

A microphysiometric system based on LAPS for real-time monitoring of microbial metabolism

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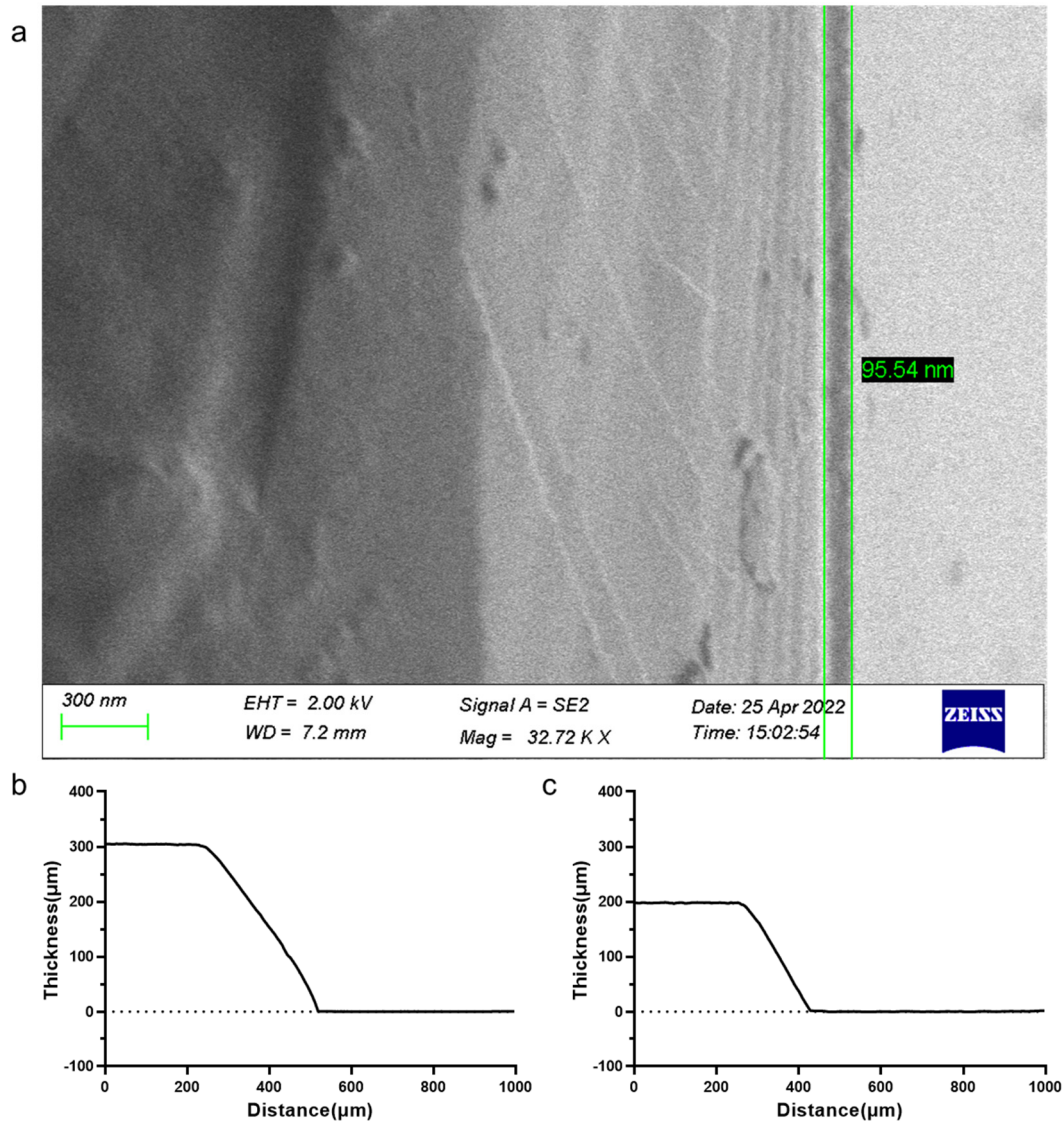


Figure S1. Verification of the thickness of the thinned LAPS chip. (a) SEM image of the Si_3N_4 and SiO_2 layer, the total thickness is ~ 100 nm. (b-c) The thickness of the thinned central part measured by surface profiler. (b) shows that the total thickness of the LAPS chip is ~ 300 μm while (c) shows that the depth of the central part is ~ 200 μm , so the thickness of the thinned central part of the Si substrate is ~ 100 μm .

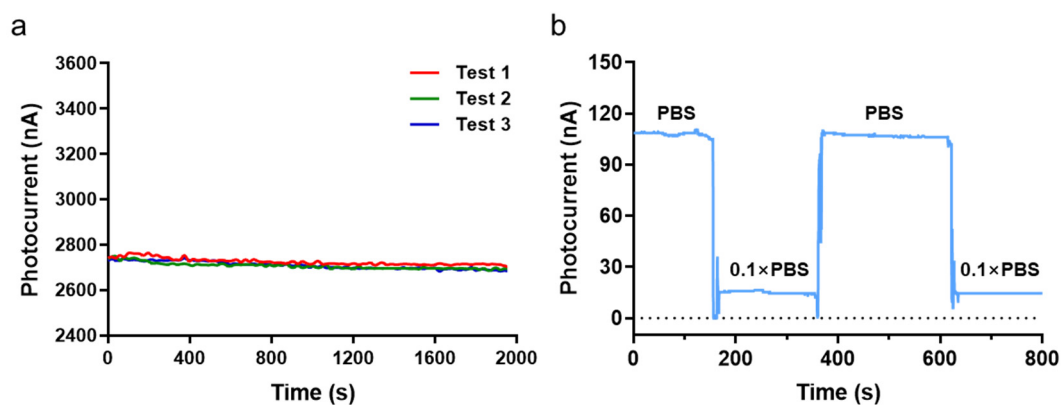


Figure S2. Verification of stability, repeatability and fluid exchange capability of the system. (a) Sensor stability and repeatability in constant voltage mode. (b) PBS and 10-fold diluted PBS were injected into the sensor chamber alternately. The photocurrent value was varied with change of the impedance of solution.

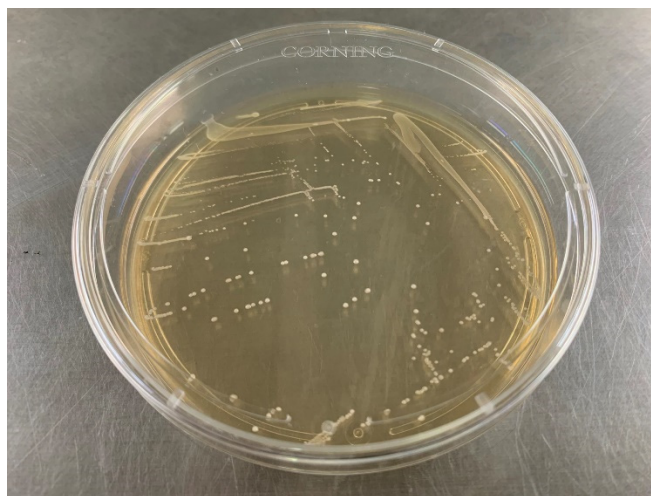


Figure S3. Verification of the activity of *Lactobacillus rhamnosus* after experiment. The growth state of *Lact. rhamnosus* on MRS agar plate after experiment.