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Dear Prof. Ignacio González-Martínez

I am excited to submit the manuscript entitled “Combination of molecular and elemental mass spectrometry for the structural characterization of a DNA-protein cross-links” for your consideration and possible publication at the special issue of the Journal of the Mexican Chemical Society “Modern analytical chemistry in interdisciplinary research” with Katarzyna Wrobel as the guest editor.

The fundamental knowledge of many biologically related processes is hard to obtain at the molecular level, given the immense complexity of living systems. For this reason the finest tools of analytical chemistry are needed in creative approaches to shed light on some of the most important of these processes. In this research paper we aimed to contribute to the study of DNA-Protein Crosslinks, by using a realistic model involving a genomic DNA strand and a DNase protein, which will naturally interact in many cells on a very controlled way. As a source of this really important DNA lesion, UV light was used, while for the purification and structural analysis of the adducts, a combination of chromatographic methods with atomic and molecular mass spectrometry detection was implemented. As a result, a newly reported structure was found. This approach can be widely applied to many other DNA lesions induced by different toxicants.

This work is the result of a multi-disciplinary contribution of my lab with Dr. Edward Merino’s lab at the University of Cincinnati. The list of authors is: Jiawei Gong, Morwena J. Solivio, Edward J. Merino, and Julio A. Landero-Figueroa. This is an original research work, never submitted for publication before. All the authors declare no conflict of interest of any kind. As corresponding author I accept the responsibility of including as co-authors all persons appropriate and none inappropriate for this work.

Sincerely,

A handwritten signature in blue ink, appearing to be 'JLF', with a large, sweeping flourish underneath.

Julio Landero-Figueroa
Assistant Professor of Research