BRIAN LEE

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EDUCATION

University of Texas at Austin August 2022 - present
Ph.D Student in Material Science and Engineering

Texas A&M University August 2018 - December 2021
B.S in Chemistry

EXPERIENCE

Graduate Researcher September 2022 - present
The University of Texas at Austin, Texas Materials Institute

- Analyzed Na-compound properties in solid-electrolyte interphases using first principles calculations
- Utilized software tools, such as QuantumESPRESSO and WIEN2k, for performing simulations
- Developed and refined a solid understanding of Na-ion battery systems

Chemist - American Biochemicals January 2022 - April 2022
College Station, TX

- Synthesized various custom organic compounds
- Purified organic compounds to meet specific customer requirements

Undergraduate Research Assistant - Fang Group June 2021 - December 2021
Texas A&M University, Department of Chemistry

- Researched superwettable surfaces using dual-purpose ZnO nanotetrapods
- Optimized parameters to design a mechanically/chemically robust superhydrophobic surface
- Investigated various approaches to develop surfaces capable of emulsion separation

Aggie Research Scholar - Sukhishvili Group January 2021 - May 2021
Texas A&M University, Department of Materials Science and Engineering

- Worked in a team of 4 to research the effects of pH on star polymer growth
- Developed star polymer films via layer-by-layer deposition
- Analyzed thickness of modified silicon films using ellipsometry and visualized results using Excel

PUBLICATION

- Li, C.; **Lee, B.**; Wang, C.; Bajpayee, A.; Douglas, L. D.; Phillips, B. K.; Yu, G.; Rivera-Gonzalez, N.; Peng, B.; Jiang, Z.; Sue, H.-J.; Banerjee, S.; Fang, L. Photopolymerized Superhydrophobic Hybrid Coating Enabled by Dual-Purpose Tetrapodal ZnO for Liquid/Liquid Separation. *Materials Horizons*, 2022. https://doi.org/10.1039/d1mh01672e.

TECHNICAL STRENGTHS

Software & Tools VASP, WIEN2k, QuantumESPRESSO, Python, MATLAB, LaTeX, Bash

Lab Techniques Chromatography (TLC, GC, HPLC),
Spectroscopy (FT-IR, UV-Vis, NMR, MS)