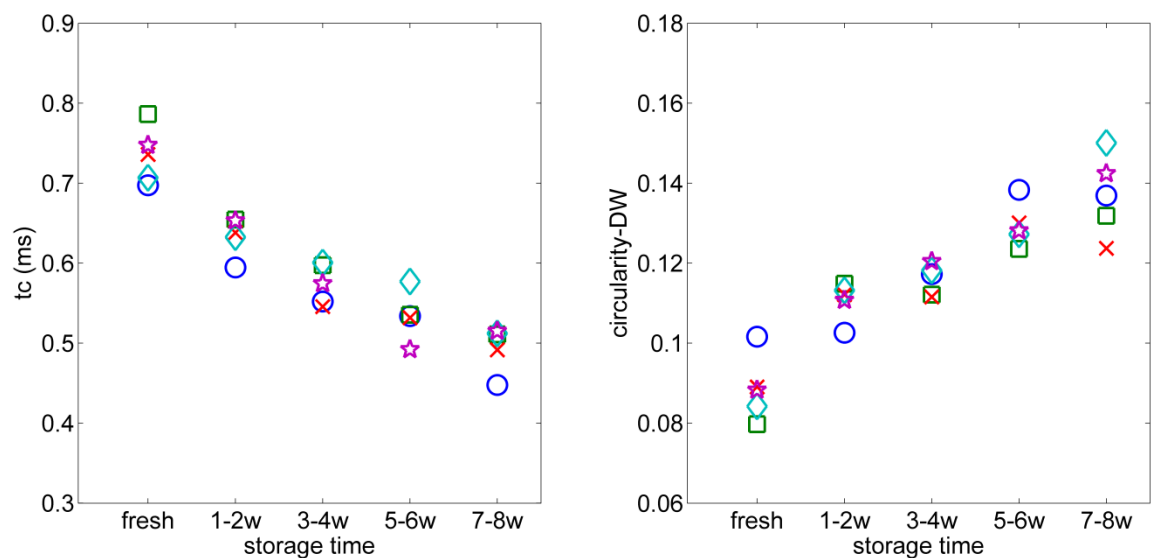
Supporting Information



Supplementary Figure S.1: Microscopic image of the microfluidic device for stored RBCs deformability study. The thickness of the area circled by purple lines is 8 μm , the thickness outside is 50 μm . RBCs flow from right to left (arrow direction).



Supplementary Figure S.2: Histograms of time constant, circularity and deformation index for the same blood sample stored for 1 week (n=1,038), 3 weeks (n=1,027), and 6 weeks (n=1,001).



Supplementary Figure S.3: Time constant (t_c) and distribution width of circularity (circularity-DW) measured from 5 blood samples at intervals of every two weeks. Each data point on the data plots contains results measured from over 1,000 RBCs.