

NOVEL MIXING METHOD FOR CROSS LINKER INTRODUCTION INTO DROPLET EMULSIONS

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ABSTRACT

Microfluidic devices are commonly utilised for the manufacture of particles. In certain applications, cross linkers are required to manufacture these particles, and when introduced in continuous form will foul the microfluidic channels. We show the introduction of cross linker after droplet formation, together with the utilisation of topological microfluidic channel structures, allowing for the **novel manufacture of particles**. Flow over these structures has been simulated in order to choose the **most efficient structures**. The method has been successfully demonstrated by manufacturing **selfimmobilised enzyme particles**, which retain a high percentage of their activity while also producing **highly monodisperse particles**, a considerable advantage for recovery of the particles after catalytic reaction.