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Publications

PUBLICATIONS

- **Multi-Analytical Characterization and Taxonomic Distinction of Australian Plant Exudates** *ANALYTICAL SCIENCE ADVANCES*
  Vogelsang, S. A., Paredes-Mellone, O., Georgiou, R., Gardezi, S., McDonald, J., Sokaras, D., Popelka-Filcoff, R. S., Bergmann, U.
  2026; 7 (2)

- **Understandingthe Electronic Structure of RutheniumOxides during Redox Cycling with High Energy Resolution X-rayAbsorption Spectroscopy** *JOURNAL OF PHYSICAL CHEMISTRY LETTERS*
  Kim, R., Mellone, O., Vinson, J., Garcia-Esparza, A. T., Liu, M., Chris-Okoro, I., Cherono, S., Zhao, E., Ding, Y., Li, H., Zhang, L., Hautier, G., Cuk, et al
  2026

- **Deciphering decomposition pathways of high explosives with cryogenic X-ray Raman spectroscopy.** *Proceedings of the National Academy of Sciences of the United States of America*
  Paredes Mellone, O. A., Nielsen, M. H., Babicz, J. T., Vinson, J., Willey, T. M., Sokaras, D.
  2025; 122 (23): e2426320122

- **Reaction Mechanism of the Synthesis of a Disordered Rock Salt Cathode Material** *CHEMISTRY OF MATERIALS*
  Liang, Z., Marques, O., Mellone, O., Masina, S. M., Cao, C. L., Sokaras, D., Weker, J., Stone, K. H.
  2025

- **Platinum hydride formation during cathodic corrosion in aqueous solutions.** *Nature materials*
  Hersbach, T. J., Garcia-Esparza, A. T., Hanselman, S., Paredes Mellone, O. A., Hoogenboom, T., McCrum, I. T., Anastasiadou, D., Feaster, J. T., Jaramillo, T. F., Vinson, J., Kroll, T., Garcia, A. C., Krtil, et al
  2025

- **Tracking Active Phase Behavior on Boron Nitride during the Oxidative Dehydrogenation of Propane Using Operando X-ray Raman Spectroscopy.** *Journal of the American Chemical Society*
  Cendejas, M. C., Paredes Mellone, O. A., Kurumbail, U., Zhang, Z., Jansen, J. H., Ibrahim, F., Dong, S., Vinson, J., Alexandrova, A. N., Sokaras, D., Bare, S. R., Hermans, I.
  2023

- **The Local Electronic Structure of Supercritical CO2 from X-ray Raman Spectroscopy and Atomistic-Scale Modeling.** *The journal of physical chemistry letters*
  Muhunthan, P., Paredes Mellone, O., Kroll, T., Sokaras, D., Ihme, M.
  2023: 4955-4961

- **Investigating the electronic structure of high explosives with X-ray Raman spectroscopy.** *Scientific reports*
  Paredes-Mellone, O. A., Nielsen, M. H., Vinson, J., Moua, K., Skoien, K. D., Sokaras, D., Willey, T. M.
  2022; 12 (1): 19460

- **Local Structure of Sulfur Vacancies on the Basal Plane of Monolayer MoS2.** *ACS nano*
  Garcia-Esparza, A. T., Park, S., Abroshan, H., Paredes Mellone, O. A., Vinson, J., Abraham, B., Kim, T. R., Nordlund, D., Gallo, A., Alonso-Mori, R., Zheng, X., Sokaras, D.
  2022

- **X-ray spectroscopic identification of strain and structure-based resonances in a series of saturated carbon-cage molecules: Adamantane, twistane, octahedrane, and cubane** *JOURNAL OF VACUUM SCIENCE & TECHNOLOGY A*

Willey, T. M., Lee, J. R., Brehmer, D., Mellone, O., Landt, L., Schreiner, P. R., Fokin, A. A., Tkachenko, B. A., de Meijere, A., Kozhushkov, S., van Buuren, A. W.
2021; 39 (5)

- **Dynamic Structure Factor and Dielectric Function of Valence Electrons in Lithium Hydride: An Inelastic X-Ray Scattering Study at Finite Momentum Transfer** *PHYSICA STATUS SOLIDI B-BASIC SOLID STATE PHYSICS*
  Paredes-Mellone, O. A., Koskelo, J., Ceppi, S. A., Stutz, G. E.
  2020; 257 (6)
- **Li 1s core exciton in LiH studied by x-ray Raman scattering spectroscopy** *JOURNAL OF PHYSICS-CONDENSED MATTER*
  Paredes-Mellone, O. A., Stutz, G. E., Ceppi, S. A., Arneodo Larochette, P., Huotari, S., Gilmore, K.
  2019; 31 (5): 055501
- **Background radiation in inelastic X-ray scattering and X-ray emission spectroscopy. A study for Johann-type spectrometers** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*
  Paredes Mellone, O. A., Bianco, L. M., Ceppi, S. A., Goncalves Honnicke, M., Stutz, G. E.
  2018; 894: 119-128