

Air-driven removal of water in the multichannel microfluidic device

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One of the steps involved in reusable microfluidic devices is to blow air into the device and then push water to empty the device. However, it is difficult to remove water in the device completely because air flow tends to follow the shortest paths. In this study, we have used a hydrostatic head to measure air pressure to remove water out of the microfluidic device completely. We have also measured pressure to discharge water in the device by using other immiscible liquids. From the result, removing water with air requires higher pressure than using other immiscible liquids.