Supplementary

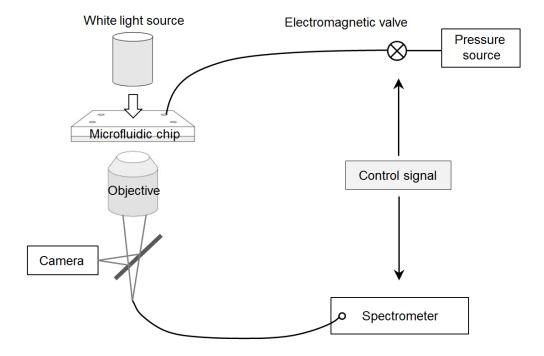


Figure 1: The schematic of the overall measurement setup for optofluidic differential absorbance spectroscopy.

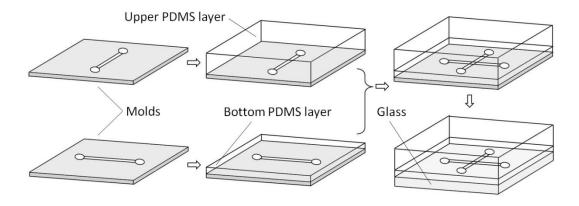


Figure 2: The fabrication process of a PDMS containing the optofluidic modulator.

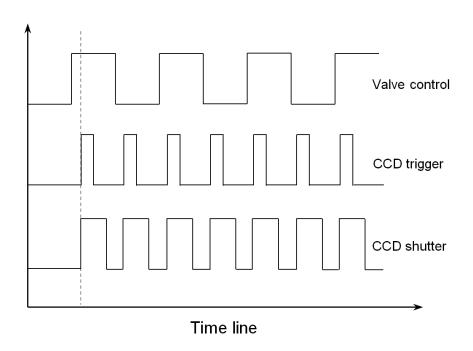


Figure 3: The comparison picture of different wave graphs which correspond to the valve control, spectrometer CCD trigger and CCD shutter.

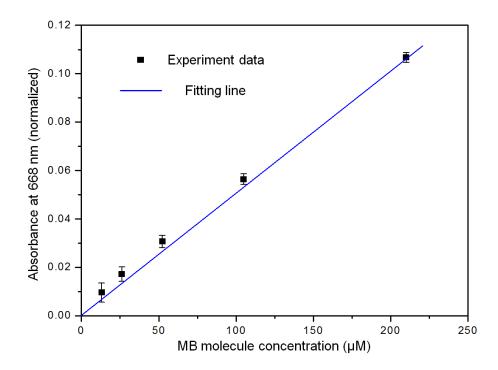


Figure 4: The plot of the absorbance of MB water solution with different concentration at 668 nm wavelength. The square dots are the experiment results and the blue line is the fitting line.