

Electronic Supplementary Information (ESI)

**Sheathless and high-throughput elasto-inertial
bacterial sorting for enhancing molecular diagnosis
of bloodstream infection**

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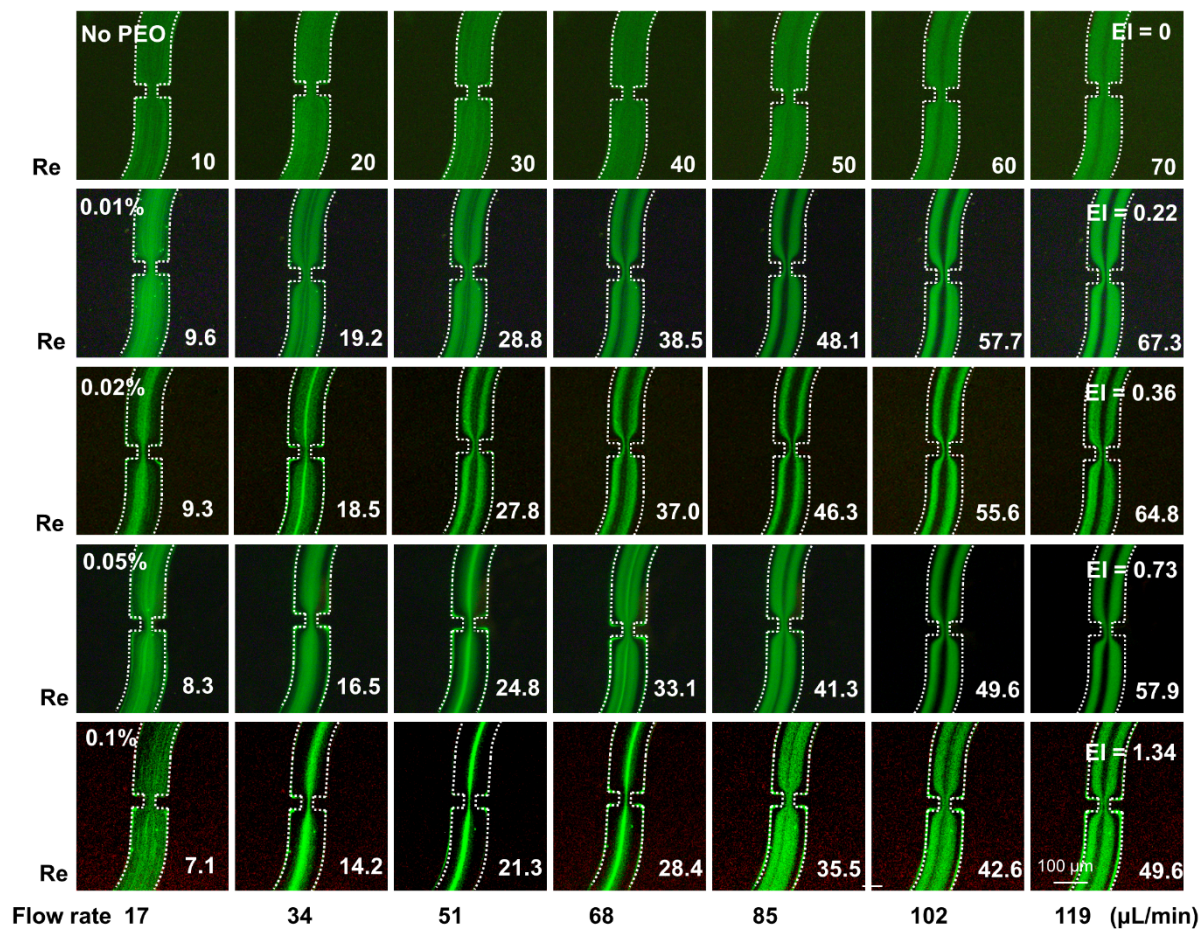


Figure S1. Focusing behaviors of 1 μm particles under various viscosity of the fluid and flow rate. PEO solutions make 1 μm particles easier to form focusing streaks compared to non-PEO solution.

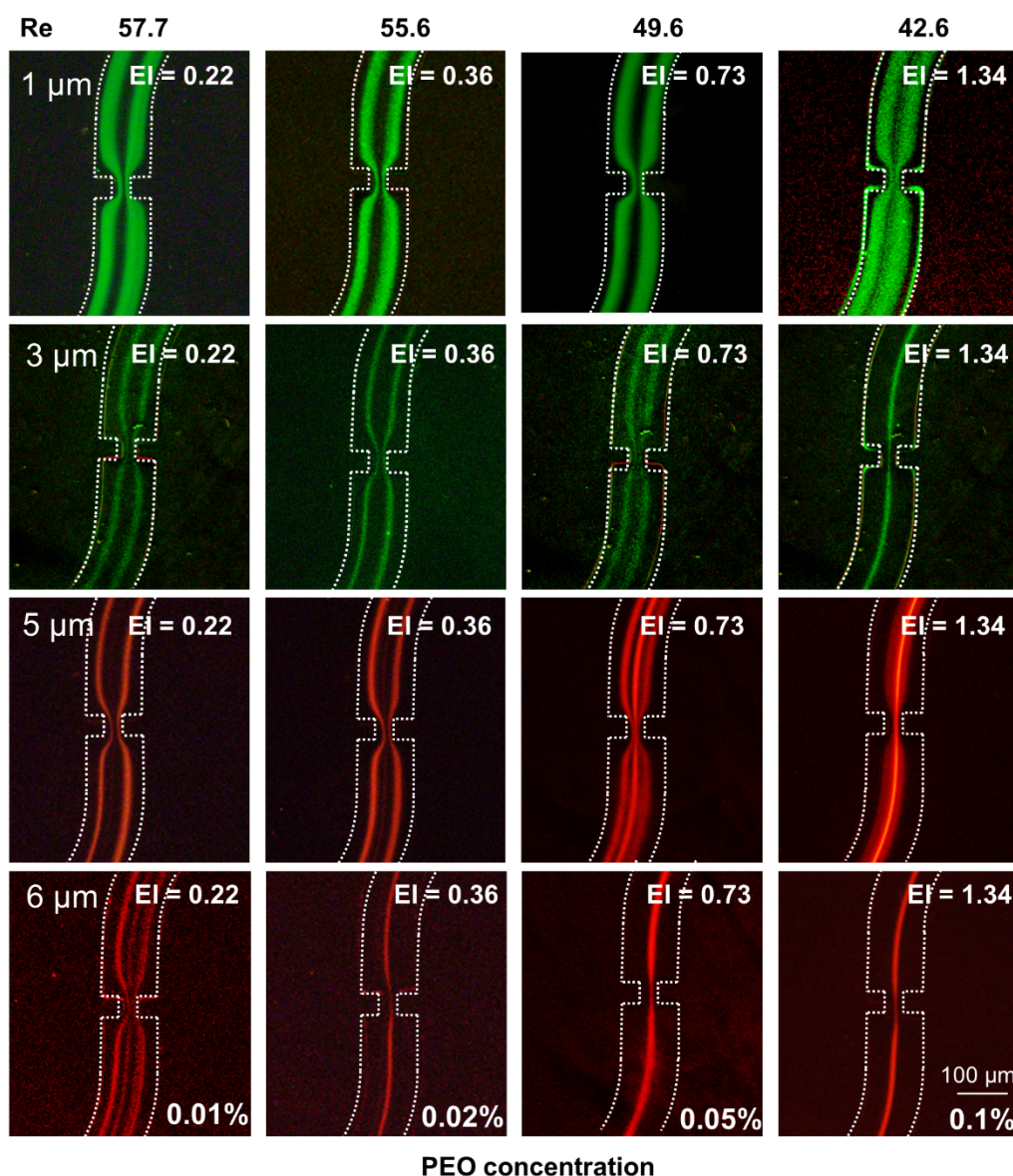


Figure S2. Focusing behaviors of variously sized particles in different concentrations of PEO solutions. In 0.01% of PEO solution, larger particles such as 6 μm tend to form side-focusing profile, while in PEO solutions with 0.05% and above, except 1 μm particles, the other particles tend to form central-focusing profile. 0.02% of PEO solution gives a proper focusing profile, which has a cut-off size between 5 and 6 μm .

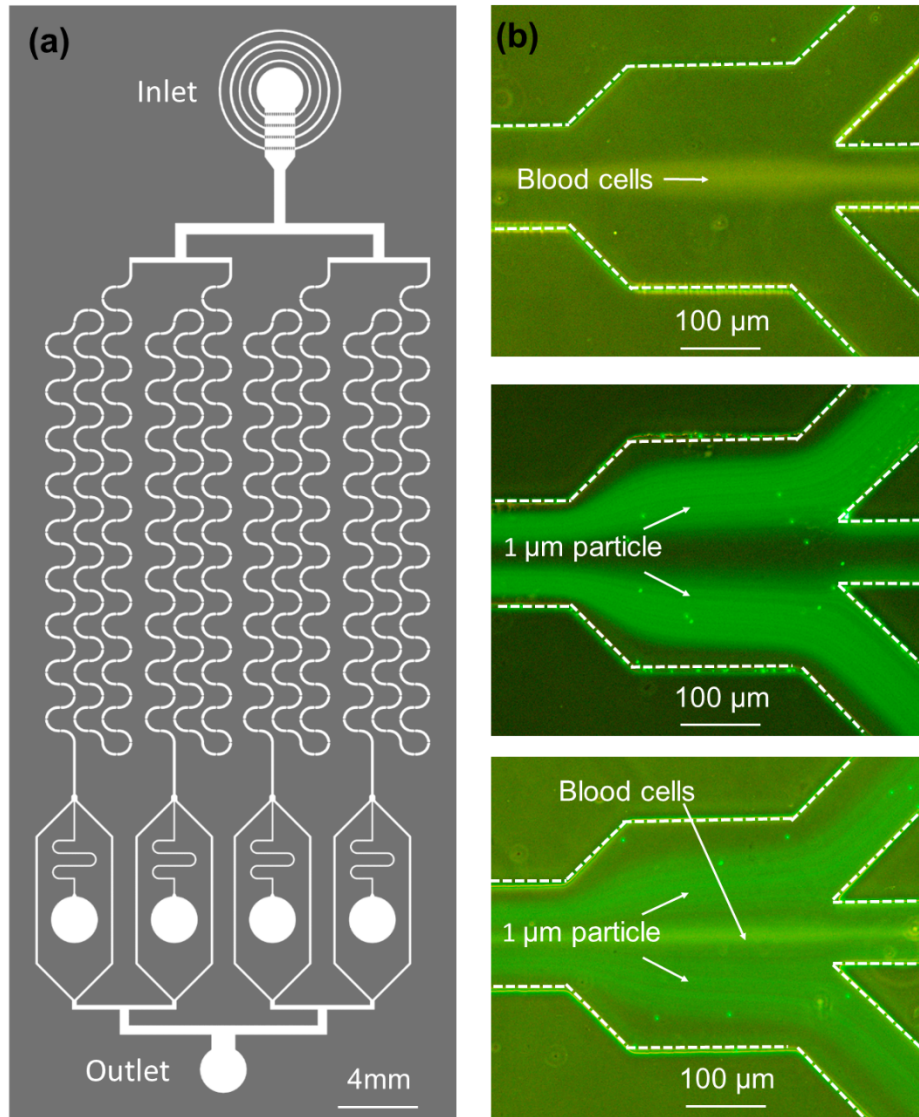


Figure S3. Illustration of throughput improvement by parallelization of channels. (a) CAD plot to show how four channels are parallelized into a design with one single inlet and one single outlet. (b) Fluorescence images showing parallelized channel has a good performance for 1 μm and blood cells focusing individually and, in a mixture, respectively.