

課題番号 : F-16-BA-0024
利用形態 : 機器利用
利用課題名(日本語) : バクテリア培養のためのマイクロ流路デバイスの作製
Program Title (English) : Microfluidic channel fabrication for applications in microbiology
利用者名(日本語) : ウタダ アンドリュー
Username (English) : ANDEW UTADA
所属名(日本語) : 筑波大学生命環境系
Affiliation (English) : Faculty of Life and Environmental Sciences, University of Tsukuba

1. 概要(Summary)

I have utilized the clean room facilities at Univ. of Tsukuba to fabricate the molds for microfluidic devices. I use the spin coaters, the maskless lithography system and plasma cleaner to fabricate PDMS devices. We are still gathering data to understand the phenomena that we are observing.

2. 実験(Experimental)

【利用した主な装置】

微細パターン形成装置群(スピナー: ミカサ社, MS-A100), パターン投影ソグラフィシステム(ハイデルベルグ社, μ PG501)

【実験方法】

I have used the chemical bench, spin coaters, hot plates, maskless lithography system, and plasma cleaner to fabricate PDMS devices.

3. 結果と考察(Results and Discussion)

We have successfully fabricated two-layer devices capable of trapping bacteria in a thin, quasi-2D chamber. Bacteria in this chamber grow normally and we are able to accurately monitor their growth and spatial distribution as they divide and spread.

4. その他・特記事項(Others)

なし。

5. 論文・学会発表(Publication/Presentation)

なし。

6. 関連特許(Patent)

なし。

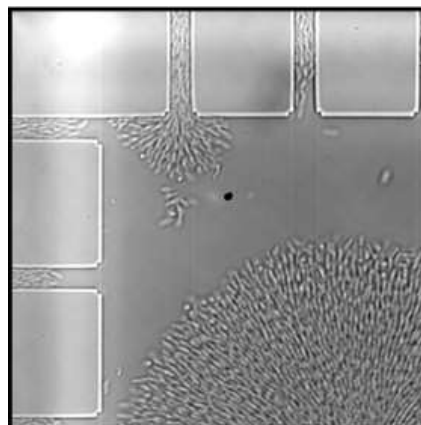


Fig 1. Bacteria growing in a PDMS device replicated from a mold fabricated at Univ. Tsukuba.