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Ph.D. Student in Chemistry, admitted Autumn 2023

Publications

PUBLICATIONS

- **Water Droplet Microlightning Enables Catalyst-Free Alkane Dehydrogenation under Ambient Conditions** *ACS SUSTAINABLE CHEMISTRY & ENGINEERING*
He, Y., Xu, J., Lyu, L., Xia, Y., Zare, R. N., Meng, Y.
2026
- **Biomolecular condensates mediate C-N bond formation** *NATURE CHEMICAL BIOLOGY*
Song, X., Ma, Y., Chen, M. W., Yu, W., Yan, X., Xu, J., Lyu, L., Hyman, A. A., Dai, Y., Zare, R. N.
2026
- **Mapping Cell Metabolic States by Image-Enabled Gating Metabolomic Cytometry.** *Analytical chemistry*
He, Y., Ren, Z., Chen, X., Lyu, L., Liu, Z., He, W., Zheng, X., Huang, G.
2026
- **Biomolecular Condensates Power Nitrogen Cycling via Concurrent Redox Activities.** *Journal of the American Chemical Society*
Song, X., Lyu, L., Li, C., Ma, Y., Zhou, Y., Dai, Y., Zare, R. N.
2026
- **Dark Reactions in Microdroplets Explain Widespread Artifacts in Metabolomic Profiling** *ACS MEASUREMENT SCIENCE AU*
Song, X., Xu, J., Sun, C., Lyu, L., Kui, H., Zhang, R., Abliz, Z., Zare, R. N.
2026
- **Comment on "An Alternative Explanation for Ions Put Forth as Evidence for Abundant Hydroxyl Radicals Formed Due to the Intrinsic Electric Field at the Surface of Water Droplets".** *Analytical chemistry*
Xu, J., Song, X., Lyu, L., Zhang, X., Zare, R. N.
2025
- **Intrinsic Electric Field Triggers Phenol Oxidative Degradation at Microbubble Interfaces.** *Journal of the American Chemical Society*
Xu, J., Song, X., Lu, Y., Lyu, L., Basheer, C., Zare, R. N.
2025
- **Anion- π interaction-induced phase separation as a prebiotic pathway to oxygenation.** *Proceedings of the National Academy of Sciences of the United States of America*
Ren, X., Song, X., Lyu, L., Chen, M. W., Zare, R. N., Dai, Y.
2025; 122 (39): e2508804122
- **Nondestructive Metabolic Monitoring of Living Organisms by Water-Droplet Extraction and Contact-Free Electrospray Ionization Mass Spectrometry.** *Analytical chemistry*
He, Y., Chen, X., Lyu, L., Zare, R. N., Huang, G.
2025
- **Clarifying the Identity of the m/z 36 Ion in Water Microdroplet Mass Spectra.** *The journal of physical chemistry. A*
Song, X., Lyu, L., Xu, J., Xing, D., Zhang, X., Zare, R. N.
2025