Lab on a Chip

Micro- & nano- fluidic research for chemistry, physics, biology, & bioengineering

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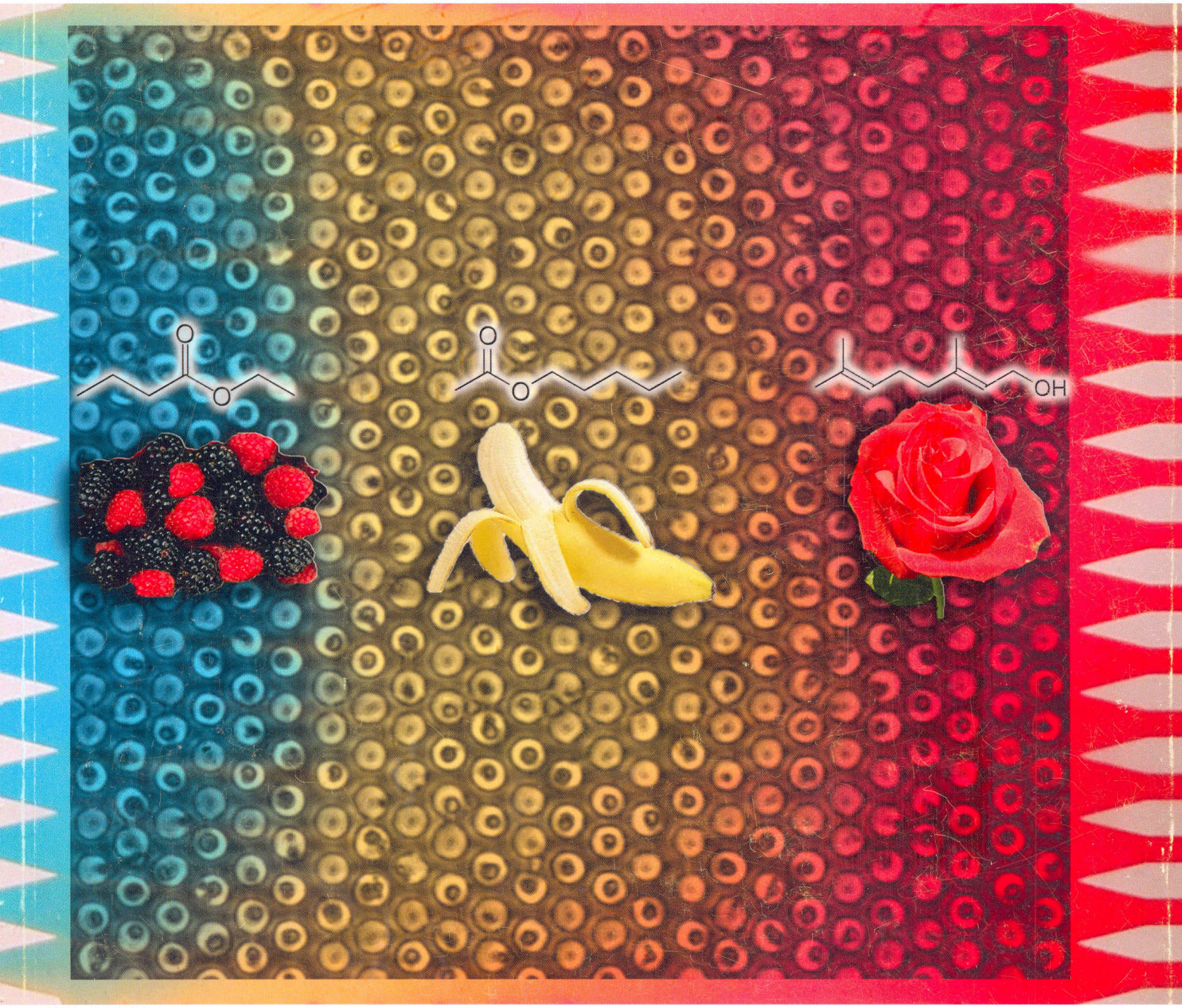

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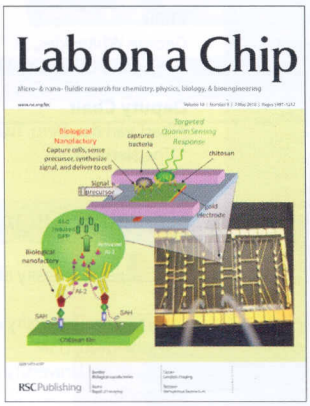
ISSN 1473-0197 CODEN LCAHAM 10(9) 1097–1212 (2010)

Cover

See Folch *et al.*, pp. 1120–1127.
A microfluidic-based method for studying the response of thousands of dissociated olfactory sensory neurons to a sequence of odorants, allowing for probing all the olfactory receptor space simultaneously.
Image reproduced by permission of Xavier A. Figueroa, Gregory A. Cooksey, Scott V. Votaw, Lisa F. Horowitz and Albert Folch from *Lab Chip*, 2010, **10**, 1120.

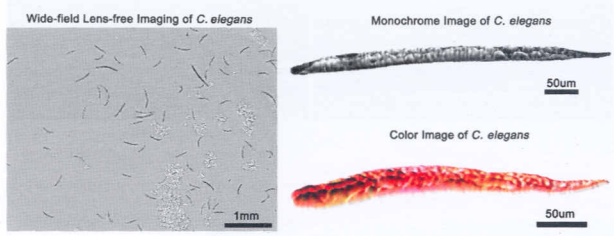


Inside cover

See Bentley *et al.*, pp. 1128–1134.
Biological nanofactories are assembled *via* synthetic biology and biofabrication to capture and stimulate a quorum sensing response in spatially defined locales.
Image reproduced by permission of Rohan Fernandes, Xiaolong Luo, Chen-Yu Tsao, Gregory F. Payne, Reza Ghodssi, Gary W. Rubloff and William E. Bentley from *Lab Chip*, 2010, **10**, 1128.

HIGHLIGHT

COMMUNICATIONS

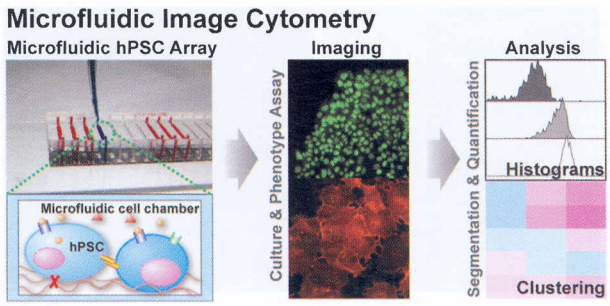


1113

Microfluidic image cytometry for quantitative single-cell profiling of human pluripotent stem cells in chemically defined conditions

K.-i. Kamei,* M. Ohashi, E. Gschweng, Q. Ho, J. Suh, J. Tang, Z. T. For Yu, A. T. Clark, A. D. Pyle, M. A. Teitell, K.-B. Lee, O. N. Witte and H.-R. Tseng*

Microfluidic image cytometry allows culturing of human pluripotent stem cells (hPSCs) in chemically defined conditions and quantifying multiple phenotypic markers of hPSCs at a single-cell level.

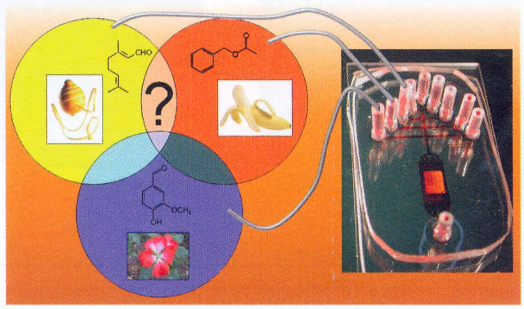


1120

Large-scale investigation of the olfactory receptor space using a microfluidic microwell array

Xavier A. Figueroa, Gregory A. Cooksey, Scott V. Votaw, Lisa F. Horowitz and Albert Folch*

The manuscript describes a microfluidic-based method for studying the response of thousands of dissociated olfactory sensory neurons (OSNs) to a sequence of odorants.

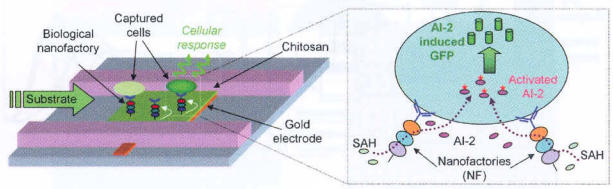


1128

Biological nanofactories facilitate spatially selective capture and manipulation of quorum sensing bacteria in a bioMEMS device

Rohan Fernandes, Xiaolong Luo, Chen-Yu Tsao, Gregory F. Payne, Reza Ghodssi, Gary W. Rubloff and William E. Bentley*

We exploit biological nanofactories within a bioMEMS device to capture and manipulate the behavior of quorum sensing (QS) bacteria as a step toward modifying bacterial signaling.

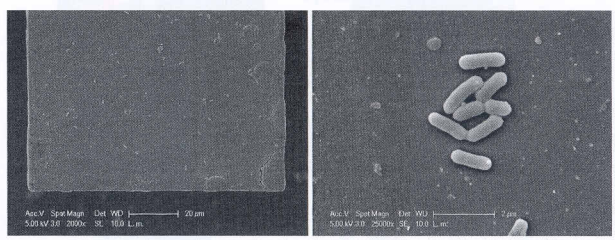


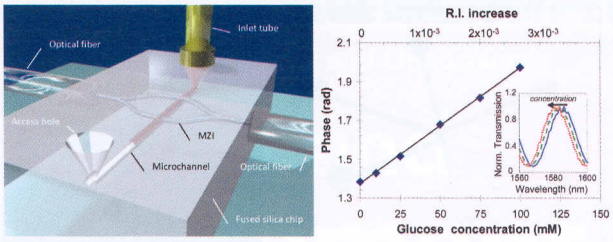
1135

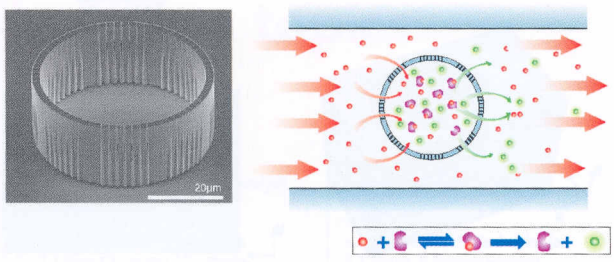
Rapid thermal lysis of cells using silicon–diamond microcantilever heaters

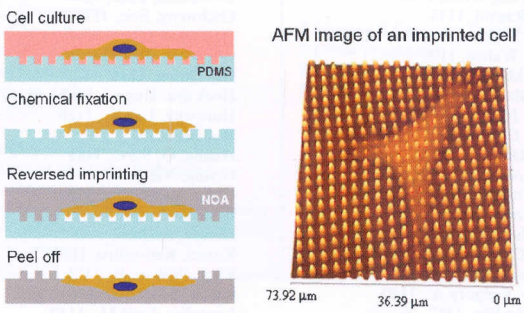
Natalya Privorotskaya, Yi-Shao Liu, Jungchul Lee, Hongjun Zeng, John A. Carlisle, Adarsh Radadia, Larry Millet, Rashid Bashir and William P. King*

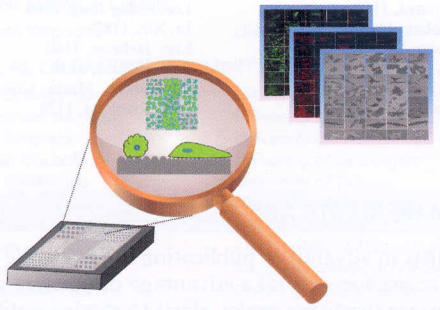
This work demonstrates heat-mediated cell lysis of either mammalian or bacterial cells using a silicon–diamond microcantilever heater, which is potentially an efficient platform for releasing DNA/RNA for downstream detection and biological processes.



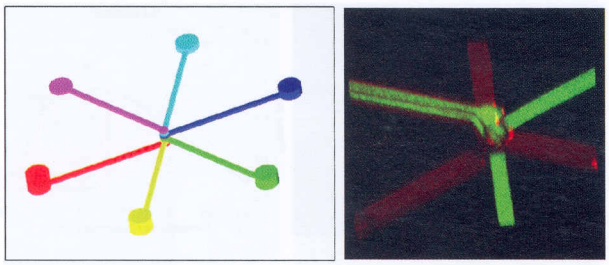








1199

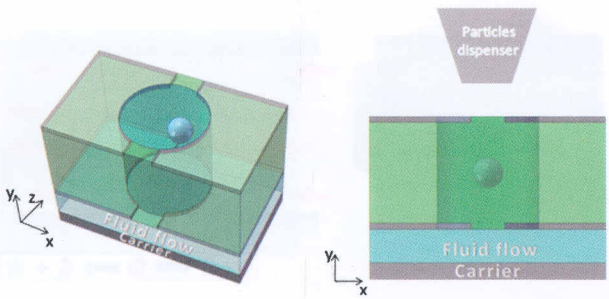


A simple method for fabricating multi-layer PDMS structures for 3D microfluidic chips

Mengying Zhang, Jinbo Wu, Limu Wang, Kang Xiao and Weijia Wen*

A PDMS slab surface-treated by PFOCTS can act as a reusable transferring layer to achieve a simple method of fabricating PDMS multi-layer microfluidic chips.

1204



Horizontal nDEP cages within open microwell arrays for precise positioning of cells and particles

Marta Lombardini,* Massimo Bocchi,* Laura Rambelli, Luca Giulianelli and Roberto Guerrieri

We present the structure of an open microwell, *i.e.* a microwell open at both the top and bottom ends, which enables single-cells to be handled, processed and recovered after the experiment.

AUTHOR INDEX

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