Microfabrication for Polymer-MEMS Micropumps: A Review

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Abstract

Abstract: The recent development of micropump with application in Biology and Chemistry is reviewed in this article. Instead of classifying micropump by actuation scheme, the biocompatibility and microfabrication issues for micropump are given special significance and used as new criteria for micro pump categorization. Among Polymer-based materials, Polydimethylsiloxane (PDMS) and Polymethylmethacrylate (PMMA) are the prevailing ones, are surveyed with reference to their biocompatibility and microfabrication technique, and followed by newly reported micropump respectively. Although new biocompatible material and its fabrication technique have brought substantial breakthroughs in micropump, they remain at the forefront and fertile research area in the future.

Keywords: Biomaterial, Microfabrication, BioMEMS, Micropumps

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