July 16, 2025  
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## About the Cover:

Contrary to the common assumption that the friction coefficient (COF) increases with lubricant evaporation, we identified a transient ultralow-friction state (COF 0.01–0.03) in ethanol-lubricated PDMS–ceramic systems. This state precedes dry friction, is governed by a nanoscale boundary film, and can be significantly prolonged by water vapor. View the article.

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## LETTERS

## The Last Dance of Lubrication: Capturing Ultralow Friction before Full Evaporation

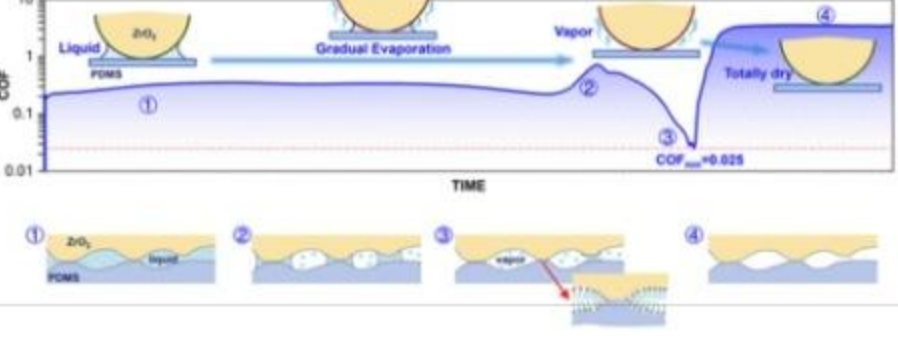
Chenxu Liu, Jinwei Shao, Jie Zhang, Janet S. S. Wong, Yonggang Meng, Hongbo Zeng\*, and Yu Tian\*

Nano Letters 2025, 25, 28, 11019-11026 (Letter) [Subscribe](#)

Publication Date (Web): May 21, 2025

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ABSTRACT

Nitrogen-Doped Graphene-Supported Straw-Like CoSe<sub>2</sub> for Rapid and Stable Sodium-Ion Storage

Chong Xu, Kaly Chen, Guang Ma, Ye Wang, Siwei Wu, Sai Che\*, Yongpeng Cui\*, Wang Yang\*, and Yongfeng Li\*

Nano Letters 2025, 25, 28, 11027-11035 (Letter) [Subscribe](#)

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ABSTRACT

## Visual Diagnostic Strategy for Assessing the Impact of Aerobic Glycolytic Processes on Tumor Growth and Therapy

Shiqi Wang, Jiaqing Guo, Yixuan Yang, Ping Lu, Zhaoyuan Zhang, Shijun Huang, Ye Fang, Hui Zhang, Han Zhang, Wenhui Yu, Junjie Qu, and Liwei Liu\*

Nano Letters 2025, 25, 28, 11036-11041 (Letter) [Subscribe](#)

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ABSTRACT

Polarization Rotation and Coarsened Domains in Freestanding PbTiO<sub>3</sub> Film with Substantially Enhanced Intrinsic Piezoelectricity Compared to Clamped One

Guangtong Yuan, Zhihan Zou, Diwei Wu, Shiyao Xu, Longji Lyu, Yuan Zhang, Boyuan Huang, Changjian Li\*, and Jiangru Li\*

Nano Letters 2025, 25, 28, 11042-11050 (Letter) [Subscribe](#)

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ABSTRACT

## Mn–Co Dual-Metal Single-Atom Catalytic Sites for Boosted Redox Kinetics in Aqueous Polysulfide/Ferricyanide Flow Batteries

Hong Zhang, Ziyu Feng, Tianhang Ding, Bin Song\*, Ke Lu\*, Chun Cheng Yang\*, and Qing Jiang

Nano Letters 2025, 25, 28, 11051-11059 (Letter) [Subscribe](#)

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ABSTRACT

## Self-Healing Triboelectric Sensors with Enhanced Durability for Gesture Recognition and Human–Machine Interaction

Wentian Hou, Liqiang Liu, Jun Li\*, Zhiyu Tian, Han Wu, and Wei Ou-Yang\*

Nano Letters 2025, 25, 28, 11060-11067 (Letter) [Subscribe](#)

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## Evaluating Brightness and Stability of Cathodoluminescence from Colloidal Semiconductor Nanocrystals

Benjamin T. Diroll\*, Robert Sevik, Muchuan Hua, James Cassidy, Dulanjan Harankahage, and Mikhail Zamkov

Nano Letters 2025, 25, 28, 11068-11074 (Letter) [Subscribe](#)

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## Transition of Microscale Tribological Regimes from Severe Plastic Deformation to Lubricant Precipitation with Rising Temperatures

Xin Tang, Yongxin Cheng, Kang Wang, Kaili Feng, Tianmin Shao, Aisheng Song\*, and Tianbao Ma\*

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## The Nonlinear Limit of Babinet's Principle

Valentin Dichtl, Thorsten Schumacher, and Markus Lipplz\*

Nano Letters 2025, 25, 28, 11084-11088 (Letter) [Subscribe](#)

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## Spalled Barium Titanate Single Crystal Thin Films for Functional Device Applications

Prachi Thureja, Andrew W. Nyholm, Martin Thomaschewski, Phillip R. Jahelka, Julie Belleville, and Harry A. Atwater\*

Nano Letters 2025, 25, 28, 11089-11096 (Letter) [Subscribe](#)

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## Activatable and Renal Metabolizable NIR-II Emissive Au Nanoprobe for Real-Time Monitoring of Kidney GSH

Xingwang Wen, Yao Xu, Zhihui Chen, Jiajun Tian, Hao Zhong, Ruocheng Wu, and Songjun Zeng\*

Nano Letters 2025, 25, 28, 11097-11105 (Letter) [Subscribe](#)

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## Universal Artificial Urinary Biomarker Probe Enabled by an Aptamer–DNAzyme–Nanozyme Construct

Yi Xiao, Jia Hui Wong, Nan Gao, Anna M. Barron, Chelsea Violita Stanley, Aung Than, Lewen Zheng, Tong Ling, Dong Sheng Li, and Peng Chen\*

Nano Letters 2025, 25, 28, 11106-11115 (Letter) [Subscribe](#)

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## Tunneling Conductivity Switching by Reversible Electric-Field-Induced Proton Transfer for a Hydrogen-Bonding Heterobilayer Film

Hiroyuki S. Kato\*, Riku Muneyasu, Tomoko Fujino, Akira Ueda, Yusuke Kanematsu, Masanori Tachikawa, Jun Yoshinobu, and Hatsumi Mori

Nano Letters 2025, 25, 28, 11116-11124 (Letter) [Subscribe](#)

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ABSTRACT

## Scalable and Tunable In-Plane Ge/Si(001) Nanowires Grown by Molecular Beam Epitaxy

Jian-Huan Wang, Ming Ming, Ding-Ming Huang, Jie-Yin Zhang, Yi Luo, Bin-Xiao Fu, Yi-Xin Chu, Yuan Yao, Hongqi Xu\*, and Jian-Jun Zhang\*

Nano Letters 2025, 25, 28, 11125-11133 (Letter) [Subscribe](#)

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Electrochromism Enabled by Br<sup>−</sup>/Br<sub>3</sub><sup>−</sup> Conversion

Jiangbei Wan, Yinyu Chen, Zhaotao Li, Bowen Fan, Xianglin Guo, Shan Cong, Zhen Wang\*, and Zhigang Zhao\*

Nano Letters 2025, 25, 28, 11134-11141 (Letter) [Subscribe](#)

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ABSTRACT

Ultrasmall Strained RuO<sub>2</sub> as a Highly Efficient Electrocatalyst for Acidic Oxygen Evolution Reaction

Sheng Zhao, Liang Wu, Xianbing Miao\*, Yujie Di, Lei Shi, and Shiming Zhou\*

Nano Letters 2025, 25, 28, 11142-11148 (Letter) [Subscribe](#)

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## Highly Conductive Polymer Electrolyte Membranes with Polyoxometalate Hybrid Nanodomains for High-Temperature Fuel Cells

Tingting Li, Binghui Liu, Shengchao Chai, Peng Zuo, Chengji Zhao\*, and Haolong Li\*

Nano Letters 2025, 25, 28, 11149-11155 (Letter) [Subscribe](#)

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## Characterizing Integrin Tensions during Platelet Tension and Stiffness Sensing

Subhankar Kundu, Vivek Pandey, Arghajit Pyne, Long Que, and Xuefeng Wang\*

Nano Letters 2025, 25, 28, 11156-11163 (Letter) [Subscribe](#)

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## Operando Hydroxylation of the Sn–Co Diatomic Catalyst Boosting Ultrastable Zn–Air Batteries

Lulu Lyu, Xu Hu, Wengji Fan, Bing Shao, Qichen Wang, Gilseob Kim, Jong-woan Chung, Zhen Zhou\*, and Yong-Mook Kang\*

Nano Letters 2025, 25, 28, 11164-11173 (Letter) [Subscribe](#)

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## Dynamic Cyclodipeptide Clamps as Enantioselective Receptors toward Vitamin K1

Zhuoer Wang, Yitong Gai, Aliyou Hao\*, and Pengyao Xing\*

Nano Letters 2025, 25, 28, 11174-11182 (Letter) [Subscribe](#)

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## ADDITIONS AND CORRECTIONS

## Correction to "Deriving Material Properties from Feedback Error Signals in Scanning Tunneling Microscopy"

Nileema Sharma, James McKenzie, Matthew Toole, Brenden R. Ortiz, Andrea Capa Salinas, Stephen D. Wilson, and Xiaolong Liu\*

Nano Letters 2025, 25, 28, 11183 (Addition/Correction) [Subscribe](#)

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