

FASTAB™ TECHNOLOGY

Moving temporary wall in microfluidic devices

Authors:

Vahid Bazargan; Boris Stoeber

Source:

Physical Review E, Volume 78, Issue 6, p.4 (2008)

Abstract:

This paper describes the formation of a temporary wall between two fluid streams in a microfluidic channel. Diffusion of ions from one fluid stream into a costreaming thermally responsive polymer solution is used to lower the local gelation temperature of the polymer, leading to formation of a gel wall in the center of the flow channel. The mechanisms driving either the generation or removal of the wall on its both sides are described and discussed. This wall allows well-controlled transport of particles from one stream into the other.