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Authors: Babak Kamali, Sasan Asiaei, Borhan Beigzadeh, Amir Ali Ebadi



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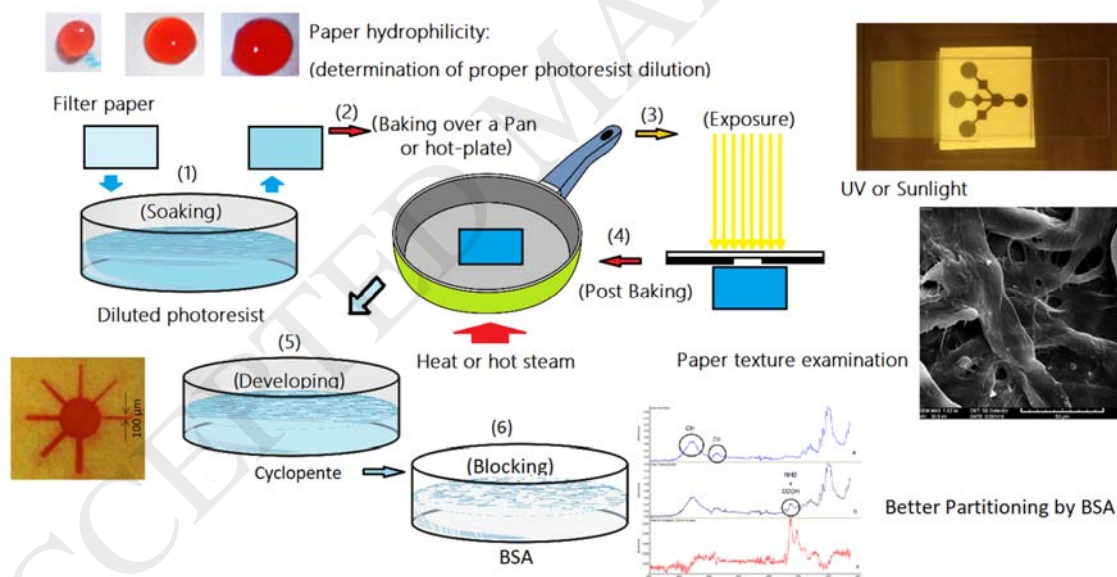
Babak Kamali^{1,2}, Sasan Asiaei¹, Borhan Beigzadeh², Amir Ali Ebadi¹

1. Sensors and Integrated Bio-MEMS/Microfluidics Laboratory, School of Mechanical Engineering, Iran University of Science and Technology, Tehran, Iran

2. Biomechatronics and Cognitive Engineering Research Laboratory, School of Mechanical Engineering, Iran University of Science and Technology, Tehran, Iran

Corresponding Author: asiaei@iust.ac.ir

Graphical abstract



Abstract

We have enhanced the performance of lithographically patterned microchannels on paper and tailored it to a do it yourself method by examining the impact of each microfabrication step on surface properties. Modification of photoresist spreading, baking, exposure and developing steps improved paper and channels quality and decreased fabrication costs and time. The proper concentration of SU-8 in cyclopentane was found 1/8 (volumetric), to enable coating on paper by soaking, faster baking (10 min-65°C), and improved paper hydrophilicity. The UV-exposure time and energy were modified to enhance the channel quality. Then, the patterned paper was washed in cyclopentane for 15 minutes, and baked for 1 minutes at 95°C. The modified process leaves 100 μm uniform channels on paper in around 26 minutes, from design to completion. Each step

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