

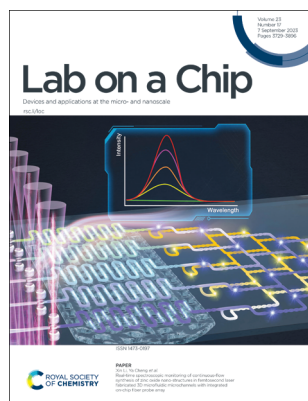
# Lab on a Chip

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

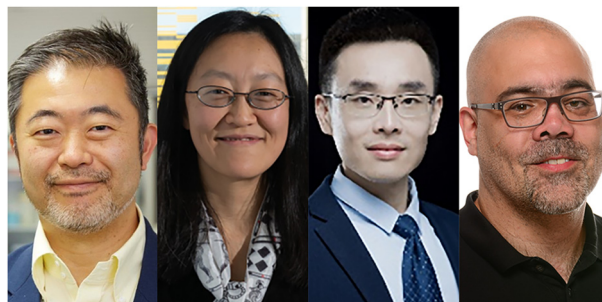
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2023, 23, 3785.

## EDITORIAL

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### Revolutionizing microfluidics with artificial intelligence: a new dawn for lab-on-a-chip technologies

Keisuke Goda,\* Hang Lu, Peng Fei and Jochen Guck

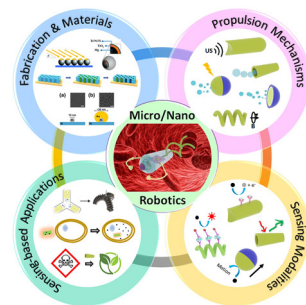


## CRITICAL REVIEW

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### Micro-/nanoscale robotics for chemical and biological sensing

Liuzheng Zheng, Nathan Hart and Yong Zeng\*



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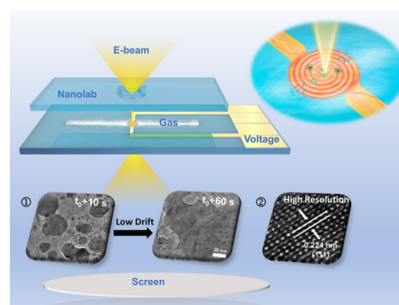


## COMMUNICATIONS

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**On-chip gas reaction nanolab for *in situ* TEM observation**

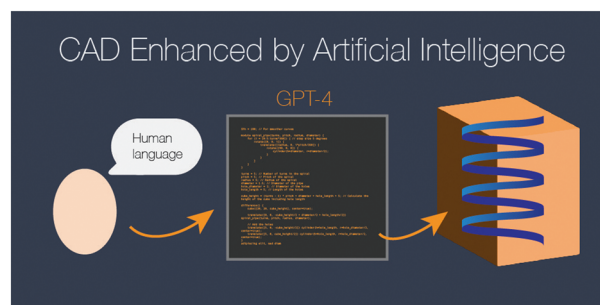
Tiqing Zhao, Youhong Jiang, Shiwen Luo, Yifan Ying, Qian Zhang, Shi Tang, Linzhi Chen, Jing Xia, Peng Xue, Jia-Jun Zhang, Shi-Gang Sun and Hong-Gang Liao\*



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**Utilizing ChatGPT to assist CAD design for microfluidic devices**

Matt D. Nelson,\* Brady L. Goenner and Bruce K. Gale

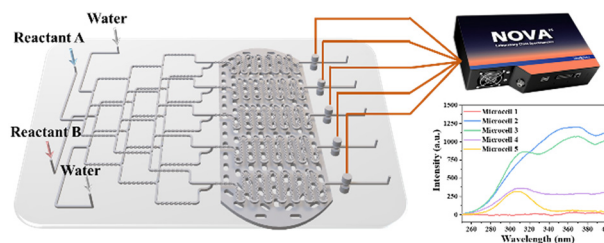


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**Real-time spectroscopic monitoring of continuous-flow synthesis of zinc oxide nano-structures in femtosecond laser fabricated 3D microfluidic microchannels with integrated on-chip fiber probe array**

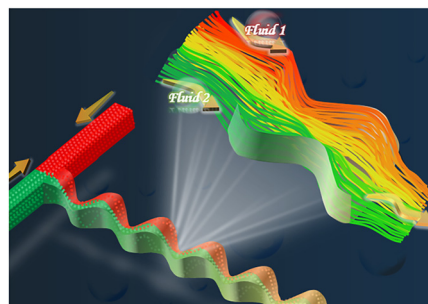
Miao Wu, Xin Li,\* Di-Feng Yin, Wei Chen, Jia Qi, Ming Hu, Jian Xu and Ya Cheng\*



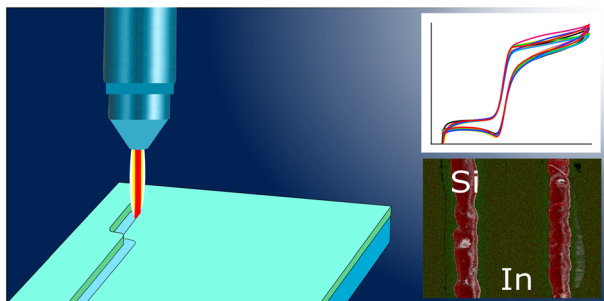
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**Controlling amorphous silicon in scratching for fabricating high-performance micromixers**

Tingting Chen, Licong Cui, Wang He, Renxing Liu, Chengqiang Feng, Lei Wu, Yang Wang, Huiyun Liu, Linmao Qian and Bingjun Yu\*



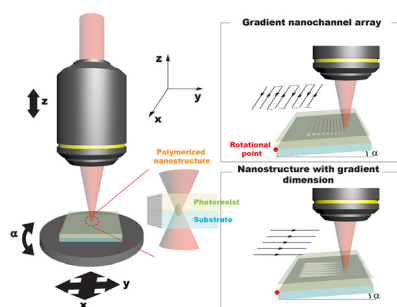
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### Fabrication of ITO microelectrodes and electrode arrays using a low-cost CO<sub>2</sub> laser plotter

Karthika Kappalakandy Valapil, Marcin Szymon Filipiak, Weronika Rekiel, Elżbieta Jarosińska, Wojciech Nogala, Martin Jönsson-Niedziółka and Emilia Witkowska Nery\*

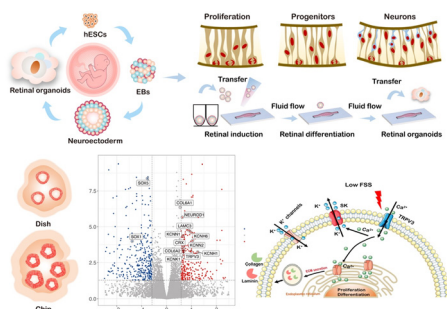
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### An optically fabricated gradient nanochannel array to access the translocation dynamics of T4-phage DNA through nanoconfinement

Chen Zhang, Jiaqing Hou, Yang Zeng, Liang Dai, Wei Zhao, Guangyin Jing, Dan Sun, Yaoyu Cao\* and Ce Zhang\*

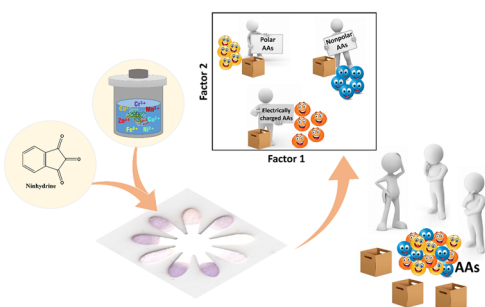
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### A controllable perfusion microfluidic chip for facilitating the development of retinal ganglion cells in human retinal organoids

Jing Gong, Yu Gong, Ting Zou, Yuxiao Zeng, Cao Yang, Lingyue Mo, Jiahui Kang, Xiaotang Fan,\* Haiwei Xu\* and Jun Yang\*

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### A paper-based chemical tongue based on the charge transfer complex of ninhydrin with an array of metal-doped carbon dots discriminates natural amino acids and several of their enantiomers

Motahareh Alimohammadi, Hoda Sharifi, Javad Tashkhourian,\* Mojtaba Shamsipur and Bahram Hemmateenejad\*

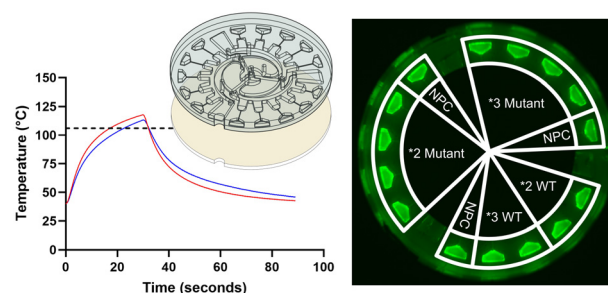


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**Rapid microfluidics prototyping through variotherm desktop injection molding for multiplex diagnostics**

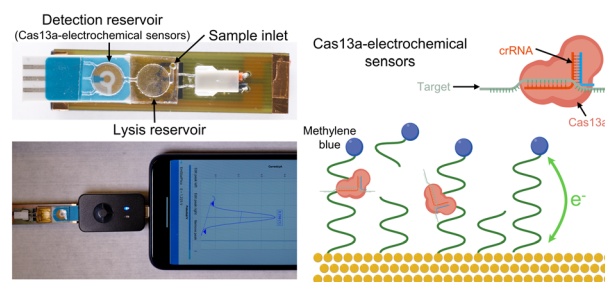
Gianmarco D. Suarez, Steevanson Bayer,  
Yuki Yu Kiu Tang, Domenick A. Suarez,  
Peter Pak-Hang Cheung\* and Stefan Nagl\*



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**A point-of-care microfluidic biosensing system for rapid and ultrasensitive nucleic acid detection from clinical samples**

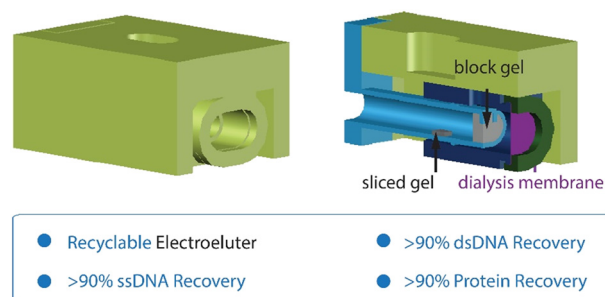
Yuxuan Zhang, Yang Song, Zhengyan Weng, Jie Yang,  
Lori Avery, Kevin D. Dieckhaus, Rebecca Y. Lai, Xue Gao  
and Yi Zhang\*



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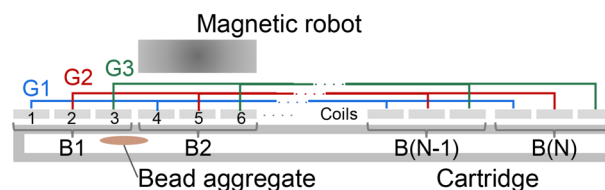
Linhan Su, Xueting Gong, Ju Zhou and Hailong Li\*



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**Programmable magnetic robot (ProMagBot) for automated nucleic acid extraction at the point of need**

Anthony J. Politza, Tianyi Liu and Weihua Guan\*



## CORRECTION

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**Correction: 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\*

