

**APPARATUS FOR OUTER WALL FOCUSING FOR HIGH VOLUME
FRACTION PARTICLE MICROFILTRATION AND METHOD FOR
MANUFACTURE THEREOF**

ABSTRACT

[0001] An apparatus for microfiltration and a scalable method for manufacture of an inertial microfluidic device for such microfiltration apparatus are provided. The apparatus for microfiltration includes one or more inertial microfluidic devices, each including a plurality of spirals of a microfluidic channel. At least one of the inertial microfluidic devices is configured to utilize outer wall focusing for high volume fraction microfiltration of particles. The scalable method for manufacture of the inertial microfluidic device includes micromachining on a polycarbonate-based substrate a rectangular spiral microchannel having one or more input channels and a plurality of output channels configured to utilize high volume fraction outer wall focusing for microfiltration of particles.

FIG. 3