Supplementary Material (ESI) for Lab on a Chip


*Supporting Information for*

# Multilayer Deposition on Patterned Posts Using Alternating Polyelectrolyte Droplets in a Microfluidic Device

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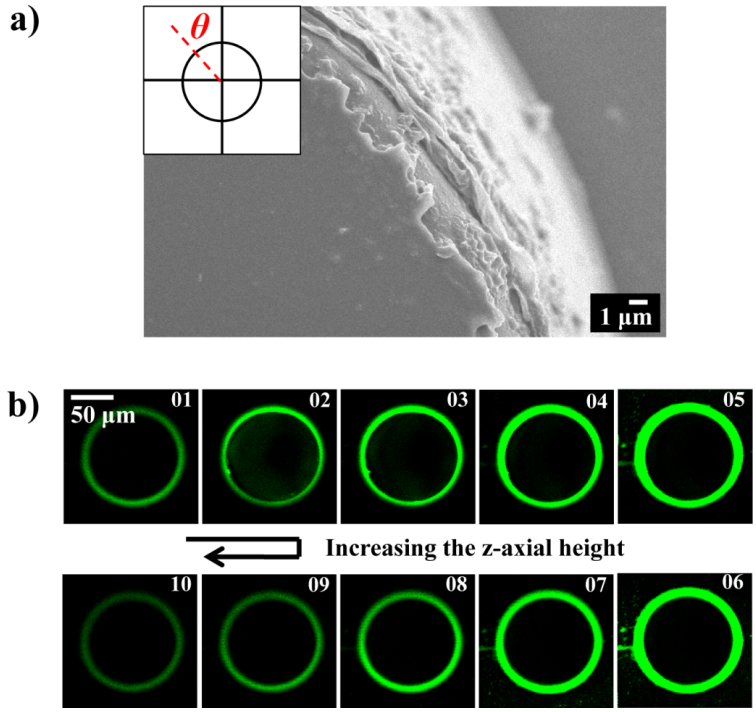


**Figure S1.** (a) A SEM image showing a cylindrical post, detached from the microfluidic substrate, containing PEs deposited by the droplet LbL assembly; (b) the CLSM images, taken from the bottom to the top of a patterned post in 10 slices, of PEs deposited onto the cylindrical post for 200 min at $Ca$ = 0.007. ($\theta$ indicates the angular position in the post where the SEM picture was taken).

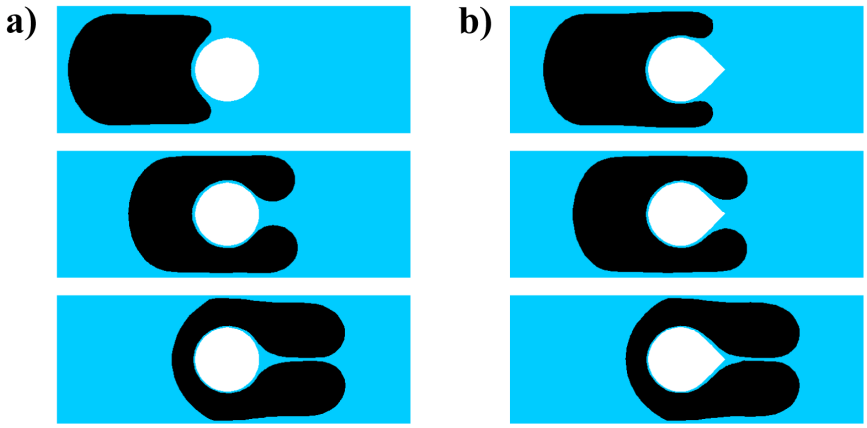


**Figure S2.** Simulation results on the droplet movement around a post at $Ca$ = 0.05 with dimensionless droplet length ($\alpha_d$) = 1.3 (the dimensionless drop length ($\alpha_d$) is defined as the ratio between the lateral drop length to the channel width), the viscosity ratio between droplet and medium = 1/30, mesh size ($\triangle x_{max} / w$) is 0.05: (a) cylindrical post; (b) conical post.