

Automated Intracellular Immunofluorescence Staining Enabled by Magnetic 3D Mixing in a Modular Microfluidic Platform

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Figure S1. Simulation results of $\nabla B \cdot B$ of N35 magnet on the centerline of the reaction chamber at different Distances(D) and Heights(H)



Figure S2. Simulation results of $\nabla B \cdot B$ of N45 magnet on the centerline of the reaction chamber at different Distances(D) and Heights(H)

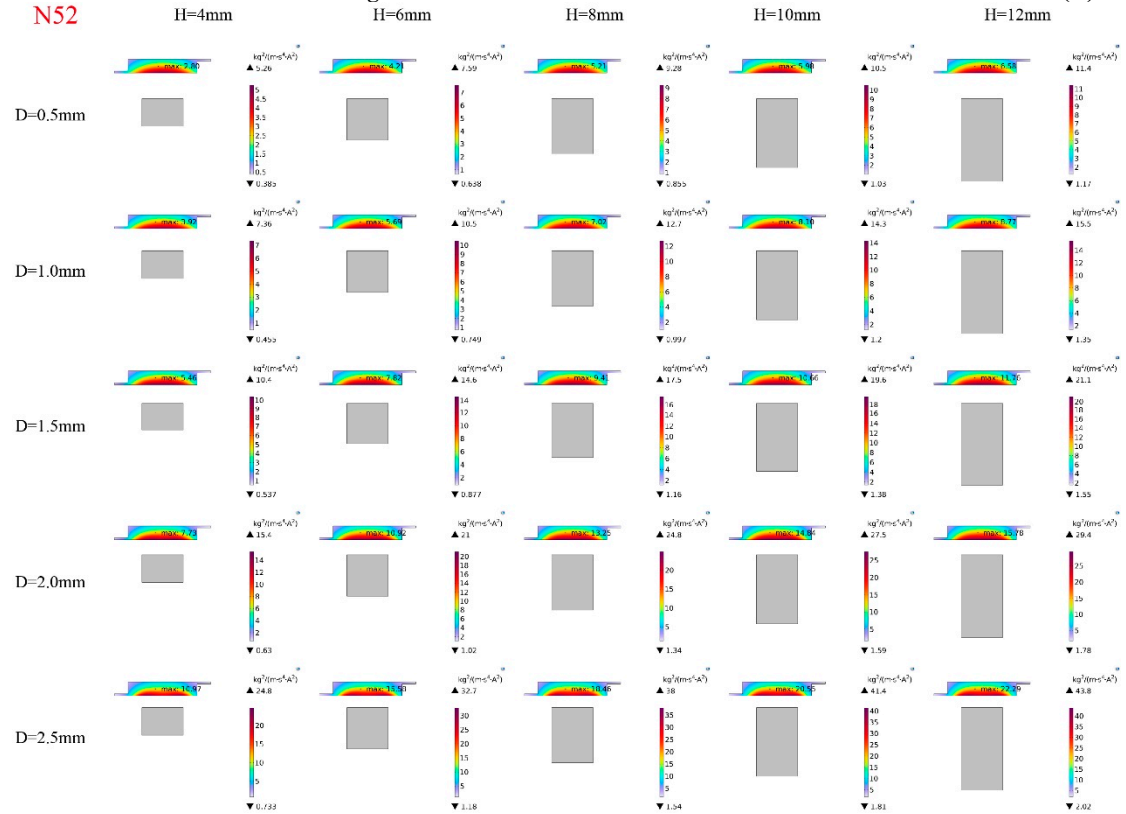


Figure S3. Simulation results of $\nabla B \cdot B$ of N52 magnet on the centerline of the reaction chamber at different Distances(D) and Heights(H)

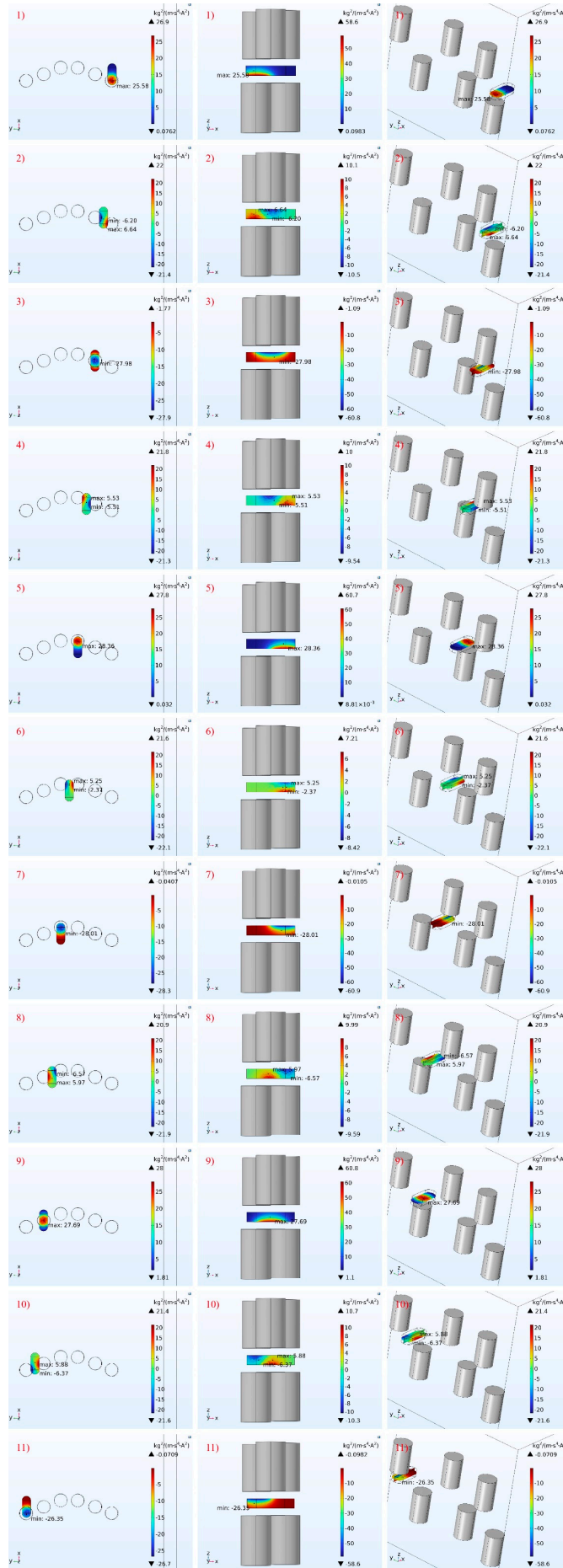
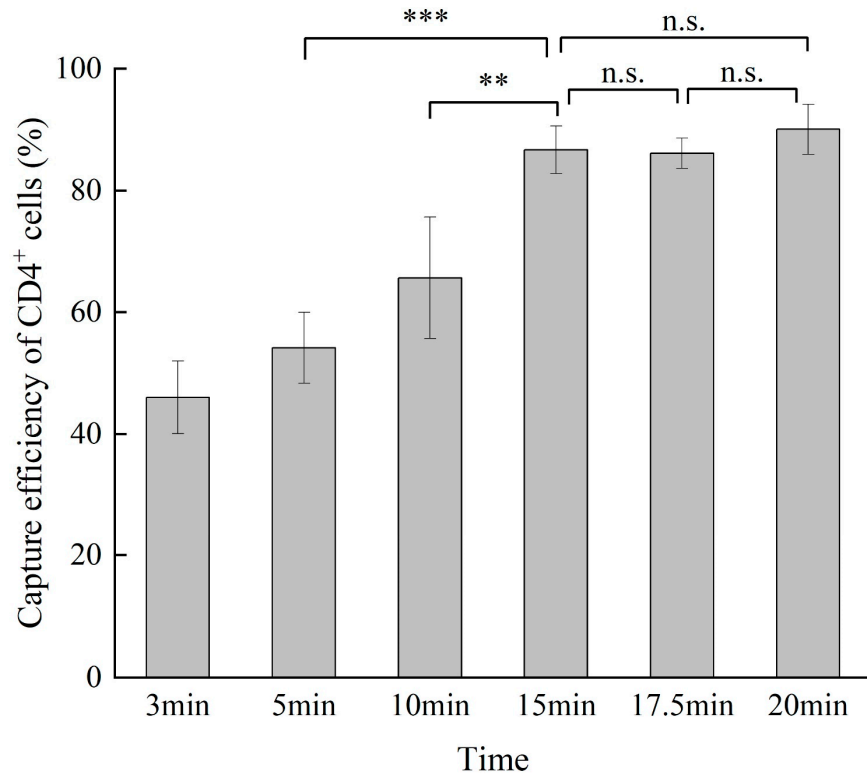


Figure S4. Simulation of the maximum $B \cdot B$ along the centerline of the chip reaction chamber at different positions in a 3D V-shaped magnetic field.



* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$

Figure S5. Comparison of cell capture rates for different mixing durations. 3min ($46.02 \pm 5.97\%$), 5min ($54.13 \pm 5.83\%$), 10min ($65.65 \pm 9.97\%$), 15 min ($86.66 \pm 3.89\%$), 17.5 min ($86.10 \pm 2.48\%$) and 20 min ($90.04 \pm 4.11\%$).