

Supplementary material: Mesh independence studies

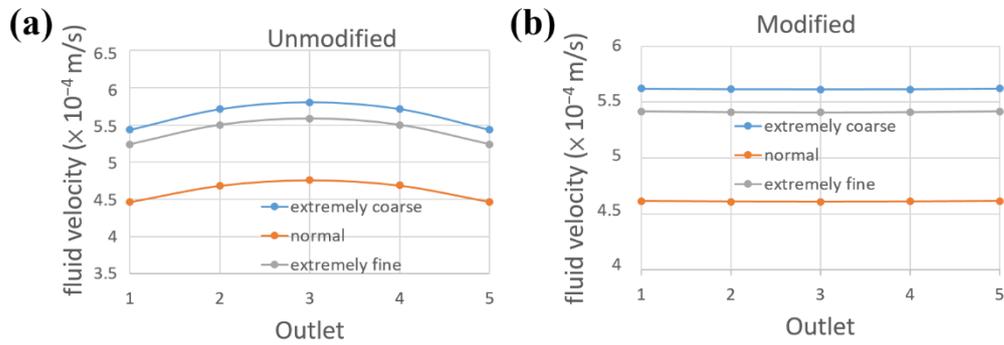


Figure S1. Simulation of fluid velocities for (a) unmodified and (b) modified, both with $R_V/R_H = 5$, devices under three different mesh settings (extremely fine, normal and extremely coarse).

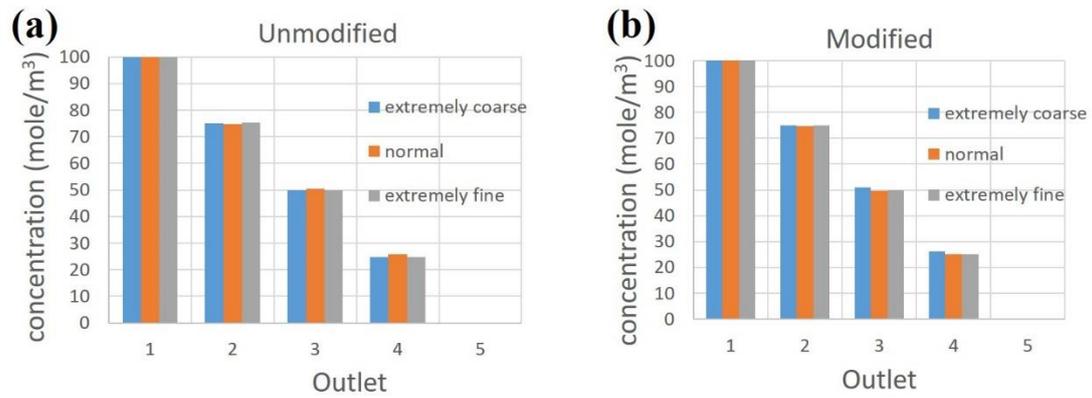


Figure S2. Simulation of concentrations for (a) unmodified and (b) modified, both with $R_V/R_H = 5$, devices under three different mesh settings (extremely fine, normal and extremely coarse).