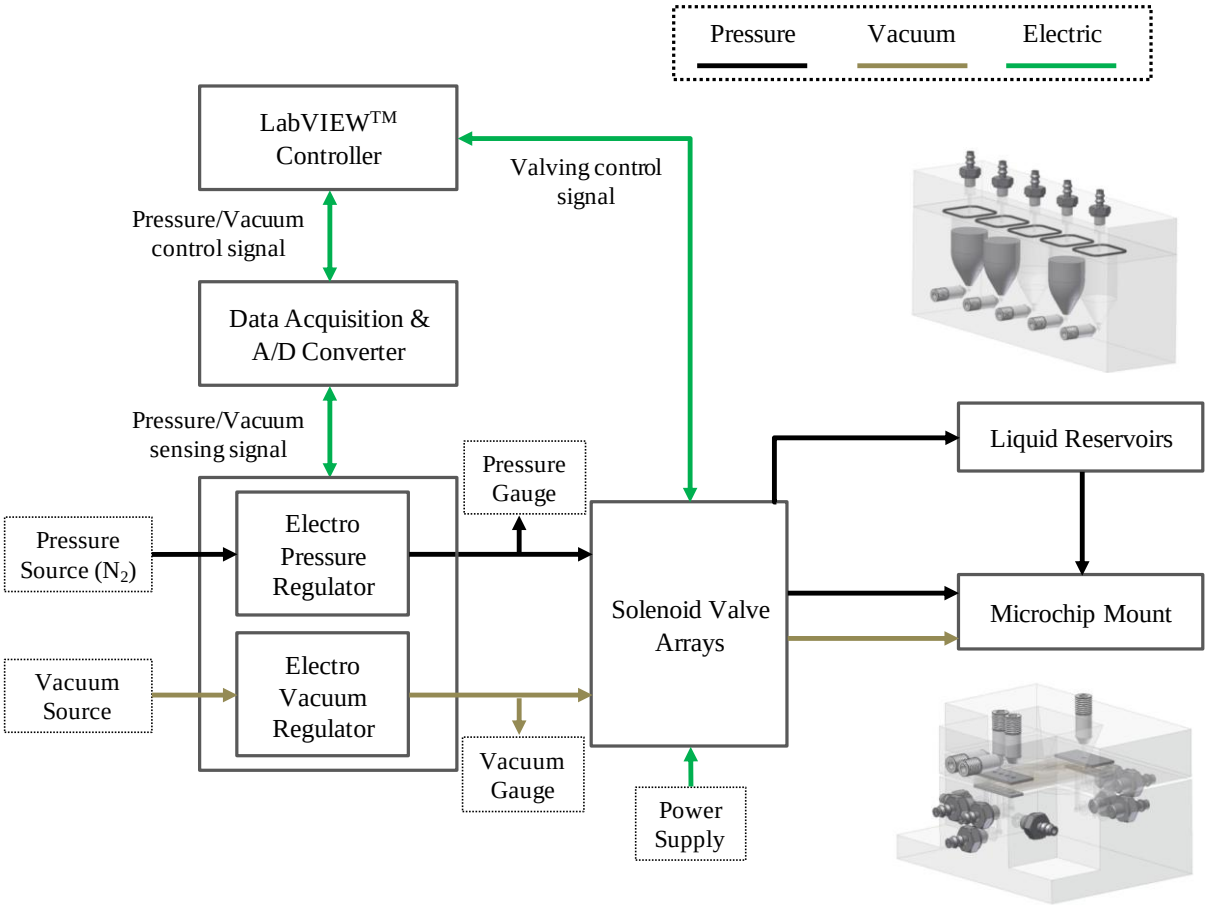
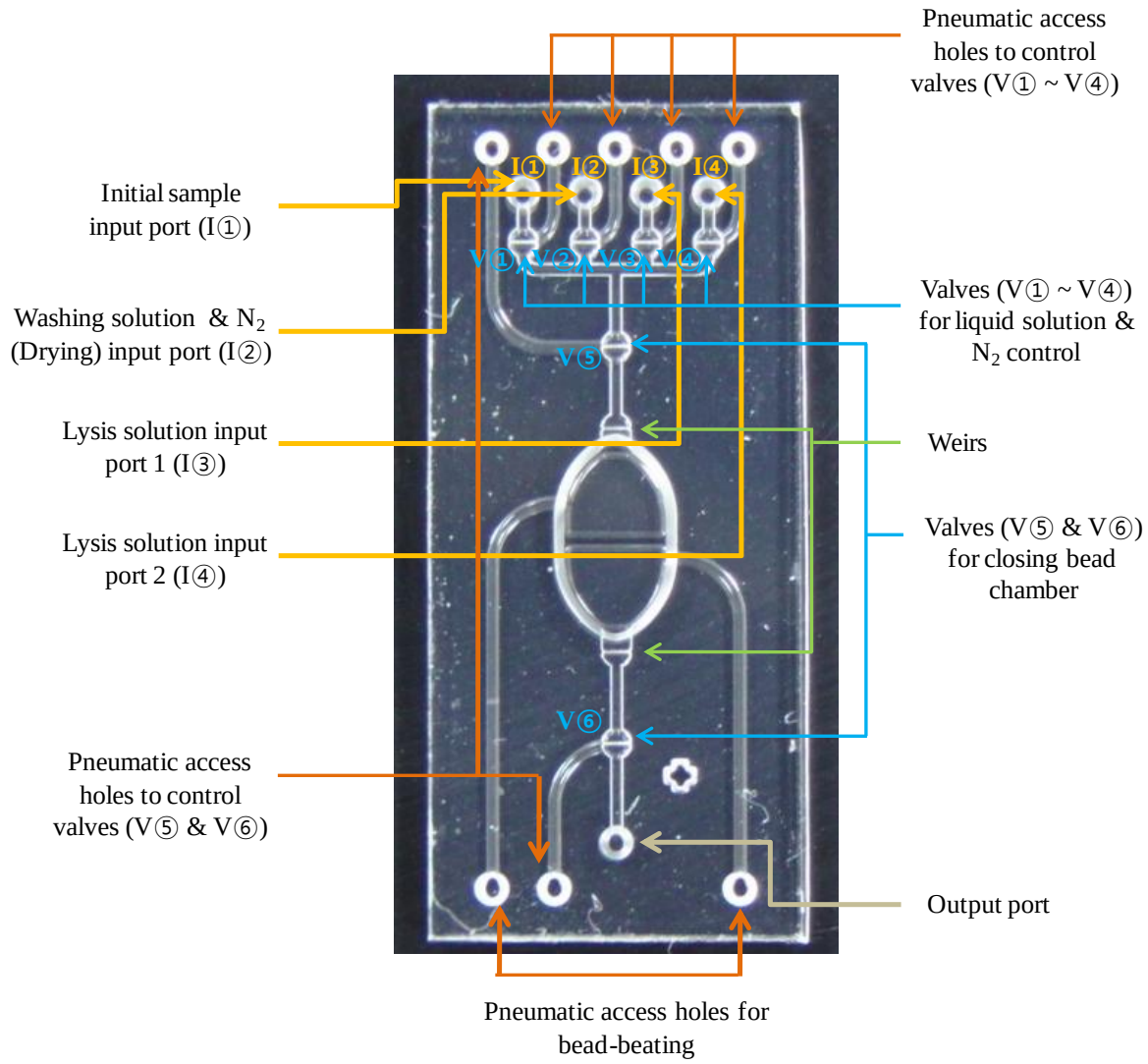
Miniaturized Bead-Beating Device to Automate Full DNA Sample Preparation Processes for Gram-Positive Bacteria†

Kyu-Youn Hwang,[a,b] Sung Hong Kwon,[a] Sun-Ok Jung,[a] Hee-Kyun Lim,[a,d] Won-Jong Jung,[a] Chin-Sung Park,[a] Joon-Ho Kim,[a,*] Kahp-Yang Suh[b,c,*] and Nam Huh[a]

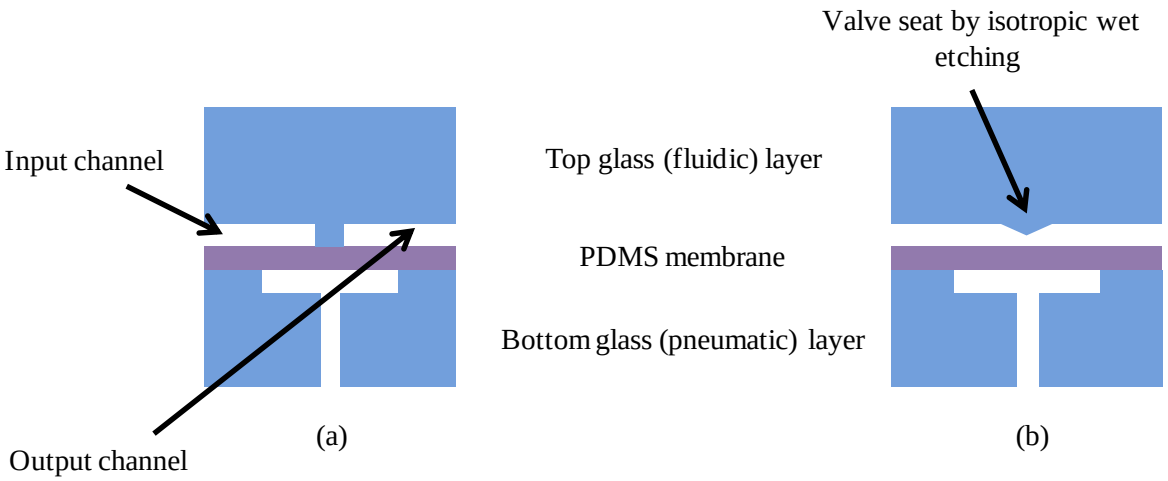
Supplementary Figures (S1 ~ S4)



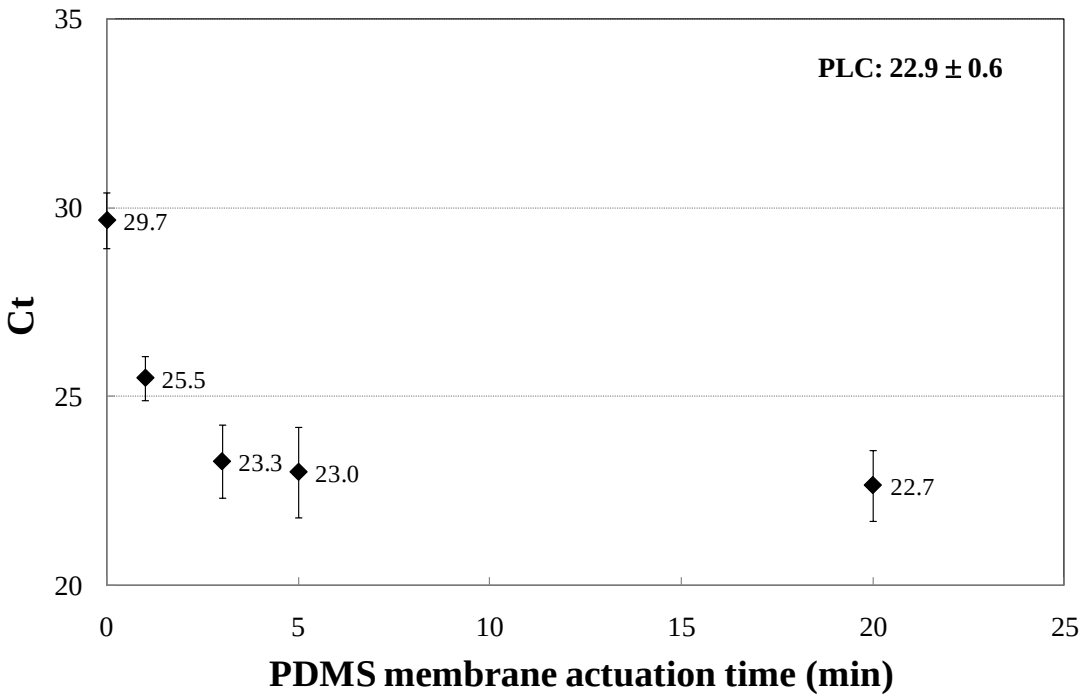
Supplementary Figure S1. Experimental set-up for the automatic extraction of bacterial DNA.



Supplementary Figure S2. Detailed description of microfluidic components in bead-beating microdevice.



Supplementary Figure S3. Cross-sectional illustration view of the membrane valve structure: (a) PDMS sticking onto valve seat (normally-closed type) with plasma-activated permanent bonding, and (b) isotropically-etched valve seat (normally-half-open type) to prevent PDMS sticking



Supplementary Figure S4. Ct values as a function of PDMS membrane actuation time. 1 mL of *S. aureus* (10^6 CFU/mL) was applied. Three repetitions were performed for each actuation time.

Electronic Supplementary Material (ESI) for Lab on a Chip