

# Lab on a Chip

Devices and applications at the micro- and nanoscale  
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## IN THIS ISSUE

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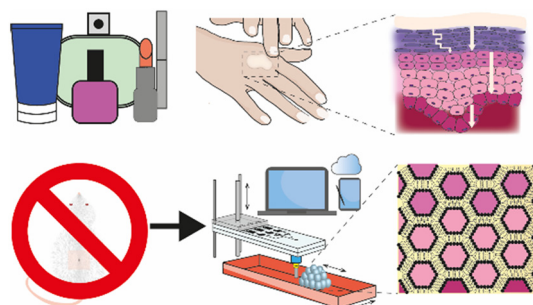
See Nae Yoon Lee *et al.*,  
pp. 5081–5091.  
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## PERSPECTIVE

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### Towards skin-on-a-chip for screening the dermal absorption of cosmetics

Jessica Govey-Scotland, Liam Johnstone, Connor Myant  
and Mark S. Friddin\*

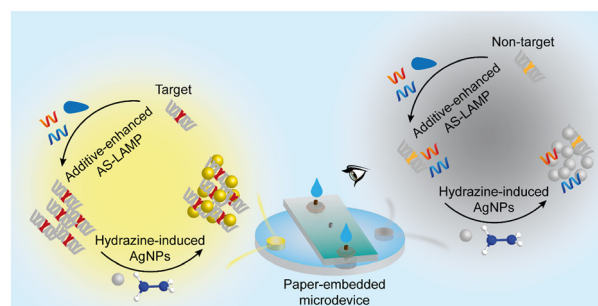


## PAPERS

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### A paper-embedded thermoplastic microdevice integrating additive-enhanced allele-specific amplification and silver nanoparticle-based colorimetric detection for point-of-care testing

Duc Anh Thai, Seung Kyun Park and Nae Yoon Lee\*



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# Lab on a Chip

Devices and applications at the micro- and nanoscale

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*Lab on a Chip* provides a unique forum for the publication of significant and original work related to miniaturisation, at the micro- and nano-scale, of interest to a multidisciplinary readership. The journal seeks to publish work at the interface between physical technological advancements and high impact applications that are of direct interest to a broad audience.

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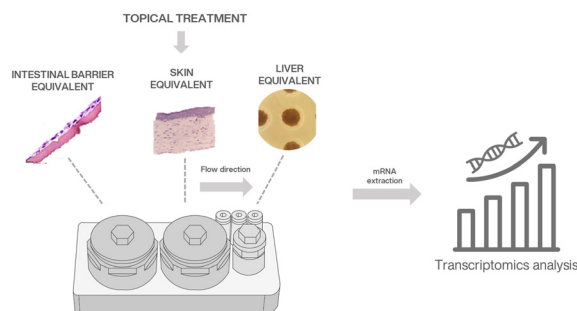
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### Combining a microphysiological system of three organ equivalents and transcriptomics to assess toxicological endpoints for cosmetic ingredients

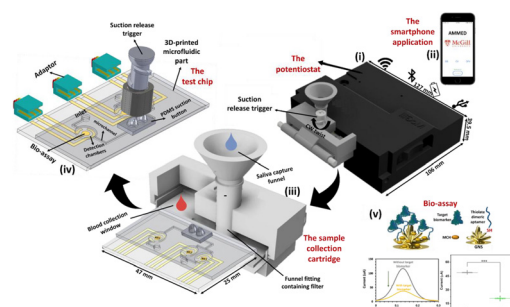
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### Additively manufactured multiplexed electrochemical device (AMMED) for portable sample-to-answer detection

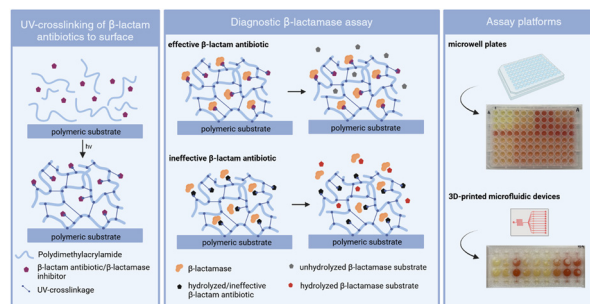
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### Highly efficient $\beta$ -lactamase assay applying polydimethylacrylamide-based surface functionalization with $\beta$ -lactam antibiotics and $\beta$ -lactamase inhibitors

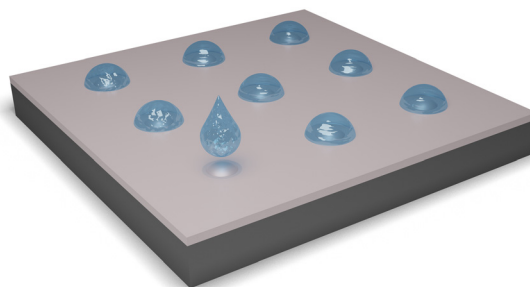
Simone Rentschler, Max Borgolte, Alexander Filbert, Stefan Laufer and Hans-Peter Deigner\*



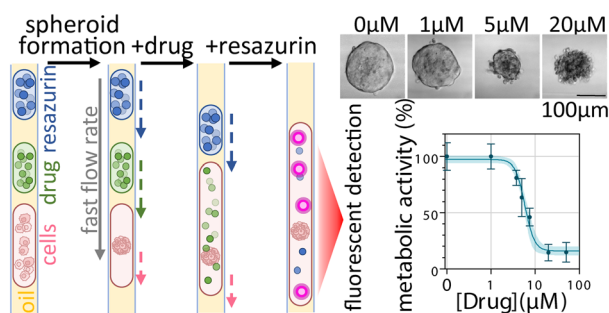
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### Ultrasonic spectroscopy of sessile droplets coupled to optomechanical sensors

K. G. Scheuer, F. B. Romero, G. J. Hornig and R. G. DeCorby\*



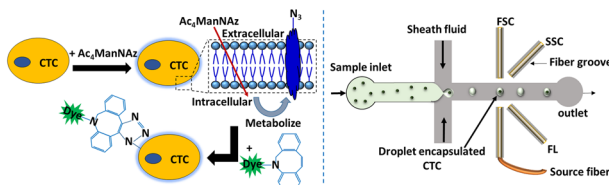
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### Simple droplet microfluidics platform for drug screening on cancer spheroids

Caroline Parent,\* Kiran Raj Melayil, Ya Zhou, Vivian Aubert, Didier Surdez, Olivier Delattre, Claire Wilhelm\* and Jean-Louis Viovy\*

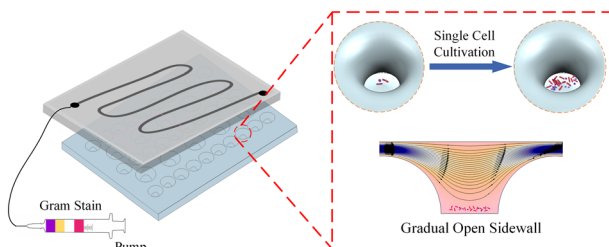
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### Optomicrofluidic detection of cancer cells in peripheral blood via metabolic glycoengineering

K. Mirkale,\* S. K. Jain, T. S. Oviya and S. Mahalingam

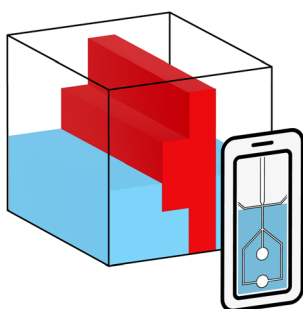
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### Advancing *in situ* single-cell microbiological analysis through a microwell droplet array with a gradual open sidewall

Jie Wang, Lin Du, Yuwei Han, Dawei Zhang\* and Dalei Jing\*

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### Alignment-free construction of double emulsion droplet generation devices incorporating surface wettability contrast

Yunus Aslan, Olivia McGleish, Julien Reboud and Jonathan M. Cooper\*

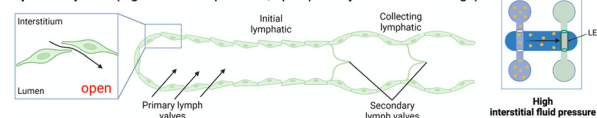


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# A human initial lymphatic chip reveals distinct mechanisms of primary lymphatic valve dysfunction in acute and chronic inflammation

Samantha Kraus and Esak Lee\*

**Expansion phase** (high interstitial pressure, open primary valves for drainage)



**Compression phase** (high luminal pressure, close primary valves for retention)

