

An Integrated fluorescence detection system in PDMS(poly-dimethylsiloxane) Microfluidic Device

강충무, *공진, 김용성

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The use of PDMS(poly-dimethylsiloxane) microfluidic device has many advantages since fabrication of PDMS reduces time consumption, complexity, and cost of manufacturing. PDMS is quite transparent (optical detection: 240-1100 nm) for UV/VIS detection, therefore, integration of optics directly into PDMS microfluidic device would be beneficial. Optical filter with a different kind of color ink at various concentrations was directly constructed in PDMS chip as well as a pinhole for noise reduction. The measurement of transmittance in PDMS optics was compared with conventional glass filter and pinhole, resulting in spectral characteristic similar to glass filter and pinhole. The filter efficiency was investigated by homemade Lab-on-a-chip system and will be presented in the poster.