Kun-Han Lin

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Education/Career:

2022/8-Now. Assistant Professor, Dept. of Chemical Engineering, National Tsing Hua University
2020-2022 Post-doctoral researcher, Max Planck Institute for Polymer Research, Germany
2016-2020 Ph.D., Doctoral Program in Chemistry and Chemical Engineering, EPFL
2013-2015 M.S., Dept. Materials Science and Engineering, National Taiwan University
2008-2012 B.S., Dept. Materials Science and Engineering, National Taiwan University

Research Expertise

Multiscale simulations; Materials and molecular design; Charge and energy transport in organic semiconductors; Electrocatalysis and photocatalysis

Representative Publications

(1) C.-F. Lu, Y.-C. Huang, L.-Y. Lin, **K.-H. Lin***, Y.-J. Cheng* et al., Side-Chain-Modulated Charge Transport Polarity in Curved Ortho-Benzodipyrrole-Based Acceptors for High-Performance Organic Photovoltaics and Transistors. *Chem. Mater.*, 2025, ASAP.

(2) T.-F. Huang, K.-J. Lin, **K.-H. Lin***, H.-H. Chou* et al., Flexible, nonfused sulfone functionalized polymer with enhanced active site access for photocatalytic sacrificial hydrogen evolution. *Sci. Adv.*, 2025, 11, eadx1629.

(3) T.-H. Lin, **K.-H. Lin***, S.-Y. Lu* et al., 3-d Element Induced Charge Redistribution Within Bimetallic η-Phase Carbides Leads to High Performance Electrocatalysts for Highly Efficient Anion Exchange Membrane Water Electrolysis. *Small*, 2025, e11280.

(4) C.-W. Chang, **K.-H. Lin***, S.-Y. Lu* et al., High performance anion exchange membrane water electrolysis driven by atomic scale synergy of non-precious high entropy catalysts. *Energy Mater.*, 2025, 5, 500117.

(5) H.-K. Chang, C.-C. Huang, P.-R. Wu, **K.-H. Lin***, M. Horie*, Linear and cyclic multi-dithienylethene molecules: Synthesis, photochromism, photothermal conversion, and computational study. *Mater. Today Chem.*, 2025, 45, 102663.

(6) W.-C. Lin, **K.-H. Lin***, U-S. Jeng*, S.-D. Yang*, H.-H. Chou* et al., Optimally Miscible Polymer Bulk-Heterojunction-Particles for Nonsurfactant Photocatalytic Hydrogen Evolution. *J. Am. Chem. Soc.*, 2025, 147, 2537.

(7) Z. X. Law, **K.-H. Lin***, D.-H. Tsai*, Efficient integration of calcium looping with methane bi-reforming using Pd-enhanced Ni-CaO dual functional nanomaterials. 2024, *Chem. Eng. J.*, 500, 157302.

(8) S.-C. Lin, **K.-H. Lin***, T.-H. Yang* et al., Decreasing the O_2-to-H_2O_2 Kinetic Energy Barrier on Dilute Binary Alloy Surfaces with Controlled Configurations of Isolated Active Atoms. *Adv. Funct. Mater.*, 2024, 34, 2314281.

(9) X. Wu, **K.-H. Lin***, Paul J. Dyson* et al., Controlling the selectivity of the hydrogenolysis of polyamides catalysed by ceria-supported metal nanoparticles. *Nat. Commun.*, 2023, 14, 6524.

(10) **K.-H. Lin***, L. Paterson, F. May, D. Andrienko*, Glass transition temperature prediction of disordered molecular solids. *npj Comput. Mater.*, 2021, 7, 179.