Volume 26, Issue 7
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**About the Cover:**
A dark, elegant landscape exploring the nanoscale landscape of the plasma membrane. Rollings unveil a dense and dynamic nanodomain landscape of proteins and lipids (represented by the surface fluorofoam). Colorful Cherries were used to create the cover based on an initial manual drawing used as input. View the article.
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**In this Issue:**
- Mini Reviews
- Letters
- Addenda and Corrections
- Masthead

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## MINI-REVIEWS

### Revisiting the Optical Response of Two-Dimensional Perovskites: Beyond Excitons

Zamaradze Sarmiento*, Mahesa Ophelia, Paulina Plochocka*, and Michał Baranowski*

Nano Lett. 2025, 26, 3533–3539 Letter: Mini Reviews Article Recommendations
Publication Date (Web): June 16, 2025

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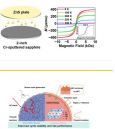

## LETTERS

### Wafer-Scale Room-Temperature Ferromagnetic Chromium Disulfide via Sulfur Monomers

Zhiliang Li, Shuang Hu, Tianxiao Li, Boxin Cheng, Jing Niu, Jun Su, Yongjing Sun*, and Xiangwei Jiang*

Nano Lett. 2025, 26, 3540–3547 Letter: Article Recommendations
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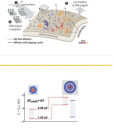

### Mechanically Interlocked Core−Shell Architecture for Stable Nickel-Rich Cathodes

Dongki Chang, Yingjuan Yang, Wei Zhang, Jie Xu, Guoxong Yan, Ying Zhu, Tong Hu, Zhuoxiong Hu, Cuiqin Hu, Zhongxin Lai, Bingqi Zuo*, and Jingxing Yao*

Nano Lett. 2025, 26, 3548–3555 Letter: Article Recommendations
Publication Date (Web): June 12, 2025

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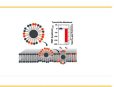

### Using DNA Origami to Study Nanoscale Organization of Plasma Membranes

Elisha Cornell*, Kristin Eber, Donna Kandas, Maureen Corcy, Thomas Schlichthaerle, Magnus Cramont, Mélisande Duval, Bruno Hajas, Philippe Bonthonneau, Morgane Moustier, Aleksandr Ovsianikov, Hendrik Hoffmann, Frank Direr, Ralf Jungmann, Arnaud Gonzet, Olivier M. Dorgham, and Grégory Giannone*

Nano Lett. 2025, 26, 3556–3565 Letter: Article Recommendations
Publication Date (Web): June 12, 2025

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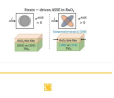

### Collective Electrostatics and Band Alignment in Janus MoSTe Nanotubes

Aditya Dudeshwar*, Tommi Hakl, Nabil Shaik, and Sunlin Shu*

Nano Lett. 2025, 26, 3566–3573 Letter: Article Recommendations
Publication Date (Web): June 13, 2025

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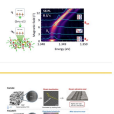

### Thermal Anisotropy Ratio >1000 in Solution-Spun Macroscopic Carbon Nanotube Films

Ogiyan Stefanov, Beomgyun Cho, Junchao Qiharah*, and Geoff Wehmeyer*

Nano Lett. 2025, 26, 3580–3586 Letter: Article Recommendations
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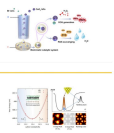

### Lipid Composition Determines Hybrid Nanoparticle Selectivity: Beyond Membrane Mimicry in Cancer Targeting

L. Gonzalo Espinosa-Arias, Mattias Valdés-Pavón, Juan J. de Pablo, Cristian Vilos*, Ricardo A. Zarnioni*, Riccardo Alessandri*, and Francesc Tholey*

Nano Lett. 2025, 26, 3587–3597 Letter: Article Recommendations
Publication Date (Web): June 13, 2025

Abstract | Full Text | PDF
ABSTRACT

### Binary-Soft-Template-Mediated Construction of Fe(OH)$_3$/NiMoFe LDH Heterosonostructures for Nitrate Electroreduction

Hu Zhen Fan, Jia-Wei Zhao, Ting Ting Yin, Gang Zhang, Dong Zhang, Jian-Ding Zhang, Jin-Chen Li, Yan-Meng Fu*, Jing-Jing Tian, Zheng Zheng*, Fu-Qing Tan*, Jun Zhang, and Bin-Hua Yao*

Nano Lett. 2025, 26, 3598–3606 Letter: Article Recommendations
Publication Date (Web): June 16, 2025

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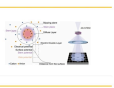

### Strain-Driven Altermagnetic Spin-Splitting Effect in $RuO_2$

Seungjun Lee*, Seung-Gyo Jeong, Jino-Ha Park, Woong-Jhae Jeong, Wooseok Choi, and Tony Low*

Nano Lett. 2025, 26, 3614–3619 Letter: Article Recommendations
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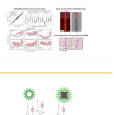

### Disentangling Orbital and Confinement Contributions to g-Factor in GeSiGe Hole Quantum Dots

L. Germanese*, Sandeep C. J. Gabagaa, P. Pandeya, N. M. Hendrickx, L. Sebastian, K. Tsoukalas, A. Sreekumar, C. G. Kelly, D. M. Zumbühl, G. Scappucci, M. Veldhorst, F. Nichele, and F. A. Zwanenburg*

Nano Lett. 2025, 26, 3620–3627 Letter: Article Recommendations
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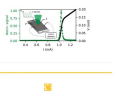

### Spin-Flip Optical Excitations in van der Waals Antiferromagnet $CrPS_4$

Dipankar Jana*, Alejandro Gali, Zdenek Sofer, Milan Orlita, Clement Faugeras, Maria Hoyman, and Marek Potemski*

Nano Lett. 2025, 26, 3628–3633 Letter: Article Recommendations
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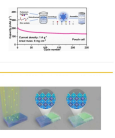

### Alloying-Enabled Phase Selection and Twin-Mediated Plasticity for Ultrahigh-Shear Resistance in Nanocrystalline FeCoNiTi Coatings

Yihao Wang, Zechao Zhuang*, Wang Zhou, Li Wang, Xiaoqiang Liang, Fujing Liu, Yanjin Cao, Hongbin Cui*, Zhengyu Cai, Cheng Miao, and Jian Wang*

Nano Lett. 2025, 26, 3639–3647 Letter: Article Recommendations
Publication Date (Web): June 18, 2025

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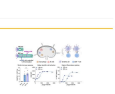

### Biomimetic Catalytic System Mimicking Immune Defense and Tissue Healing for Dynamic Treatment of Skin Infections

Kaili Yang, Jiahao Zhu, Yanwei Hu, Guan Wu, Jia Ye, Heng Dong, Hao Chen*, Jingqing Chen*, and Junhui Zhang*

Nano Lett. 2025, 26, 3648–3657 Letter: Article Recommendations
Publication Date (Web): June 17, 2025

Abstract | Full Text | PDF
ABSTRACT

### Magnetic Phase Transition Induced Electronic Mirage: Decoding the Six-Petal Orbital Texture in Monolayer 1T-$MoBr_2$

Yuhang Zhou, Shengjiao Yao, Kun Dong, Xingxin Liu, Peng Liu, Jian Zhou, Jian Wu, and Qin-Feng Liang*

Nano Lett. 2025, 26, 3658–3665 Letter: Article Recommendations
Publication Date (Web): June 18, 2025

Abstract | Full Text | PDF
ABSTRACT

### Pressure-Driven Dimensional Modulation of Phase Transitions and Superconductivity in Black Phosphorus

Wenjing Cheng, Chenhao Li, Weiming Jin, Qing Wang, Ying Liu*, Cuanhe Zheng, Yaling Ju, Shaohong Wang, Shuwei Wang, Yuki Nakamoto, Hai Chen, Kazuya Shimizu*, Wang Huo*, and Jinlong Zhu*

Nano Lett. 2025, 26, 3666–3673 Letter: Article Recommendations
Publication Date (Web): June 18, 2025

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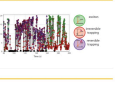

### Enhanced Ni Exsolution in High-Entropy Perovskite Oxides with Broadening of Migration-Reduction Energy Landscapes

Dongqui Kang, Adam Walker, Yuzhou Li, Simon Hawkins, Yifan Wang, and Xiaolei Zhang*

Nano Lett. 2025, 26, 3674–3681 Letter: Article Recommendations
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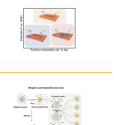

### Wearable Self-Powered Biomedical Smart Sensors Deriving from E-Waste

Wenzhong Li, Jianxin Zhang, Wenxu Zhang, Junin Wan, Xiao Feng, LiChai* Zhang Yang*, Maoqi Duan*, Jundie Hu*, and Nan Zhu*

Nano Lett. 2025, 26, 3682–3690 Letter: Article Recommendations
Publication Date (Web): June 23, 2025

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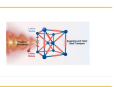

### Atomic-Resolution Mapping of Electric Fields and Strain across Single-Crystalline/Amorphous Interfaces

Jun Zhou, Zaishi Cai, Yuan Meng, Yun Li, Alex V. Trofimov, Wenhuan Xu*, and Xiaoxu Zhao*

Nano Lett. 2025, 26, 3691–3699 Letter: Article Recommendations
Publication Date (Web): June 17, 2025

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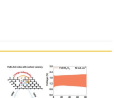

### Nanoscaled Peptide Empowered Tumor Targeting and Programmed Release of a Therapeutic Peptide for Colorectal Cancer Therapy

Zhimei Lu, Yajiao Wei, Shuai Zhang, Shoujie Ma, Zhe Wang, Xiaohui Liu*, Hongqing Ye*, and Hang Li*

Nano Lett. 2025, 26, 3700–3708 Letter: Article Recommendations
Publication Date (Web): June 17, 2025

Abstract | Full Text | PDF
ABSTRACT



### Accurate Determination of Atomic-Level Segregation at the Rare Earth-Doped $Al_2O_3$ Grain Boundary

T. Ishiyama*, S. Ichikawa, Y. Ogata, N. Shibata, Y. Ikuhara, and H. Akamatsu*

Nano Lett. 2025, 26, 3709–3716 Letter: Article Recommendations
Publication Date (Web): June 17, 2025

Abstract | Full Text | PDF
ABSTRACT



### Neutron Scattering Reveals a Dynamic Surface Equilibrium on ↓ or Lecithin-Functionalized CsPbBr$_3$ Nanocrystals

Ivo Nitschke, Lukas Schmidt-Mende, Andrew Jackson, Lorenz Fenner, Christian Dreiß, Olga Matsarskaia, Tobias Unruh, Dorothée Hamaoui, Claire Le Feuvre, Mathieu Bouchet, and Ana Sofia Cruz Cruz Dias*

Nano Lett. 2025, 26, 3725–3731 Letter: Article Recommendations
Publication Date (Web): June 19, 2025

Abstract | Full Text | PDF
ABSTRACT



### Scalable Super-Localization Optical Probing of Individual Josephson Junctions in Superconducting Devices

Mathieu Desoeuvre, Tania Gabet, Jean-Baptiste Tembien, Philippe Tamarat, Alexander Bouzdin, Vladimir Krasnov, and Brahim Lounis*

Nano Lett. 2025, 26, 3737–3743 Letter: Article Recommendations
Publication Date (Web): June 20, 2025

Abstract | Full Text | PDF
ABSTRACT



### Remote $CF_4$ Plasma Fluorination of Graphene for Low-Damage Spin−Orbit Engineering

Chao Guo Lee, Seungchan Shin, Changmin Chia, Seong Jang, Hee-Cheol Choi, and Gil-Ho Lee*

Nano Lett. 2025, 26, 3744–3751 Letter: Article Recommendations
Publication Date (Web): June 19, 2025

Abstract | Full Text | PDF
ABSTRACT



### Electric-Field Switching of Anomalous Hall Effect and Spontaneous Nonlinear Transport in a Ferromagnetic Quasi-Metal

Gabriel Lopez, Rodi Abundiz, Diego Ortiz, Guanglianlu Pando, David Khokhriakov, Chen Luo, Victor Ukleev, Dirgan Makhi, Luis M. Vicente-Arche, Pablo Mora, Sergio Valencia, Andrés Lobrazzani, Agnès Barthélémy, and Manuel Bibes*

Nano Lett. 2025, 26, 3752–3759 Letter: Article Recommendations
Publication Date (Web): June 20, 2025

Abstract | Full Text | PDF
ABSTRACT



### ZnO Quantum Dots Packed with Functional Groups: A Smart Coating Layer for Dendrite-Free Aqueous Zinc-Ion Batteries

Zhuoxin Liu*, Yinjie Hu, Jiaheng Zheng, Kuheng Chen, Lujia Chai, Chenghong Miao, Liang Zhang*, Wenhu Liu, Fujian Chen, Dong Sun, and Kaibo Zhao*

Nano Lett. 2025, 26, 3760–3768 Letter: Article Recommendations
Publication Date (Web): June 17, 2025

Abstract | Full Text | PDF
ABSTRACT



### Focused Ion Beam Milling Reveals the Role of Crystal Planes in Perovskite Self-Healing

Noam Adler, Lothe Kersten, Rai Gil, Shaan Jia, Betty Shalom, Saar Shaek, Emma K. Massaia, Dan Levy, Eatt Hipp, Juan Antonio Zúñiga-Pérez, Ilan Hamel, and Omer Yaffe*

Nano Lett. 2025, 26, 3769–3775 Letter: Article Recommendations
Publication Date (Web): June 17, 2025

Abstract | Full Text | PDF
ABSTRACT



### Large Magnetoresistance in a Si-Based Double-Tunnel Junction with Purely Organic Radical Molecules

Jupatha Barp, Fabio Bruno Baus, Jannis Wolf, Heiko Ohsing, Kazuhiro Marumoto, Fabio Mikopoulos, Carsten Heinrich*, Thomas Heine*, and Thomas Hahn*

Nano Lett. 2025, 26, 3776–3783 Letter: Article Recommendations
Publication Date (Web): June 18, 2025

Abstract | Full Text | PDF
ABSTRACT



### Nanofiber Length Shapes Vaccine Immunity: Mechanistic Insights from M13 Bacteriophage

Shengrui Huang, Allison Mathews, Huixian Peng, Jifu Qi, Ashutosh Kumar, and Angela M. Belcher*

Nano Lett. 2025, 26, 3784–3791 Letter: Article Recommendations
Publication Date (Web): June 19, 2025

Abstract | Full Text | PDF
ABSTRACT



### Evaporation-Induced Phase Transitions in Free-Standing Plasmonic Nanoparticle Assemblies

Chiara Hetrea, Jaime Gabriel Trejo, Eugenio Medda, Ahmad Bachout, Mike Kosta, Jaka Marzina, Rahul Raja, Claire Goldmann, Cesar Pichon, Andrey Chuklin, Nataliya Kryukov-Ozan, Thomas Bizien, Cinzia Giannini*, and Sylke Kemper*

Nano Lett. 2025, 26, 3792–3800 Letter: Article Recommendations
Publication Date (Web): June 19, 2025

Abstract | Full Text | PDF
ABSTRACT



### A High-Throughput Screening Platform for Drug-Induced Physicochemical Perturbations in Multidimensional Model Liposomes

Jongho Lee*, Calder Cox, Seamus Alla, Nazeer Mandine Wanasinghe, Nobito Yoshimoto, Momoka Kawa, Seunghwan Cum, Jaeyeon Kim, Ryan Ramsey, and Dimitri Lorenzato*

Nano Lett. 2025, 26, 3801–3810 Letter: Article Recommendations
Publication Date (Web): June 19, 2025

Abstract | Full Text | PDF
ABSTRACT



### Capillary-Welded Silver Nanowire Networks Enabling Decoupled Multimodal Wearable Sensing and Transparent Electrothermal Heating

Lin Lin Kang, Jin-Seong Park, Jin-Suck Kim*, and Dong-Suk Kim*

Nano Lett. 2025, 26, 3811–3819 Letter: Article Recommendations
Publication Date (Web): June 19, 2025

Abstract | Full Text | PDF
ABSTRACT



### Active Control of Terahertz Transmission via Humidity-Responsive Swelling of Submicron Poly(vinyl alcohol)-Coated Nanoresonators

Hyoung-Taek Lee, Jaekyung Kim, Inseol Lee, Seokho Lee, Hyeong-Keun Park, Hae Jun Eom, and Junsuk Rho*

Nano Lett. 2025, 26, 3820–3828 Letter: Article Recommendations
Publication Date (Web): June 19, 2025

Abstract | Full Text | PDF
ABSTRACT



### In-Plane Conductivity as a Descriptor of Apparent Durability of $RuO_2$ Anodes in PEM Water Electrolysis

Yongjing Ying, Jongho Park, Dong Ji, Hanim Ko, Jongmun Song, Kuaiqiang Zhang, Hyeon Chan, Woohong Zhang, Jin-Chao Dong, and Hongliang Jiang*

Nano Lett. 2025, 26, 3829–3837 Letter: Article Recommendations
Publication Date (Web): June 20, 2025

Abstract | Full Text | PDF
ABSTRACT



### Photocurrent Saturation Mechanisms in Colloidal Quantum Dot Photodetectors

Konrad Ritchers, Yi-Hao Dong, Eizi Hirohamed, Chao Yao, Youchun Zegar Hand*, and Peter Guiegel*

Nano Lett. 2025, 26, 3844–3852 Letter: Article Recommendations
Publication Date (Web): June 17, 2025

Abstract | Full Text | PDF
ABSTRACT



### Unraveling Dynamic Trap-State Modulation in Single Core−Crown CdSe/CdS Nanoplatelets

Guillaume Ballard, Benoît Mahler, Nilfy Geers de Mandilaz, Benjamin Abécassis, Benoît Mahler, and Laurent Coolen*

Nano Lett. 2025, 26, 3853–3859 Letter: Article Recommendations
Publication Date (Web): June 19, 2025

Abstract | Full Text | PDF
ABSTRACT



### Formation of Abundant Quantum Emitters in 2D Lead-Halide Perovskites

Shengnan Fang, Zhen Zhang, Nanxing Yuan, Feng Li, Fengrui Hu, Shuhang Zhang, Min Gu*, and Xiaosong Wang*

Nano Lett. 2025, 26, 3860–3868 Letter: Article Recommendations
Publication Date (Web): June 19, 2025

Abstract | Full Text | PDF
ABSTRACT



### Unraveling the Selectivity of Amidic $CO_2$ Reduction in Cu/Ag Tandem Electrocatalysis

Yi Chen, Ziqiang Yu, Zhizhong Yin, Xia Lu, and Yuanyong Gao*

Nano Lett. 2025, 26, 3869–3877 Letter: Article Recommendations
Publication Date (Web): June 20, 2025

Abstract | Full Text | PDF
ABSTRACT



### Weight-Controllable Biolasecale Probes for Multi-Input Breast Cancer Diagnosis

Rudong Liu, Jiajia Dong, Shiyuan Liu, Xiaohai Yang, Kemin Wang, Hak Soo* Kyung, Dong* Sun Sun*, and Jie Huang*

Nano Lett. 2025, 26, 3878–3886 Letter: Article Recommendations
Publication Date (Web): June 17, 2025

Abstract | Full Text | PDF
ABSTRACT



### Machine Learning Inverse Design Reveals a Double Narrow-Band Absorption Approach for Effective Colored Radiative Cooling Paints

Zhai Fang, Guoliang Hong*, Daniel Cremie, Guang Lin*, and Shalini Rozé*

Nano Lett. 2025, 26, 3887–3894 Letter: Article Recommendations
Publication Date (Web): June 20, 2025

Abstract | Full Text | PDF
ABSTRACT



### Linker Rotational Dynamics as a Hidden Dimension to Suppress and Tailor Heat Transport in Flexible Metal−Organic Frameworks

Chengqiang Yuan, Yue Zhang, Chuanxiao Cheng, Xiaoliang Zhang, Lei Hong*, Yinshong Ye, Junjie Zhou, and Hong-Tao Song*

Nano Lett. 2025, 26, 3895–3903 Letter: Article Recommendations
Publication Date (Web): June 20, 2025

Abstract | Full Text | PDF
ABSTRACT



### Fundamental Efficiency Limits of Transition-Metal Dichalcogenide Solar Cells with Carrier Multiplication and Hot-Carrier Effects

Seongwoo Lee*

Nano Lett. 2025, 26, 3904–3910 Letter: Article Recommendations
Publication Date (Web): June 20, 2025

Abstract | Full Text | PDF
ABSTRACT



### Sulfur-Induced Shape Compliance Modulates Fe Catalyst Agglomeration in Carbon Nanotube Growth

Eugen S. Hosey, Kosuke O. Kato, Jinzhang Liu, and Benito J. Palestino*

Nano Lett. 2025, 26, 3911–3917 Letter: Article Recommendations
Publication Date (Web): June 23, 2025

Abstract | Full Text | PDF
ABSTRACT



### Carbon-Vacancy-Induced Fe Coordination Modulation in FeZn Dual-Atom Sites for Enhanced Bifunctional Oxygen Electrocatalysis

Yu Qu, Tingli Chen, Yuchen Wang, Xiyuan Yang, Haitao Zhang, Meng Wang, Wei Liu, Guozhen Fang, Yu Kong, Qichun Wang, Maoshong Cai, and Yongqing Lan*

Nano Lett. 2025, 26, 3918–3925 Letter: Article Recommendations
Publication Date (Web): June 19, 2025

Abstract | Full Text | PDF
ABSTRACT



### Inexpensive Hydrogen Storage: Propylene to Propane using Plasmonic Photocatalysis

Alison Crystal, Farhad Shiraz, Alexander Alvarez, Matthew Lawson Daku-Gadosu, Alex A. Ahmed, Helen Croft, Shai Dekel, Brian Hardiman*, and Naomi J. Halas*

Nano Lett. 2025, 26, 3926–3933 Letter: Article Recommendations
Publication Date (Web): June 19, 2025

Abstract | Full Text | PDF
ABSTRACT



### Twist-Angle-Controlled Built-In Field Reversal Enables Programmable Self-Powered Photodetection in Low-Symmetry Heterostructures

Zhenqing Ye, Ribiao Hou, Ding Ma, Shaoxin Li, Gao Zhang, Jun Ye, Jian Tian Wang, Dongxian Liu, and Yongqing Liu*

Nano Lett. 2025, 26, 3934–3943 Letter: Article Recommendations
Publication Date (Web): June 20, 2025

Abstract | Full Text | PDF
ABSTRACT

## ADDITIONS AND CORRECTIONS

### Corrections to "Reprogramming Tumor-Associated Macrophages To Reverse EGFR$^{T790M}$ Resistance by Dual-Targeting Codelivery of Saffldrik/Vorinostat"

Haiqin Peng, Binfan Chen, Wei Huang, Yifei Tang, Yifan Jiang, Wenjuan Zhang, and Yanghua Huang*

Nano Lett. 2025, 25, 20, 8191–8202 Addition/Correction Rate This Article
Publication Date (Web): June 18, 2025

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## MASTHEADS

### Issue Editorial Masthead

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