

# Lab on a Chip

Devices and applications at the micro- and nanoscale  
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### Cover

See Wenming Liu *et al.*,  
pp. 2161–2174.

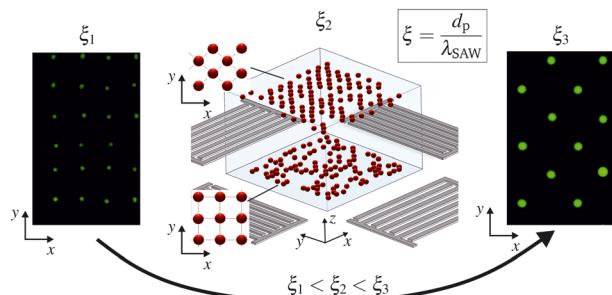
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## COMMUNICATION

2154

**From rectangular to diamond shape: on the three-dimensional and size-dependent transformation of patterns formed by single particles trapped in microfluidic acoustic tweezers**

Zhichao Deng, Vijay V. Kondalkar, Christian Cierpka,  
Hagen Schmidt\* and Jörg König\*

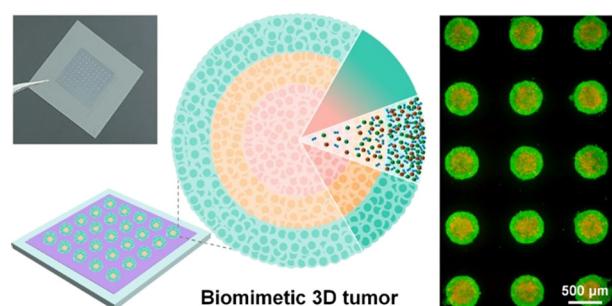


## PAPERS

2161

**Facile construction of a 3D tumor model with multiple biomimetic characteristics using a micropatterned chip for large-scale chemotherapy investigation**

Meilin Sun, Jinwei Zhang, Wenzhu Fu, Tingting Xuanyuan  
and Wenming Liu\*



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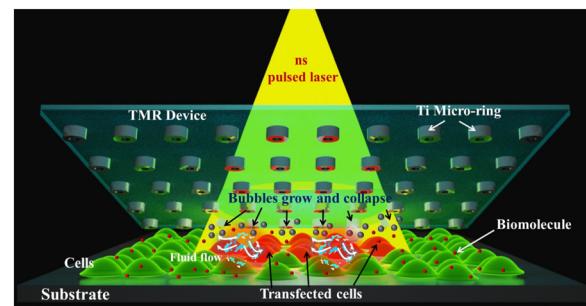
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## PAPERS

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## Metallic micro-ring device for highly efficient large cargo delivery in mammalian cells using infrared light pulses

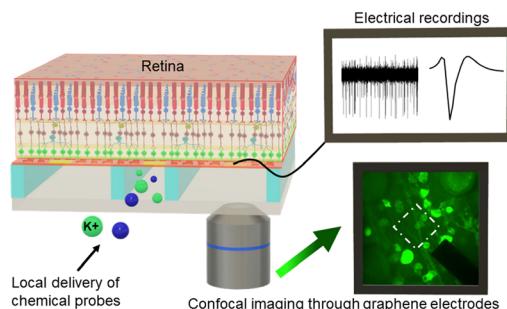
Ashwini Shinde, Pallavi Shinde, Srabani Kar, Kavitha Illath, Souvik Dey, Nitish R. Mahapatra, Moeto Nagai and Tuhin Subhra Santra\*



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## Graphene-based microfluidic perforated microelectrode arrays for retinal electrophysiological studies

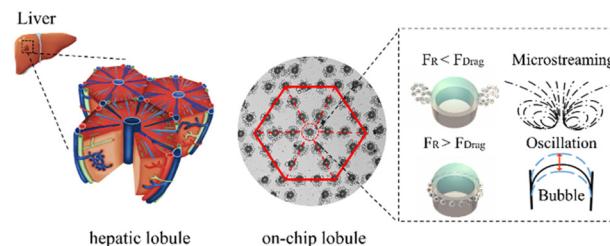
Alberto Esteban-Linares, Xiaosi Zhang, Hannah H. Lee, Michael L. Risner, Sharon M. Weiss, Ya-Qiong Xu, Edward Levine\* and Deyu Li\*



2206

## Heterogeneous tissue construction by on-demand bubble-assisted acoustic patterning

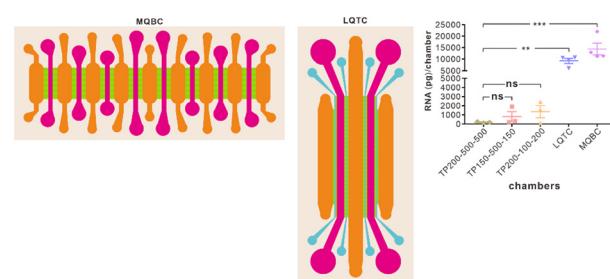
Qinghao Hu, Xuejia Hu, Yang Shi, Li Liang, Jiaomeng Zhu, Shukun Zhao, Yifan Wang, Zezheng Wu, Fubing Wang, Fuling Zhou and Yi Yang\*



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## Facilitation of axonal transcriptome analysis with quantitative microfluidic devices

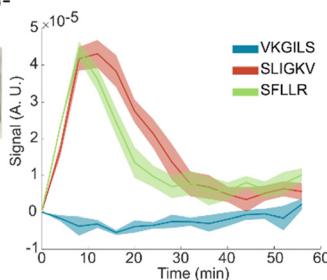
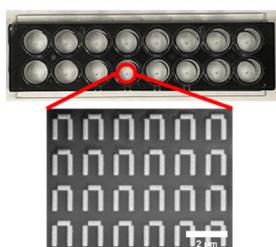
Zhuoxuan Yang, Jun Yu, Jian Zhang, Huixue Song, Haixia Ye, Jianhui Liu, Nijia Wang, Pengfei Che, Gaoxin Long, Yunxuan Wang, Jaewon Park\* and Sheng-Jian Ji\*



## PAPERS

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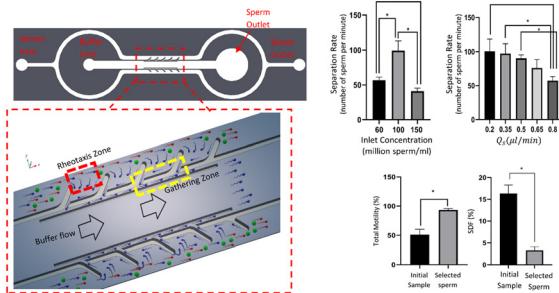
## Mid-IR metasurface in 16-well cell culture chamber



## Metasurface-enhanced infrared spectroscopy in multiwell format for real-time assaying of live cells

Steven H. Huang,\* Giovanni Sartorello, Po-Ting Shen, Chengqi Xu, Olivier Elemento\* and Gennady Shvets\*

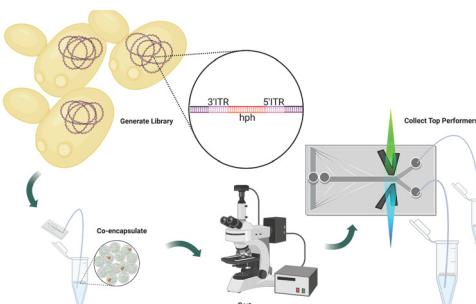
2241



## High-DNA integrity sperm selection using rheotaxis and boundary following behavior in a microfluidic chip

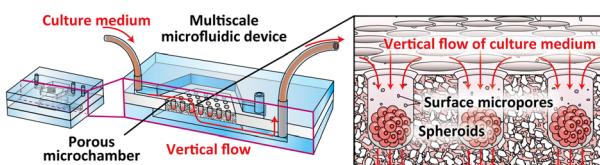
Soroush Zeaei, Mohammad Zabetian Targhi,\* Iman Halvaei and Reza Nosrati\*

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Temporal sorting of microdroplets can identify productivity differences of itaconic acid from libraries of *Yarrowia lipolytica*

Emily K. Bowman,\* Phuong T. Nguyen Hoang, Angela R. Gordillo Sierra, Karoline M. Vieira Nogueira and Hal S. Alper

2257



## A multiscale, vertical-flow perfusion system with integrated porous microchambers for upgrading multicellular spheroid culture

Mai Takagi, Masumi Yamada,\* Rie Utoh and Minoru Seki

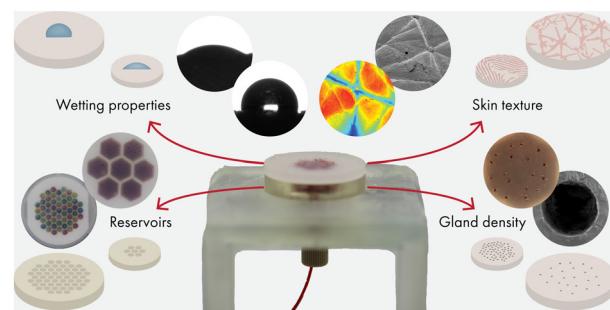


## PAPERS

2268

**A versatile artificial skin platform for sweat sensor development**

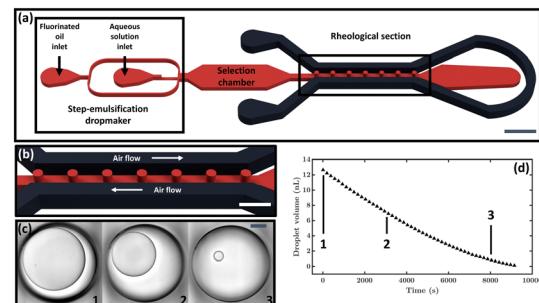
Emma J. M. Moonen, Tanveer ul Islam, Sebastiaan van Kemenade, Eduard Pelssers, Jason Heikenfeld and Jaap M. J. den Toonder\*



2276

**Droplet-based microfluidic platform for viscosity measurement over extended concentration range**

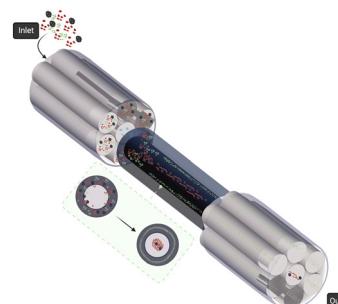
Paul Cochard-Marchewka,\* Nicolas Bremond and Jean Baudry



2286

**Lab-in-a-fiber-based integrated particle separation and counting**

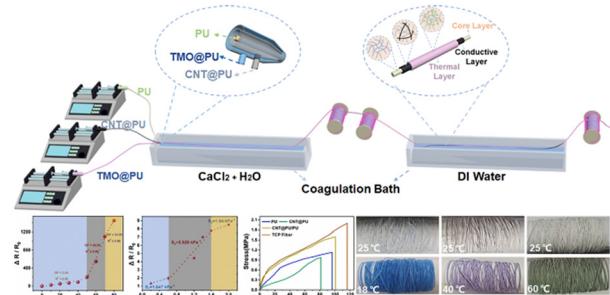
T. Kumar, A. V. Harish, S. Etcheverry, W. Margulis, F. Laurell and A. Russom\*



2294

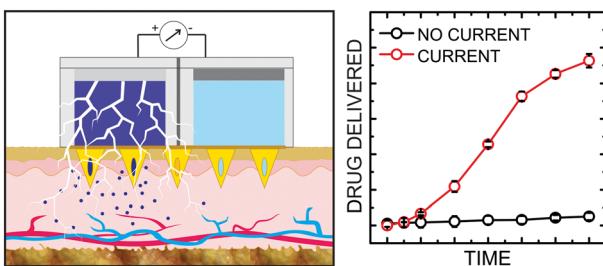
**Flexible coaxial composite fiber based on carbon nanotube and thermochromic particles for multifunctional sensor and wearable electronics**

Ningle Hou, Hui Wang, Aijia Zhang, Ling Li,\* Xiaoting Li\* and Wenming Zhang\*



## PAPERS

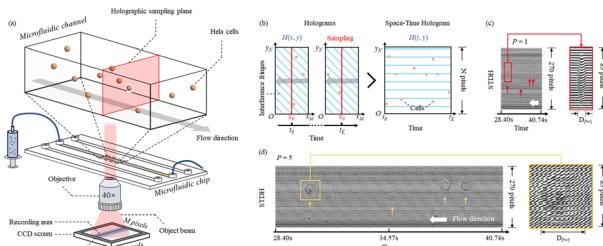
2304



### Transferdermal on-demand drug delivery based on an iontophoretic hollow microneedle array system

Usanee Detamornrat, Marc Parrilla,\* Juan Domínguez-Robles, Qonita Kurnia Anjani, Eneko Larrañeta, Karolien De Wael and Ryan F. Donnelly\*

2316



## CORRECTION

2356

**Correction: Fully-automated and field-deployable blood leukocyte separation platform using multi-dimensional double spiral (MDDS) inertial microfluidics**

Hyungkook Jeon, Bakr Jundi, Kyungyong Choi, Hyunryul Ryu, Bruce D. Levy, Geunbae Lim and Jongyoon Han\*

