

Cover photographs

Stacked Lab-on-a-CD

A stacked type lab-on-a-CD for the protocol of competitive ELISA is designed and fabricated as shown in fig.1 These disks are aligned and stacked to construct final device with three-dimensional microchannel network and stacked reservoirs for reagent containing, reactions, detection, and waste collection.

The PDMS disks in lab-on-a-CD with planer micro channels is fabricated by conventional soft lithography, meanwhile PMMA disks with vertical capillary bundle structure are fabricated by x-ray lithography. The fig. 2 shows photographs of the outer view of each constituent devices. Ten individual analysis units corresponding to the competitive ELISA method are successfully integrated on a 3 inch lab-on-a-CD.

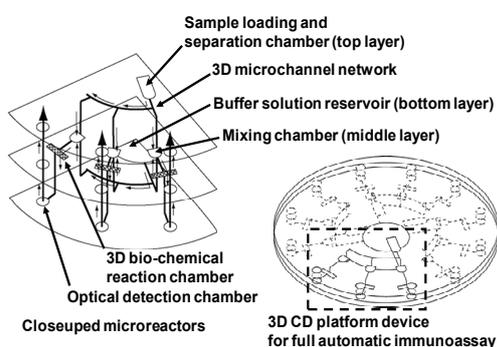


Figure 1: The schematic illustration of three-dimensional lab-on-a-CD.

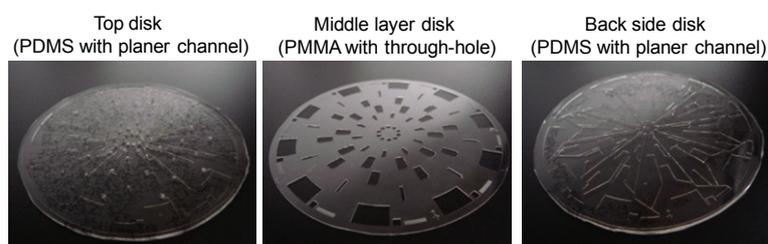


Figure 2. Photographs of fabricated disks of 3D lab-on-a-CD.