

Title : Microfluidic Devices Precision for Particle Production

Author(s) :
1. Sumitra Tenakul
2.
3.

Student ID : 640510409

Student ID :

Student ID :

Major : Materials Science

Advisor(s) :
1. Dr. Phornsawat Baipaywad
2. Associate Professor Dr. Wim Nhuapeng
3. Associate Professor Dr. Wandee Thamjaree
4. Associate Professor Dr. Chatdanai Boonruang

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ABSTRACT

Microfluidics is a field of study and technology that uses tiny channels to manipulate small amounts of fluids and control the particle size. This research focused on the design of microfluidic channels and the investigation of the obtained particles. The microfluidic was designed using Autodesk Fusion and made from polydimethylsiloxane. The particles were obtained from the reaction between sodium alginate and calcium chloride. Morphologies and sizes of particles were measured by optical microscopy and scanning electron microscopy. Fourier transform infrared spectroscopy was used to analyze the chemical structure of particles. The results showed that the particle size was effected by the flow rate of fluids in each channel, which will be useful for controlling particle production to be suitable for future applications in biomedicine.

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