

Publications:

19. **Wu, Yuchen**, Zahra Gandhi, Daniel Rossi, Wen Guo, Xuhong Chen, Fernando Gomez, Tian Lu, Joseph P. Smith, James Z. Deng & Zhan Chen. (2025). Investigating Interfacial Interactions between Adjuvant and Antigens in Pneumococcal Conjugate Vaccine in Situ at the Molecular Level. (*Under Review by Analytical Chemistry*).
18. **Wu, Yuchen**[&], Rossi, Daniel[&], Guangyao Wu, David Bilby, Andrew “Bean” Getsoian, Nathan J. Kempema, and Zhan Chen. "In Operando and Ex Situ Investigation of the Formation and Aging Processes of SEI/CEI C–H Chemistry in Liquid Electrolyte Lithium-Ion Batteries." *The Journal of Physical Chemistry Letters* 16 (2025): 2759-2763.
17. Labrague, Gladwin Bryan, **Yuchen Wu**, Elizabeth Santos, Dongchan Ahn, Xiaoyun Chen, Frédéric Gubbels, Tzu-Chi Kuo, and Zhan Chen. "Investigating the Molecular Behaviors of Titanium Catalyst and Silane Cross-Linker at the Buried Silicone Interface." *Langmuir* (2025).
16. Johnson, Trace, Jayani Mawela, **Yuchen Wu**, Haci Osman Guevenc, Andreas Klipp, Rohini Gupta, Sabine Hirth, and Zhan Chen. "Rapid Octadecylphosphonic Acid Self-Assembled Monolayer Formation on Cu for Etch Inhibition: Characterizations Using Sum Frequency Generation Vibrational Spectroscopy." *Langmuir* 41, no. 8 (2025): 5467-5476.
15. **Wu, Yuchen**, Daniel Rossi, Gladwin Labrague, Ruiheng Li, Elizabeth Santos, Dongchan Ahn, Xiaoyun Chen et al. "Environmental Effects on the Interfacial Chemical Reactions at RTV Silicone–Silica Interfaces." *Langmuir* 40, no. 49 (2024): 26303-26313.
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13. Rossi, Daniel, Yifan Dong, Rajesh Paradkar, Xiaoyun Chen, **Yuchen Wu**, Carol Mohler, Tzu-Chi Kuo, and Zhan Chen. "Quantifying chemical reactions and interfacial properties at buried polymer/polymer interfaces." *Langmuir* 40, no. 24 (2024): 12689-12696.
12. **Wu, Yuchen**, Ting Lin, Elizabeth Santos, Dongchan Ahn, Ryan Marson, Pranab Sarker, Xiaoyun Chen et al. "Molecular behavior of silicone adhesive at buried polymer interface studied by molecular dynamics simulation and sum frequency generation vibrational spectroscopy." *Soft Matter* 20, no. 24 (2024): 4765-4775.
11. Lin, Ting, **Yuchen Wu**, Elizabeth Santos, Xiaoyun Chen, Frederic Gubbels, Nick Shephard, Carol Mohler, Dongchan Ahn, Tzu-Chi Kuo, and Zhan Chen. "Elucidating the Changes in Molecular Structure at the Buried Interface of RTV Silicone Elastomers during Curing." *Langmuir* 40, no. 11 (2024): 5968-5977.
10. **Wu, Yuchen**, Tianle Wang, Jonathan D. B. Fay, Lu Zhang, Sabine Hirth, Jeanne Hankett, Zhan Chen, Silane Effects on Adhesion Enhancement of 2K Polyurethane Adhesives. *Langmuir* 39, no. 51(2023): 19015-19026

9. Rossi, Daniel, **Yuchen Wu**, Rajesh Paradkar, Yifan Dong, Xiaoyun Chen, Christopher J. Tucker, Carol Mohler, Tzu-Chi Kuo, and Zhan Chen. "In Situ Observation of Chemical Reactions at Buried Solid/Solid Interfaces in Coextruded Multilayer Polymer Films." *Industrial & Engineering Chemistry Research* (2023), 62(35): 13880-13888.
8. Gao, Jinpeng, Peter Stengel, Tieyi Lu, **Yuchen Wu**, Dustin D. Hawker, Keith E. Gutowski, Jeanne M. Hankett, Matthias Kellermeier, and Zhan Chen. "Antiadhesive Copolymers at Solid/Liquid Interfaces: Complementary Characterization of Polymer Adsorption and Protein Fouling by Sum Frequency Generation Vibrational Spectroscopy and Quartz-Crystal Microbalance Measurements with Dissipation Monitoring." *Langmuir* 39, no. 34 (2023): 12270-12282.
7. **Wu, Yuchen**, Tianle Wang, Jinpeng Gao, Lu Zhang, Jonathan DB Fay, Sabine Hirth, Jeanne Hankett, and Zhan Chen. "Molecular Behavior of 1K Polyurethane Adhesive at Buried Interfaces: Plasma Treatment, Annealing, and Adhesion." *Langmuir* 39, no. 9 (2023): 3273-3285.
6. Andre, John S., Najae Escoffery, Nathan W. Ulrich, **Yuchen Wu**, Wen Guo, Mengshijie Yang, John Myers, and Zhan Chen. "Ultraviolet light-sensitive debonding layer for reducing adhesion of polymer adhesives for recycling." *The Journal of Physical Chemistry C* 126, no. 44 (2022): 18907-18917.
5. Gao, Jinpeng, Md Rubel Khan, **Yuchen Wu**, Dustin D. Hawker, Keith E. Gutowski, Rupert Konradi, Lukas Mayr, Jeanne M. Hankett, Matthias Kellermeier, and Zhan Chen. "Probing interfacial behavior and antifouling activity of adsorbed copolymers at solid/liquid interfaces." *Langmuir* 39, no. 13 (2023): 4557-4570.
4. Lin, Ting, **Yuchen Wu**, Elizabeth Santos, Xiaoyun Chen, Jack Kelleher-Ferguson, Chris Tucker, Dongchan Ahn, Carol Mohler, and Zhan Chen. "Probing covalent interactions at a silicone adhesive/nylon interface." *Langmuir* 38, no. 8 (2022): 2590-2600.
3. Lin, Ting, **Yuchen Wu**, Elizabeth Santos, Xiaoyun Chen, Dongchan Ahn, Carol Mohler, and Zhan Chen. "Molecular insights into adhesion at a buried silica-filled silicone/polyethylene terephthalate interface." *Langmuir* 36, no. 49 (2020): 15128-15140.
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