BIN CHEN

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EDUCATION

Arizona State University, Tempe, AZ 2014 – 2018
Ph.D. Materials Science and Engineering

Fuzhou University, China 2010 – 2014
B.Eng. Materials Science and Engineering

RESEARCH EXPERIENCE

Northwestern University, Evanston, IL 2024 – present
Associate Director, TEAMUP Consortium
Research: Tandems for Efficient and Advanced Modules using Ultrastable Perovskites

Northwestern University, Evanston, IL 2022 – present
Research Assistant Professor, Department of Chemistry; Department of Electrical & Computer Engineering
Research: Emerging semiconductors for solar and sensing applications

University of Toronto, Canada 2018 – 2022
Postdoctoral Fellow, Department of Electrical & Computer Engineering
Advisor: Prof. Ted Sargent
Research: Perovskite-based tandem solar cells and quantum dot infrared photodetectors

Arizona State University, Tempe, AZ 2014 – 2018
Graduate Research Associate, School for Engineering of Matter, Transport & Energy
Advisor: Prof. Sefaattin Tongay
Dissertation: Atomic Scale Characterizations of Two-dimensional Anisotropic Materials and Their Heterostructures
Committee Members: Prof. Sefaattin Tongay, Prof. Mariana Bertoni, Prof. Shery Chang

RESEARCH INTERESTS

Our research group is dedicated to designing innovative energy materials and investigating nano-scale processes within these materials and devices. By integrating principles from physics, chemistry, and materials science, we employ advanced microscopy and spectroscopy techniques for detailed characterization. Our goal is to advance energy technologies and contribute to a sustainable future through cutting-edge research and interdisciplinary collaboration.

SELECTED PUBLICATIONS

† equal contribution, * corresponding

17. Li, C.†; Chen, L.†; Jiang, F.†; Song, Z.†; Wang, X.; Ugur, E.; Balvanz, A.; Hu, J.; Park, S.; Maxwell, A.; Chen, H.; Liu, Y.; Wang, Z.; Xia, P.; Li, Y.; Fu, S.; Sun, N.; Grice, C. R.; Wu, X.; Fink, Z.; Zeng, L.; Jung, E.; Wang, J.; Grater, L.; Kopilovic, D.; Luo, D.; Liu, J.; Hu, Q.; Chen, C.; Shen, J.; Han, Y.; Perini, C. A. R.; Correa-Baena, J.; Lu, Z.; Russell, T. P.; De Wolf, S.; Kanatzidis, M. G.; Ginger, D. S.; **Chen, B.***; Yan, Y.*; Sargent, E. H.* A 0-D Barrier Layer Increases Stability in All-Perovskite Tandems. 2024 (submitted)

16. Chen, H.†; Liu, C.†; Xu, J.†; Maxwell, A.†; Zhou, W.†; Yang, Y.; Zhou, Q.; Bati, A. S. R.; Wan, H.; Wang, Z.; Zeng, L.; Wang, J.; Serles, P.; Liu, Y.; Teale, S.; Liu, Y.; Saidaminov, M.; Hoogland, S.; Filleter, T.; Kanatzidis, M. G.; **Chen, B.***; Ning Z*; Sargent, E. H.* Improved charge extraction in inverted perovskite solar cells with dual-site-binding ligands. Science 2024, 384 (6692), 189–193.

15. Xu, J.; Maxwell, A.; Song, Z.; Bati, A. S. R.; Chen, H.; Li, C.; Park, S. M.; Yan, Y.; **Chen, B.***; Sargent, E. H.* The Dynamic Adsorption Affinity of Ligands Is a Surrogate for the Passivation of Surface Defects. Nat. Commun. 2024, 15 (1), 2035.

14. Maxwell, A.†; Chen, H.†; Grater, L.; Li, C.; Teale, S.; Wang, J.; Zeng, L.; Wang, Z.; Park, S. M.; Vafaie, M.; Sidhik, S.; Metcalf, I. W.; Liu, Y.; Mohite, A. D.; **Chen, B.***; Sargent, E. H.* All-Perovskite Tandems Enabled by Surface Anchoring of Long-Chain Amphiphilic Ligands. *ACS Energy Lett.* 2024, 520–527.

13. Yang, Y.†; Liu, C.†; Ding, Y.†; Ding, B.†; Xu, J.†; Liu, A.; Yu, J.; Grater, L.; Zhu, H.; Hadke, S. S.; Sangwan, V. K.; Bati, A. S. R.; Hu, X.; Li, J.; Park, S. M.; Hersam, M. C.; **Chen, B.***; Nazeeruddin, M. K.*; Kanatzidis, M. G.*; Sargent, E. H.* A Thermotropic Liquid Crystal Enables Efficient and Stable Perovskite Solar Modules. *Nat. Energy* 2024, 1–8.

12. Liu, C.†; Yang, Y.†; Chen, H.†; Xu, J.†; Liu, A.†; Bati, A. S. R.; Zhu, H.; Grater, L.; Hadke, S. S.; Huang, C.; Sangwan, V. K.; Cai, T.; Shin, D.; Chen, L. X.; Hersam, M. C.; Mirkin, C. A.; **Chen, B.***; Kanatzidis, M. G.*; Sargent, E. H.* Bimolecularly-passivated interface enables efficient and stable inverted perovskite solar cells, *Science* 2023, 382 (6672), 810–815.

11. Liu, Y.†; Zhu, T.†; Grater, L.†; Chen, H.†; Reis, R.; Maxwell, A.; Cheng, M.; Dong, Y.; Teale, S.; Leontowich, A. F. G.; Kim, C.; Chan, P. T.; Wang, M.; Paritmongkol, W.; Gao, Y.; Park, S.; Xu, J.; Khan, J. I.; Laquai, F.; Walker, G. C.; Dravid, V. P.; **Chen, B.***; Sargent, E. H.* A Three-Dimensional Quantum Dot Network Stabilizes Perovskite Solids via Hydrostatic Strain. *Matter* 2024, 7 (1), 107–122.

10. Chen, H.†; Maxwell, A.†; Li, C.†; Teale, S.†; **Chen, B.†**; Zhu, T.; Ugur, E.; Harrison, G.; Grater, L.; Wang, J.; Wang, Z.; Zeng, L.; Park, S. M.; Chen, L.; Serles, P.; Awni, R. A.; Subedi, B.; Zheng, X.; Xiao, C.; Podraza, N. J.; Filleter, T.; Liu, C.; Yang, Y.; Luther, J. M.; De Wolf, S.; Kanatzidis, M. G.; Yan, Y.; Sargent, E. H. Regulating Surface Potential Maximizes Voltage in All-Perovskite Tandems. *Nature* 2023, 613 (7945), 676–681.

9. Chen, H.†; Teale, S.†; **Chen, B.†**; Hou, Y.†; Grater, L.; Zhu, T.; Bertens, K.; Park, S. M.; Atapattu, H. R.; Gao, Y.; Wei, M.; Johnston, A. K.; Zhou, Q.; Xu, K.; Yu, D.; Han, C.; Cui, T.; Jung, E. H.; Zhou, C.; Zhou, W.; Proppe, A. H.; Hoogland, S.; Laquai, F.; Filleter, T.; Graham, K. R.; Ning, Z.; Sargent, E. H. Quantum-Size-Tuned Heterostructures Enable Efficient and Stable Inverted Perovskite Solar Cells. *Nat. Photonics* 2022, 16 (5), 352–358.

8. **Chen, B.**; Sargent, E. H. What Does Net Zero by 2050 Mean to the Solar Energy Materials Researcher? *Matter* 2022, 5 (5), 1322–1325.

7. **Chen, B.**; Chen, H.; Hou, Y.; Xu, J.; Teale, S.; Bertens, K.; Chen, H.; Proppe, A.; Zhou, Q.; Yu, D.; Xu, K.; Vafaie, M.; Liu, Y.; Dong, Y.; Jung, E. H.; Zheng, C.; Zhu, T.; Ning, Z.; Sargent, E. H. Passivation of the Buried Interface via Preferential Crystallization of 2D Perovskite on Metal Oxide Transport Layers. *Adv. Mater.* 2021, e2103394.

6. Fang, Z.†; Wang, L.†; Mu, X.†; **Chen, B.†**; Xiong, Q.; Wang, W. D.; Ding, J.; Gao, P.; Wu, Y.; Cao, J. Grain Boundary Engineering with Self-Assembled Porphyrin Supramolecules for Highly Efficient Large-Area Perovskite Photovoltaics. *J. Am. Chem. Soc.* 2021.

5. Jung, E. H.†; **Chen, B.†**; Bertens, K.; Vafaie, M.; Teale, S.; Proppe, A.; Hou, Y.; Zhu, T.; Zheng, C.; Sargent, E. H. Bifunctional Surface Engineering on SnO2 Reduces Energy Loss in Perovskite Solar Cells. *ACS Energy Lett.* 2020, 5 (9), 2796–2801.

4. **Chen, B.**; Baek, S.-W.; Hou, Y.; Aydin, E.; De Bastiani, M.; Scheffel, B.; Proppe, A.; Huang, Z.; Wei, M.; Wang, Y.-K.; Jung, E.-H.; Allen, T. G.; Van Kerschaver, E.; García de Arquer, F. P.; Saidaminov, M. I.; Hoogland, S.; De Wolf, S.; Sargent, E. H. Enhanced Optical Path and Electron Diffusion Length Enable High-Efficiency Perovskite Tandems. *Nat. Commun.* 2020, 11 (1), 1257.

3. Manekkathodi, A.†; **Chen, B.†**; Kim, J.; Baek, S.-W.; Scheffel, B.; Hou, Y.; Ouellette, O.; Saidaminov, M. I.; Voznyy, O.; Madhavan, V. E. Solution-Processed Perovskite-Colloidal Quantum Dot Tandem Solar Cells for Photon Collection beyond 1000 Nm. *Journal of Materials Chemistry A* 2019, 7 (45), 26020–26028.

2. **Chen, B.**; Wu, K.; Suslu, A.; Yang, S.; Cai, H.; Yano, A.; Soignard, E.; Aoki, T.; March, K.; Shen, Y. Controlling Structural Anisotropy of Anisotropic 2D Layers in Pseudo-1D/2D Material Heterojunctions. *Adv. Mater.* 2017, 29 (34), 1701201.

1. **Chen, B.**; Sahin, H.; Suslu, A.; Ding, L.; Bertoni, M. I.; Peeters, F.; Tongay, S. Environmental Changes in MoTe2 Excitonic Dynamics by Defects-Activated Molecular Interaction. *ACS nano* 2015, 9 (5), 5326–5332.

FUNDING SUPPORT

Pending Research

2. DE-FOA-0003308
   U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy
   $250,000
   01/2025 – 12/2025
   Deciphering and Enhancing Interfacial Stability in Advanced Perovskite Solar Cells
   Role: Principal Investigator

1. OSR-5624
   King Abdullah University of Science and Technology
   $350,000
   02/2024 – 01/2026
   All-Perovskite Tandem Solar Cells
   Role: Senior Personnel

Current Research

4. Translation and Incubation Fund
   Trienens Institute for Sustainability and Energy
   $100,000
   01/2024 – 12/2024
   Stable perovskite solar cells with cost-effective bilayer metal oxides as electron transport layers
   Role: Principal Investigator

3. Seed Funding Initiative
   Center for Engineering Sustainability and Resilience
   $80,000
   02/2024 – 8/2025
   Introducing AC Photo-Hall Method: Separating Electron/Hole Mobilities in Perovskite Photovoltaics
   Role: Co-Principal Investigator

2. DE-EE0010502
   U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy
   $9,000,000
   09/2023 – 08/2026

TEAMUP: Tandems for Efficient and Advanced Modules using Ultrastable Perovskites
Role: Senior Personnel

1. HR001122S0044-SNAP-FP-009
U.S. Department of Defense, Defense Advanced Research Projects Agency
$10,000,000
08/2023 – 07/2027
SYNCED: Interfacing Synthetic Biology with Electrochemical Detectors for Smart Non-Invasive Assays of Physiology
Role: Senior Personnel

Completed Research

2. N00014-20-1-2572
U.S. Department of the Navy, Office of Naval Research
$480,000
08/2020 – 07/2023
Wide-bandgap perovskites for efficient, stable tandems
Role: Senior Personnel

1. OSR-2020-CRG9-4350.2
King Abdullah University of Science and Technology, Office of Sponsored Research
$600,000
04/2021 – 03/2024
SOLSTICE: Solar-driven Circular Carbon Enabled by Perovskite/Perovskite/Si Triple-Junction Tandems
Role: Senior Personnel

PATENTS

2. US and Canadian Patent: A Surface Treatment Method to Passivate Inverted Structure Perovskite Solar Cells

1. US Provisional Patent: Perovskite Solar Cells With Dual Site Binding Ligands

CONFERENCES AND PRESENTATIONS

17. Invited talk at 4th tandemPV Workshop, June 2024
16. Oral presentation at MRS fall meeting, November 2023
15. Session chair for MRS fall meeting, November 2023
14. Invited talk at Physics Seminar Series UC Merced, October 2023
13. Invited talk at 2nd Northwestern/Muenster Symposium on Smart Materials, August 2023
12. Organizer for ACS Fall meeting symposium: Organic, Perovskite and Hybrid Solar (raised $5000 sponsorship for the symposium), August 2023
11. Oral presentation at PVSC 50th, June 2023
10. Invited talk at Homeland Defense & Security Information Analysis Center, April 2023
9. Invited talk at APS March meeting, March 2023
8. Invited talk at EcoMat Webinar: Perovskite Materials for Photovoltaic and Optoelectronic Applications, January 2023
7. Invited talk at Lawrence Symposium on Epitaxy, Arizona State University, January 2023
6. Invited talk at Zhejiang University, June 2022

5. Invited talk at KAUST Research Conference: 2022 Accelerating Solar Energy Research towards meeting Vision 2030 Goals, May 2022
4. Invited talk at ICFO – UofT – Stanford International School on the Frontiers of Light, October 2021
3. Invited talk at MRS Spring Meeting, April 2021
2. Poster presentation at MRS Spring Meeting, March 2017
1. Poster presentation at MRS Spring Meeting, March 2016

TEACHING AND MENTORING

Instructor at Kellogg and the Querrey InQbation Lab 2024
I teach the one-quarter Independent Study course, the Kellogg – Q Lab Entrepreneurial Residency. This course allows MBA students to be embedded in Northwestern research centers, providing structured entry points into cutting-edge technology areas and offering exposure to cross-disciplinary research.

Instructor for Independent Study (399) at Weinberg College of Arts and Sciences 2024
I teach the on-quarter Independent Study course on optoelectronics, where I am responsible for developing the syllabus and providing guidance to the enrolled undergraduate students. This course offers students opportunities to build fundamental knowledge and explore research trends in the literature.

Perovskite Photovoltaic Research Group Leader 2019 – 2022
I manage a team of over 15 members focusing on perovskite photovoltaics research. My responsibilities include mentoring on specific research projects, conceptualizing manuscripts, writing grant proposals, and preparing grant reports.

Lecturer (simulated) 2019
At the Teaching in Higher Education course at the University of Toronto, I developed my syllabus on "Two-dimensional semiconductor materials and systems" and taught in simulated classes.

ACADEMIC AND SOCIAL SERVICE

Journal reviewer 2016 – present
Science, Nature, Nature Energy, Journal of the American Chemical Society, Nature Communications, Advanced Materials, Matter, Advanced Energy Materials, ACS Nano, ACS Photonics, Advanced Science, Chemical Science, ACS Applied Materials & Interfaces, Journal of Applied Physics, Journal of Photovoltaics, Journal of Physics D: Applied Physics, Journal of Physics: Condensed Matter, 2D Materials, Nanotechnology

Proposal reviewer 2023 – present
Natural Sciences and Engineering Research Council of Canada, ACS Petroleum Research Fund

HONORS AND AWARDS

1. Highly Cited Researcher in the field of Cross-Field - 2023 (Clarivate)

ALL PUBLICATIONS

117. Chen, H.; Liu, C.; Xu, J.; Maxwell, A.; Zhou, W.; Yang, Y.; Zhou, Q.; Bati, A. S. R.; Wan, H.; Wang, Z.; Zeng, L.; Wang, J.; Serles, P.; Liu, Y.; Teale, S.; Liu, Y.; Saidaminov, M. I.; Li, M.; Rolston, N.; Hoogland, S.; Filleter, T.; Kanatzidis, M. G.; **Chen, B.***; Ning, Z.*; Sargent, E. H.* Improved Charge Extraction in Inverted Perovskite Solar Cells with Dual-Site-Binding Ligands. Science 2024, 384 (6692), 189–193.
116. Morteza Najarian, A.; Vafaie, M.; **Chen, B.**; García de Arquer, F. P.; Sargent, E. H. Photophysical Properties of Materials for High-Speed Photodetection. Nature Reviews Physics 2024, 1–12.

115. Xu, J.; Maxwell, A.; Song, Z.; Bati, A. S. R.; Chen, H.; Li, C.; Park, S. M.; Yan, Y.; **Chen, B.***; Sargent, E. H.* The Dynamic Adsorption Affinity of Ligands Is a Surrogate for the Passivation of Surface Defects. Nat. Commun. 2024, 15 (1), 2035.

114. Maxwell, A.; Chen, H.; Grater, L.; Li, C.; Teale, S.; Wang, J.; Zeng, L.; Wang, Z.; Park, S. M.; Vafaie, M.; Sidhik, S.; Metcalf, I. W.; Liu, Y.; Mohite, A. D.; **Chen, B.***; Sargent, E. H.* All-Perovskite Tandems Enabled by Surface Anchoring of Long-Chain Amphiphilic Ligands. ACS Energy Lett. 2024, 520–527.

113. Yang, Y.; Liu, C.; Ding, Y.; Ding, B.; Xu, J.; Liu, A.; Yu, J.; Grater, L.; Zhu, H.; Hadke, S.; Sangwan, V.; Bati, A. S. R.; Hu, X.; Li, J.; Park, S. M.; Hersam, M.; **Chen, B.***; Nazeeruddin, M.*; Kanatzidis, M. G.*; Sargent, E. H.*A Thermotropic Liquid Crystal Enables Efficient and Stable Perovskite Solar Modules. Nat. Energy 2024, 1–8.

112. Xu, F.; Aydin, E.; Liu, J.; Ugur, E.; Harrison, G. T.; Xu, L.; Vishal, B.; Yildirim, B. K.; Wang, M.; Ali, R.; Subbiah, A. S.; Yazmaciyan, A.; Zhumagali, S.; Yan, W.; Gao, Y.; Song, Z.; Li, C.; Fu, S.; **Chen, B.**; ur Rehman, A.; Babics, M.; Razzaq, A.; De Bastiani, M.; Allen, T. G.; Schwingenschlögl, U.; Yan, Y.; Laquai, F.; Sargent, E. H.; De Wolf, S. Monolithic Perovskite/Perovskite/Silicon Triple-Junction Solar Cells with Cation Double Displacement Enabled 2.0 eV Perovskites. Joule 2024, 8 (1), 224–240.

111. Liu, Y.†; Zhu, T.†; Grater, L.†; Chen, H.†; Reis, R.; Maxwell, A.; Cheng, M.; Dong, Y.; Teale, S.; Leontowich, A. F. G.; Kim, C.; Chan, P. T.; Wang, M.; Paritmongkol, W.; Gao, Y.; Park, S.; Xu, J.; Khan, J. I.; Laquai, F.; Walker, G. C.; Dravid, V. P.; **Chen, B.***; Sargent, E. H.* A Three-Dimensional Quantum Dot Network Stabilizes Perovskite Solids via Hydrostatic Strain. Matter 2024, 7 (1), 107–122.

110. Wang, J.; Zeng, L.; Zhang, D.; Maxwell, A.; Chen, H.; Datta, K.; Caiazzo, A.; Remmerswaal, W. H. M.; Schipper, N. R. M.; Chen, Z.; Ho, K.; Dasgupta, A.; Kusch, G.; Ollearo, R.; Bellini, L.; Hu, S.; Wang, Z.; Li, C.; Teale, S.; Grater, L.; **Chen, B.**; Wienk, M. M.; Oliver, R. A.; Snaith, H. J.; Janssen, R. A. J.; Sargent, E. H. Halide Homogenization for Low Energy Loss in 2-eV-Bandgap Perovskites and Increased Efficiency in All-Perovskite Triple-Junction Solar Cells. Nat. Energy 2023, 1–11.

109. Xu, J.; Chen, H.; Grater, L.; Liu, C.; Yang, Y.; Teale, S.; Maxwell, A.; Mahesh, S.; Wan, H.; Chang, Y.; **Chen, B.**; Rehl, B.; Park, S. M.; Kanatzidis, M. G.; Sargent, E. H. Anion Optimization for Bifunctional Surface Passivation in Perovskite Solar Cells. Nat. Mater. 2023, 1–8.

108. Liu, C.†; Yang, Y.†; Chen, H.†; Xu, J.†; Liu, A.†; Bati, A. S. R.; Zhu, H.; Grater, L.; Hadke, S. S.; Huang, C.; Sangwan, V. K.; Cai, T.; Shin, D.; Chen, L. X.; Hersam, M. C.; Mirkin, C. A.; **Chen, B.***; Kanatzidis, M. G.*; Sargent, E. H.* Bimolecularly-passivated interface enables efficient and stable inverted perovskite solar cells, Science 2023, 382 (6672), 810–815.

107. Park, S. M.; Wei, M.; Lempesis, N.; Yu, W.; Hossain, T.; Agosta, L.; Carnevali, V.; Atapattu, H. R.; Serles, P.; Eickemeyer, F. T.; Shin, H.; Vafaie, M.; Choi, D.; Darabi, K.; Jung, E. D.; Yang, Y.; Kim, D. B.; Zakeeruddin, S. M.; **Chen, B.**; Amassian, A.; Filleter, T.; Kanatzidis, M. G.; Graham, K. R.; Xiao, L.; Rothlisberger, U.; Grätzel, M.; Sargent, E. H. Low-Loss Contacts on Textured Substrates for Inverted Perovskite Solar Cells. Nature 2023, 1–3.

106. Zhu, H.; Teale, S.; Lintangpradipto, M. N.; Mahesh, S.; **Chen, B.**; McGehee, M. D.; Sargent, E. H.; Bakr, O. M. Long-Term Operating Stability in Perovskite Photovoltaics. Nat. Rev. Mater. 2023, 1–18.

105. Park, S. M.; Wei, M.; Xu, J.; Atapattu, H. R.; Eickemeyer, F. T.; Darabi, K.; Grater, L.; Yang, Y.; Liu, C.; Teale, S.; **Chen, B.**; Chen, H.; Wang, T.; Zeng, L.; Maxwell, A.; Wang, Z.; Rao, K. R.; Cai, Z.; Zakeeruddin, S. M.; Pham, J. T.; Risko, C. M.; Amassian, A.; Kanatzidis, M.

G.; Graham, K. R.; Grätzel, M.; Sargent, E. H. Engineering Ligand Reactivity Enables High-Temperature Operation of Stable Perovskite Solar Cells. Science 2023, 381 (6654), 209–215.

104. Grater, L.; Wang, M.; Teale, S.; Mahesh, S.; Maxwell, A.; Liu, Y.; Park, S. M.; **Chen, B.**; Laquai, F.; Kanatzidis, M. G.; Sargent, E. H. Sterically Suppressed Phase Segregation in 3D Hollow Mixed-Halide Wide Band Gap Perovskites. J. Phys. Chem. Lett. 2023, 14 (26), 6157–6162.

103. Wang, Z.; Zeng, L.; Zhu, T.; Chen, H.; **Chen, B.**; Kubicki, D. J.; Balvanz, A.; Li, C.; Maxwell, A.; Ugur, E.; Dos Reis, R.; Cheng, M.; Yang, G.; Subedi, B.; Luo, D.; Hu, J.; Wang, J.; Teale, S.; Mahesh, S.; Wang, S.; Hu, S.; Jung, E. D.; Wei, M.; Park, S. M.; Grater, L.; Aydin, E.; Song, Z.; Podraza, N. J.; Lu, Z.-H.; Huang, J.; Dravid, V. P.; De Wolf, S.; Yan, Y.; Grätzel, M.; Kanatzidis, M. G.; Sargent, E. H. Suppressed Phase Segregation for Triple-Junction Perovskite Solar Cells. Nature 2023, 618 (7963), 74–79.

102. Ugur, E.; Aydin, E.; De Bastiani, M.; Harrison, G. T.; Yildirim, B. K.; Teale, S.; **Chen, B.**; Liu, J.; Wang, M.; Seitkhan, A.; Babics, M.; Subbiah, A. S.; Said, A. A.; Azmi, R.; Rehman, A. ur; Allen, T. G.; Schulz, P.; Sargent, E. H.; Laquai, F.; De Wolf, S. Front-Contact Passivation through 2D/3D Perovskite Heterojunctions Enables Efficient Bifacial Perovskite/Silicon Tandem Solar Cells. Matter 2023.

101. Li, T.; Xu, J.; Lin, R.; Teale, S.; Li, H.; Liu, Z.; Duan, C.; Zhao, Q.; Xiao, K.; Wu, P.; **Chen, B.**; Jiang, S.; Xiong, S.; Luo, H.; Wan, S.; Li, L.; Bao, Q.; Tian, Y.; Gao, X.; Xie, J.; Sargent, E. H.; Tan, H. Inorganic Wide-Bandgap Perovskite Subcells with Dipole Bridge for All-Perovskite Tandems. Nat. Energy 2023, 8 (6), 610–620.

100. Lee, M. G.; Li, X.-Y.; Ozden, A.; Wicks, J.; Ou, P.; Li, Y.; Dorakhan, R.; Lee, J.; Park, H. K.; Yang, J. W.; **Chen, B.**; Abed, J.; dos Reis, R.; Lee, G.; Huang, J. E.; Peng, T.; Chin, Y.-H.; Sinton, D.; Sargent, E. H. Selective Synthesis of Butane from Carbon Monoxide Using Cascade Electrolysis and Thermocatalysis at Ambient Conditions. Nat. Catal. 2023, 6 (4), 310–318.

99. Luo, M.; Ozden, A.; Wang, Z.; Li, F.; Erick Huang, J.; Hung, S.-F.; Wang, Y.; Li, J.; Nam, D.-H.; Li, Y. C.; Xu, Y.; Lu, R.; Zhang, S.; Lum, Y.; Ren, Y.; Fan, L.; Wang, F.; Li, H.-H.; Appadoo, D.; Dinh, C.-T.; Liu, Y.; **Chen, B.**; Wicks, J.; Chen, H.; Sinton, D.; Sargent, E. H. Coordination Polymer Electrocatalysts Enable Efficient CO-to-Acetate Conversion. Adv. Mater. 2023, 35 (10), e2209567.

98. Li, C.; Wang, X.; Bi, E.; Jiang, F.; Park, S. M.; Li, Y.; Chen, L.; Wang, Z.; Zeng, L.; Chen, H.; Liu, Y.; Grice, C. R.; Abudulimu, A.; Chung, J.; Xian, Y.; Zhu, T.; Lai, H.; **Chen, B.**; Ellingson, R. J.; Fu, F.; Ginger, D. S.; Song, Z.; Sargent, E. H.; Yan, Y. Rational Design of Lewis Base Molecules for Stable and Efficient Inverted Perovskite Solar Cells. Science 2023, 379 (6633), 690–694.

97. Luo, L.; Zeng, H.; Wang, Z.; Li, M.; You, S.; **Chen, B.**; Maxwell, A.; An, Q.; Cui, L.; Luo, D.; Hu, J.; Li, S.; Cai, X.; Li, W.; Li, L.; Guo, R.; Huang, R.; Liang, W.; Lu, Z.-H.; Mai, L.; Rong, Y.; Sargent, E. H.; Li, X. Stabilization of 3D/2D Perovskite Heterostructures via Inhibition of Ion Diffusion by Cross-Linked Polymers for Solar Cells with Improved Performance. Nat. Energy 2023, 8 (3), 294–303.

96. Zhu, T.; Teale, S.; Grater, L.; Vasileiadou, E. S.; Sharir-Smith, J.; **Chen, B.**; Kanatzidis, M. G.; Sargent, E. H. Coupling Photogeneration with Thermodynamic Modeling of Light-Induced Alloy Segregation Enables the Discovery of Stabilizing Dopants. arXiv [cond-mat.mtrl-sci], 2023.

95. Chen, H.; Maxwell, A.; Li, C.; Teale, S.; **Chen, B.**; Zhu, T.; Ugur, E.; Harrison, G.; Grater, L.; Wang, J.; Wang, Z.; Zeng, L.; Park, S. M.; Chen, L.; Serles, P.; Awni, R. A.; Subedi, B.; Zheng, X.; Xiao, C.; Podraza, N. J.; Filleter, T.; Liu, C.; Yang, Y.; Luther, J. M.; De Wolf, S.; Kanatzidis, M. G.; Yan, Y.; Sargent, E. H. Regulating Surface Potential Maximizes Voltage in All-Perovskite Tandems. Nature 2023, 613 (7945), 676–681.

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