

MICROFLUIDIC REAGENT DELIVERY SYSTEM BY HYDROGEL DEHYDRATION THROUGH A POROUS ENCAPSULANT

Tech ID: 18085 / UC Case 2009-088-0

ABSTRACT

Microfluidic constructs have proven to have many important applications. Small sample sizes can be sufficient to give a large number of laboratory results, for instance, in "lab-on-a-chip" technologies, such as those developed by Caliper. Testing and processing previously available only in specialized laboratories under highly controlled conditions with expert technicians are now available for field work using these new technologies. However, these highly minimized fluid managing devices are typically very expensive, and so are of limited availability to many potential applications.

Researchers at the University of California, Berkeley achieve patterned Agarose micro-structures using photolithography and oxygen plasma.

The resulting Agarose micro-structures can be then rehydrated back into the original form, if the proper conditions are maintained during processing.

Related to B09-061 and B09-058

APPLICATIONS

- » point-of-care diagnostics, chemical/biological sensing, drug discovery, enzyme/substrate quantification,
- » iRNA / mRNA / DNA separations, Rapid, highly parallel DNA fingerprinting
- » HDL / LDL particle size classification for assesment of cholestrol risk,Ri
- » bio compatible scaffolds for tissue cultures

ADVANTAGES

- » dramatically lowere fabrication cost
- » hydrogel / polymer chip rapid prototyping
- » three-dimensional polymer rapid prototyping
- » Room temperature storage of reagent molecules (DNA, RNA, protein, enzymes, etc)

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ [Pyroelectric MEMS Infrared Sensor with Numerous Wavelength Absorptions](#)
- ▶ [Microfluidic Flow Lysometer Device, System And Method](#)

CONTACT

Laleh Shayesteh
lalehs@berkeley.edu
tel: 510-642-4537.



INVENTORS

- » Demko, Michael
- » Erdem, E. Yegan
- » Pisano, Albert P.

OTHER INFORMATION

CATEGORIZED AS

- » **Nanotechnology**
- » NanoBio

RELATED CASES

2009-088-0

