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Lab on a Chip

Devices and applications at the micro- and nanoscale

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IN THIS ISSUE

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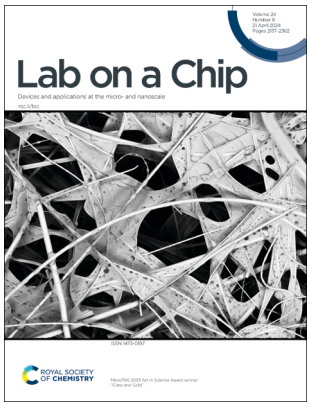

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Inside cover
See Todd Fernandez, David R. Myers *et al.*, pp. 2176–2192.
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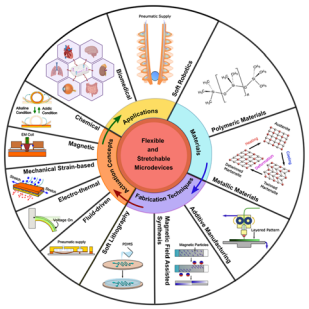
CRITICAL REVIEW



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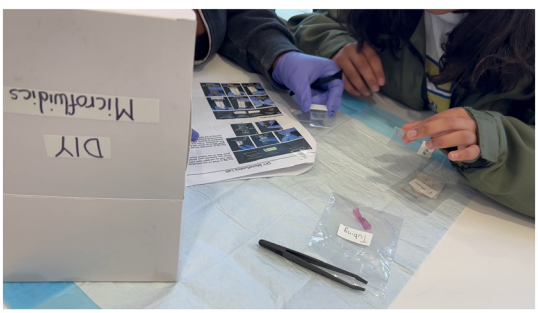

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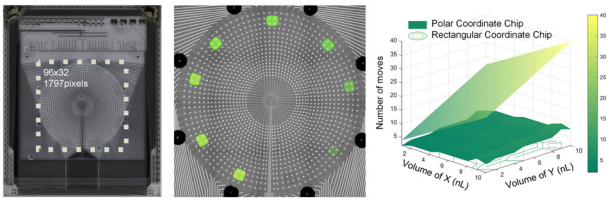
2193

Polar coordinate active-matrix digital microfluidics for high-resolution concentration gradient generation

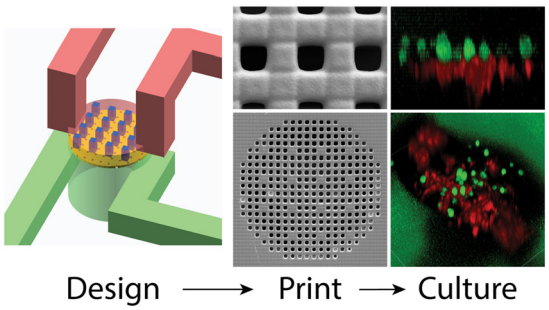
Bingbing Zhang, Jinxin Fu, Maohua Du, Kai Jin, Qi Huang, Jiahao Li, Dongping Wang, Siyi Hu, Jinhua Li* and Hanbin Ma*



2202

Integrated biocompatible 3D printed isoporous membranes with 7 μm pores

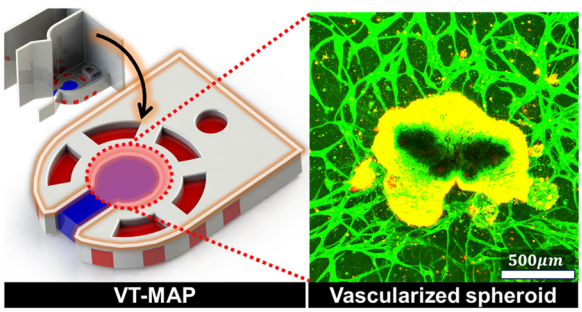
Matthew S. Viglione, Aubrianna Saxton, Dawson Downs, Adam T. Woolley, Kenneth A. Christensen, Pam M. Van Ry and Gregory P. Nordin*



2208

Vascularized tissue on mesh-assisted platform (VT-MAP): a novel approach for diverse organoid size culture and tailored cancer drug response analysis

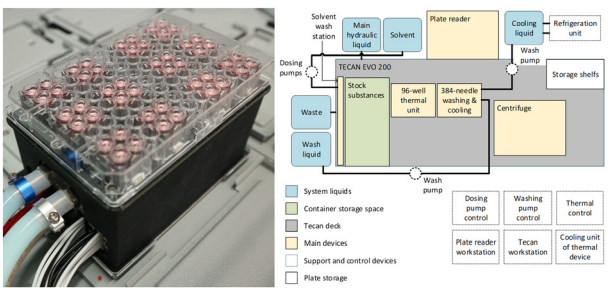
Jungseub Lee, Sangmin Jung, Hye Kyoung Hong, Hyeonsu Jo, Stephen Rhee, Ye-Lin Jeong, Jihoon Ko, Yong Beom Cho* and Noo Li Jeon*



2224

Thermal segment microwell plate control for automated liquid handling setups

Simon Seidel,* Katja F. Winkler, Anke Kurreck, Mariano Nicolas Cruz-Bournazou, Katharina Paulick, Sebastian Groß and Peter Neubauer



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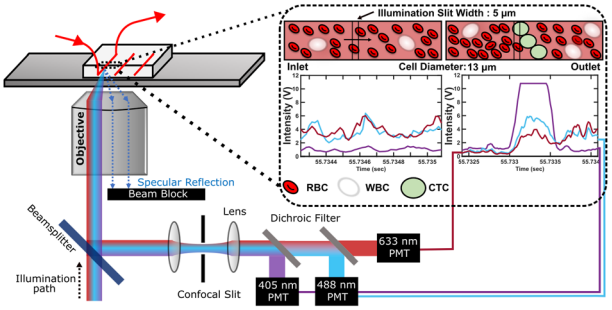
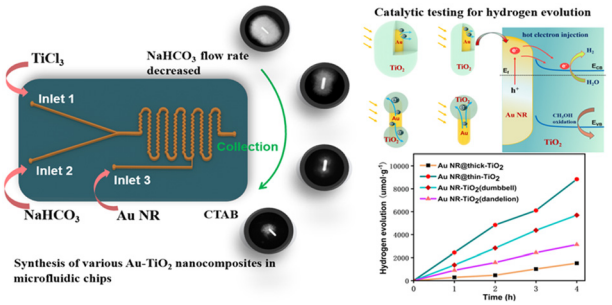
2237



Deep learning-enabled detection of rare circulating tumor cell clusters in whole blood using label-free, flow cytometry

Nilay Vora, Prashant Shekar, Taras Hanulia, Michael Esmail, Abani Patra and Irene Georgakoudi*

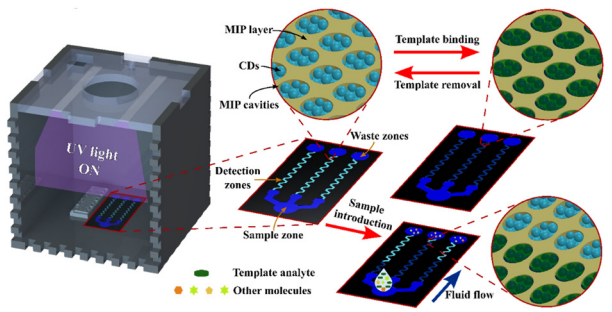
2253



Synthesis and photocatalytic property of Au–TiO_2 nanocomposites with controlled morphologies in microfluidic chips

Ziran Ye,* Ping Lu, Yiben Chen, Zhixian Xu, Haixia Huang, Mingjia Zhi, Zi Ang Chen and Bo Yan*

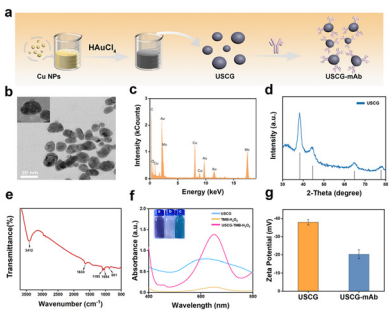
2262



Distance-based paper analytical device for multiplexed quantification of cytokine biomarkers using carbon dots integrated with molecularly imprinted polymer

Kawin Khachornsakkul,* Ruben Del-Rio-Ruiz, Lita Chheang, Wenxin Zeng and Sameer Sonkusale*

2272



A cheaper substitute for HRP: ultra-small Cu–Au bimetallic enzyme mimics with infinitesimal steric hindrance to promote catalytic lateral flow immunodetection of clenbuterol

Huilan Hu, Jiaqi Tian, Rui Shu, Huihui Liu,* Shaochi Wang, Xuechi Yin, Jianlong Wang and Daohong Zhang*

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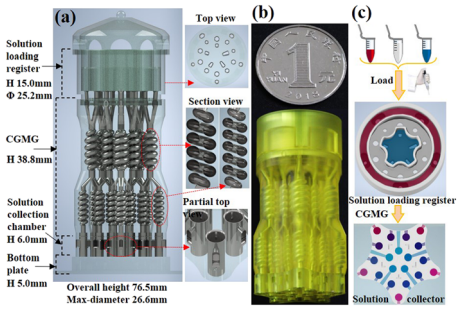
2280

High-throughput 3D microfluidic chip for generation of concentration gradients and mixture combinations

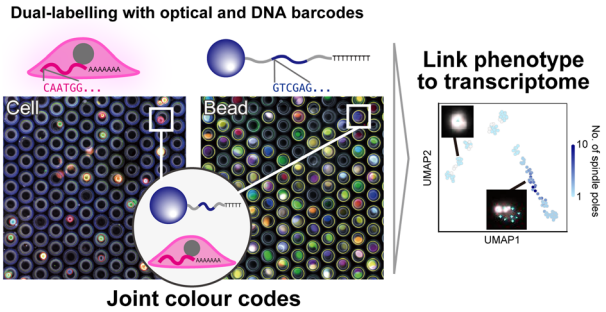
Mingwei Zhao, Jing Yang, Zhenqing Li, Yuan Zeng, Chunxian Tao,* Bo Dai, Dawei Zhang and Yoshinori Yamaguchi



2287

Opto-combinatorial indexing enables high-content transcriptomics by linking cell images and transcriptomes

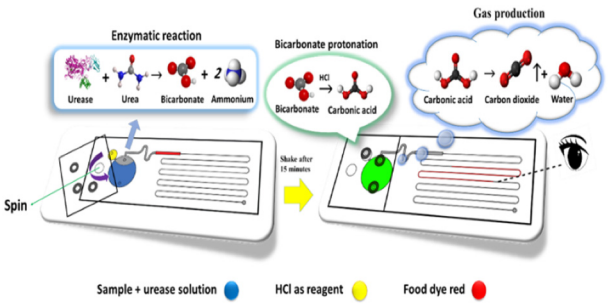
Arata Tsuchida, Taikopaul Kaneko, Kaori Nishikawa, Mayu Kawasaki, Ryuji Yokokawa and Hirofumi Shintaku*



2298

Designing and prototyping a novel biosensor based on a volumetric bar-chart chip for urea detection

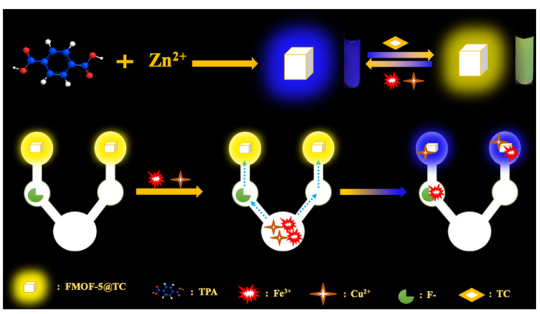
Mahdi Samadi Khezri, Mohammad Reza Housaindokht* and Mojtaba Firouzi



2306

A novel ratiometric design of microfluidic paper-based analytical device for the simultaneous detection of Cu^{2+} and Fe^{3+} in drinking water using a fluorescent MOF@tetracycline nanocomposite

Sabah H. Al-Jaf, Sameera Sh. Mohammed Ameen and Khalid M. Omer*



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CORRECTION

2358

Correction: Integrated biosensors for monitoring microphysiological systems

Lei Mou, Kalpana Mandal, Marvin Magan Mecwan, Ana Lopez Hernandez, Surjendu Maity, Saurabh Sharma, Rondinelli Donizetti Herculano, Satoru Kawakita, Vadim Jucaud, Mehmet Remzi Dokmeci* and Ali Khademhosseini*

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