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Magnetically actuated particle-based procedures in continuous flow

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Abstract

We demonstrate a versatile multilaminar flow microfluidic device in which magnetic particles are used as mobile supports for performing two important applications, namely (i) a clinically relevant sandwich immunoassay, and (ii) polye-lectrolyte coating of templates towards the fabrication of microcapsules for drug delivery applications. Furthermore, we demonstrate the use of a different force, diamagnetic repulsion, for deflecting polystyrene particles through a reagent stream with a view to performing multilaminar flow studies on diamagnetic material such as polymer particles and cells.

Keywords

C-reactive protein, Continuous flow, Diamagnetic repulsion, Magnetic particles, Polyelectrolytes