

Adaptive Biological And Chemical Digital Assays In Microfluidic Droplets

Tech ID: 22542 / UC Case 2011-491-0

BRIEF DESCRIPTION

Researchers at the University of California, Irvine, have developed a novel “passive” microfluidic architecture designed to sort droplets.

FULL DESCRIPTION

Droplet microfluidic systems are extremely versatile due to their ability to transport and precisely generate fluid volumes of each individual droplet. Current methods to sort droplets involve size-based sorting using “active” sorting mechanisms coupled with optical or electrical sensing mechanisms. New methods of developing more “passive” droplet sorting methods would be very useful for scientists and would reduce the expenses associated with “active” sorting techniques.

Researchers at the University of California, Irvine, have developed a novel “passive” microfluidic architecture designed to sort droplets. This method allows for simple and rapid chip-based sorting mechanisms that eliminate the need for optical, electrical, magnetic, or other “active” sorting and sensing mechanisms. Using this sorting method eliminates the expense, complexity, lowered throughput, and reliability issues associated with “active” sorting techniques.

SUGGESTED USES

The invention may be used to selectively separate droplets based on their contents. The technique may be used in applications such as PCR amplification, protein crosslinking, gelation, clotting, or other processes.

ADVANTAGES

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	9,174,213	11/03/2015	2011-491
United States Of America	Issued Patent	8,969,071	03/03/2015	2011-491

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OTHER INFORMATION

KEYWORDS

microfluidic, droplet, droplet sorting, on-chip, passive sorting, PCR, protein crosslinking, gelation

CATEGORIZED AS

- » Engineering
 - » Engineering
- » Medical
 - » Research Tools
- » Research Tools
 - » Other
- » Sensors & Instrumentation
 - » Analytical
 - » Physical Measurement

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