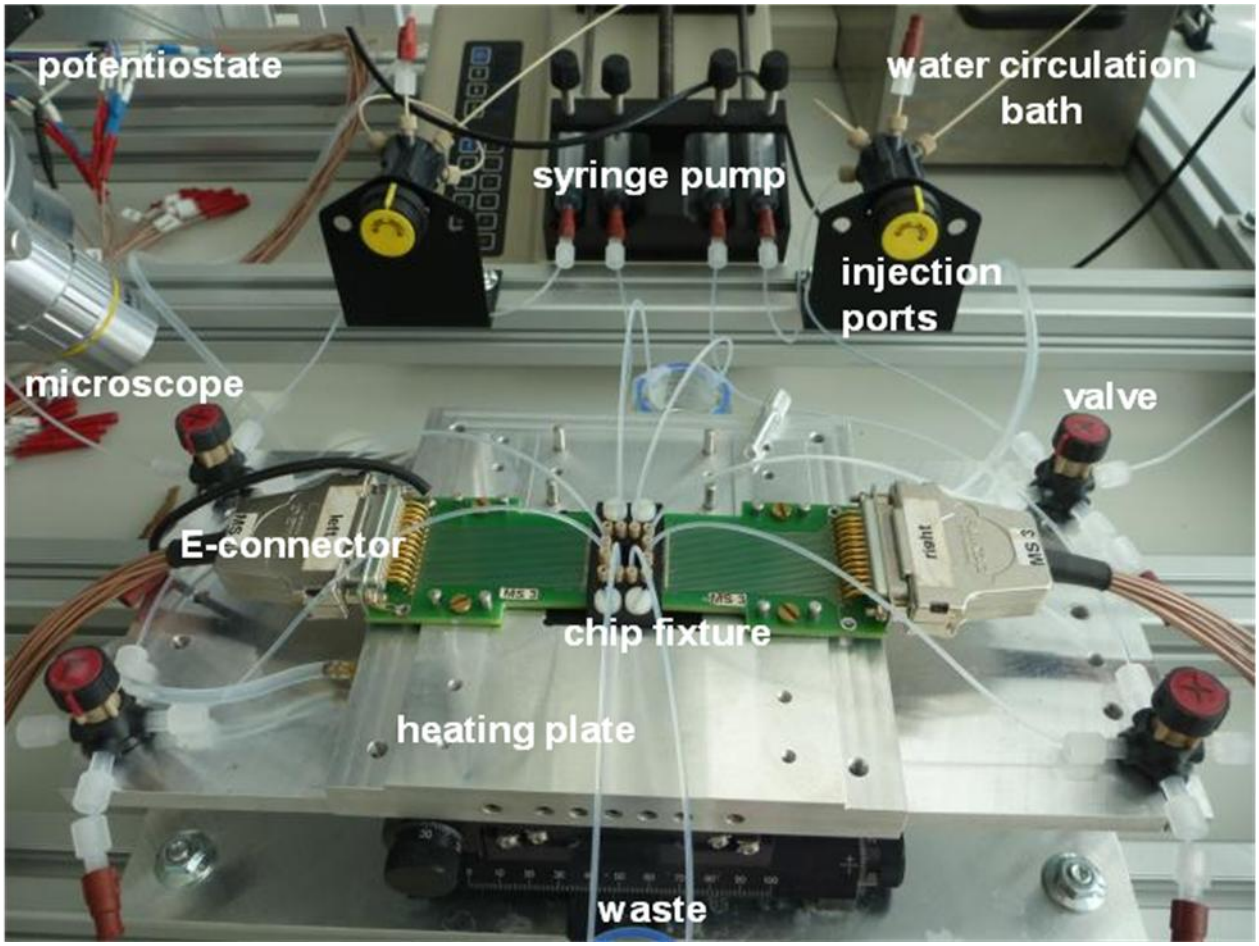
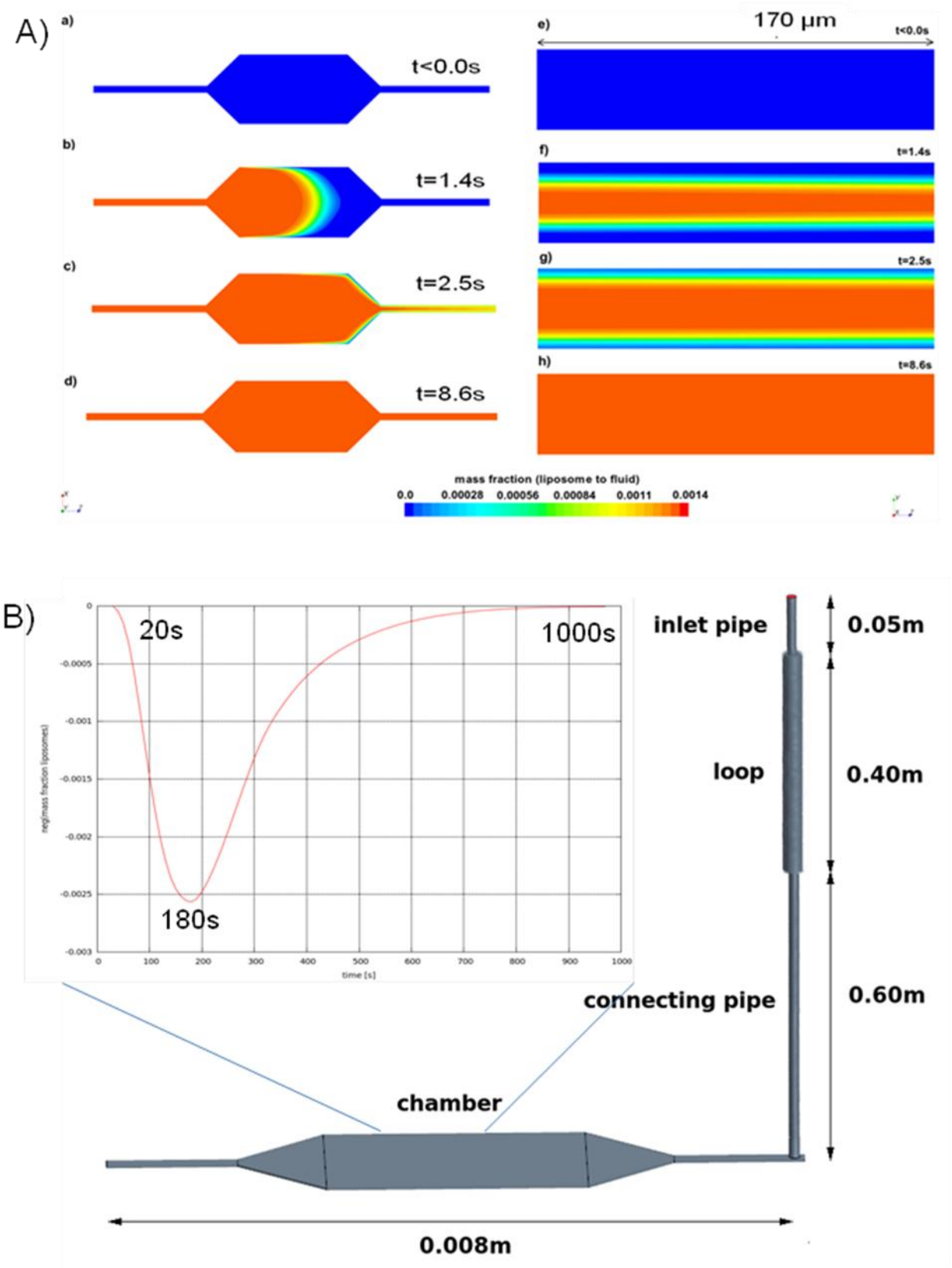
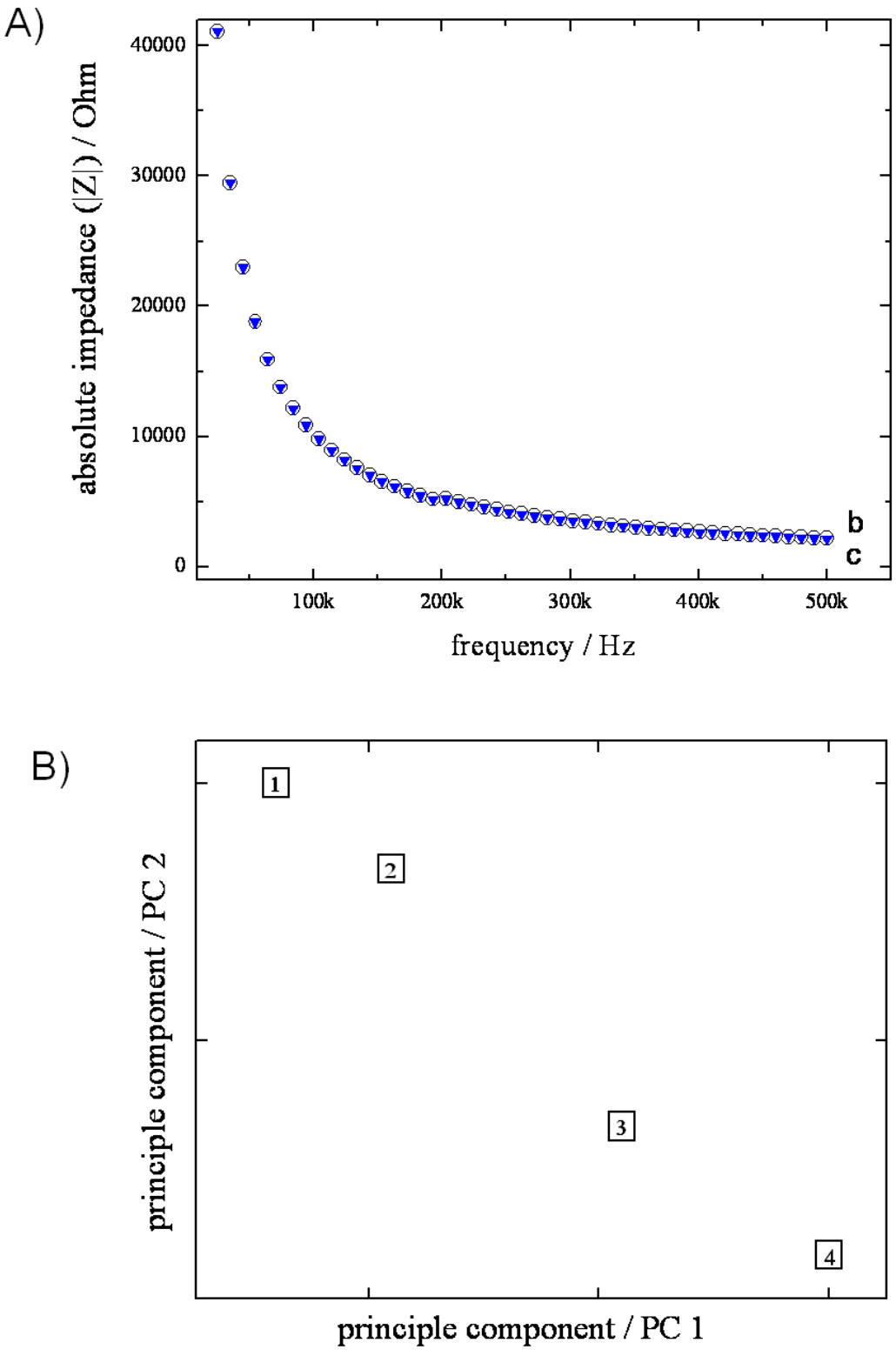


Suppl. Fig. 1 Picture of the entire experimental microfluidic liposome analysis platform.



Suppl. Fig. 2: A) 3D-computational fluid dynamic simulations (CFD) of lipid vesicle's mass fractions plotted over time in the presence of 5µL/min flow where a, b, c, and d show a top view at the central plane while e, f, g and h show a side view at the center of the monitoring chamber. B) Calculated volume fraction of liposomes inside the chamber based on a chip model including inlet pipe (dia 0.254mm), the feeding loop (20µL) and a connecting pipe (dia 0.13mm).



Suppl. Fig. 3 A) Frequency dependent dielectric spectra of 5.26 mg/mL $DPPC_{220}$ (b) and DPPC-SOD (c) liposome formulations. B) Pattern recognition plot of averaged dielectric spectra (n=6) of $DPPC_{220}$ liposome formulation (b) prior [1] and after the addition of [2] 1%, [3] 10% and [4] 100% DPPC-SOD liposome formulations (c).