

PUBLICACIONES CIENTÍFICAS 2023

GRUPO DE ESPECTROSCOPIA ANALÍTICA Y SENSORES (GEAS)

How to trust size distributions obtained by single particle inductively coupled plasma mass spectrometry analysis.

Ana Cristina Giménez, Khaoula Ben-Jeddou, Josefina Pérez-Arantegui, M. Sierra Jiménez, Eduardo Bolea, Francisco Laborda (GEAS)

Analytical and Bioanalytical Chemistry, 415(11), 2101-2112 (2023)

Comparative study of extraction methods of silver species from faeces of animals fed with silver-based nanomaterials.

M. Sierra Jiménez, Mariam Bakir, Khaoula Ben-Jeddou, Eduardo Bolea, Josefina Pérez-Arantegui, Francisco Laborda (GEAS)

Microchimica Acta, 190, 204 (2023)

Detection, quantification, and characterization of polystyrene microplastics and adsorbed bisphenol A contaminant using electroanalytical techniques.

Juan Carlos Vidal, Javier Midón, Ana B. Vidal, Dragos Ciomaga, Francisco Laborda (GEAS) Microchimica Acta, 190, 203 (2023)

Improving the detectability of microplastics in river waters by single particle inductively coupled plasma mass spectrometry.

Celia Trujillo, Josefina Pérez-Arantegui, Ryszard Lobinski, Francisco Laborda (GEAS)

Nanomaterials, 13(10), 1582 (2023)

Catching particles by atomic spectrometry: Benefits and limitations of single particle - inductively coupled plasma mass spectrometry.

Francisco Laborda, Isabel Abad, M. Sierra Jiménez, Eduardo Bolea (GEAS) Spectrochimica

Acta-Part b Atomic Spectroscopy, 199, 106570 (2023)

Screening for antibiotics and their degradation products in surface and wastewaters of the POCTEFA territory by solid-phase Extraction-UPLC-Electrospray MS/MS.

Sebastiano Gozzo, Samuel Moles, Katarzyna Kinska, María P. Ormad, Rosa Mosteo, Jairo Gómez, Francisco Laborda, Joanna Szpunar (GEAS)

Water, 15(1), 14 (2023)

GRUPO UNIVERSITARIO DE INVESTIGACIÓN ANALÍTICA (GUIA)

Combination of Structure Databases, In Silico Fragmentation, and MS/MS Libraries for Untargeted Screening of Non-Volatile Migrants from Recycled High-Density Polyethylene Milk Bottles.

Qi-Zhi Su, Paula Vera, Cristina Nerín (GUIA)

Analytical Chemistry, 95, 8780-8788 (2023)

Development of a Quantitative Colour-Based Software Method to Evaluate the Effectiveness of Active Antioxidant Packaging on Fresh Sliced Mushrooms.

Magdalena Wrona, Davinson Pezo, Jesús Salafranca, Cristina Nerín, Alexander Ihler (GUIA)

Applied Sciences, 13(1), 301 (2023)

Innovative Surface-Enhanced Raman Spectroscopy Method as a Fast Tool to Assess the Oxidation of Lipids in Ground Pork.

Magdalena Wrona, Juliette Lours, Jesús Salafranca, Catherine Joly, Cristina Nerín (GUIA)

Applied Sciences, 13(9), 5533 (2023)

Advances in sample preparation of environmental solid matrices.

Cristina Nerín, Jesús Salafranca, Celia Domeño (GUIA)

Comprehensive Sampling and Sample Preparation (Second edition), pp. 783-796. Editor Janusz Pawliszyn, Elsevier. ISBN 9780123813749 (2023)

Migration of contaminants from printed masks for children to saliva simulant using liquid chromatography coupled to ion mobility-time of flight-mass spectrometry and gas chromatography-mass spectrometry.

Elena Canellas, Paula Vera, Cristina Nerín, Nicola Dreolin, Jeff Goshawk (GUIA)

Ecotoxicology and Environmental Safety, 267, 115644 (2023)

A vision for safer food contact materials: Public health concerns as drivers for improved testing.

Jane Muncke, Anna-Maria Andersson, Thomas Backhaus, Scott M. Belcher, Justin M. Boucher, Bethanie Carney Almroth, Terrence J. Collins, Birgit Geueke, Ksenia J. Groh, Jerrold J. Heindel, Frank A. von Hippel, Juliette Legler, Maricel V. Maffini, Olwenn V. Martin, John Peterson Myers, Angel Nadal, Cristina Nerin, Ana M. Soto, Leonardo Trasande, Laura N. Vandenberg, Martin Wagner, Lisa Zimmermann, R. Thomas Zoeller, Martin Scheringer (GUIA)

Environment International, 180, 108161 (2023)

Application of Ion Mobility Spectrometry and the Derived Collision Cross Section in the Analysis of Environmental Organic Micropollutants.

Xuechao Song, Elena Canellas, Nicola Dreolin, Jeff Goshawk, Meilin Mv, Guangbo Qu, Cristina Nerín, Guibin Jiang (GUIA)

Environmental Science and Technology, 57, 21485-21502 (2023)

Phenolic compounds profile of macerates of different edible parts of carob tree (*Ceratonia siliqua* L.) using UPLC-ESI-Q-TOF-MSE: Phytochemical screening and biological activities.

Sabrina Djebari, Magdalena Wrona, Cristina Nerín, Ouarda Djaoudene, Sara Guemouni, Asma Boudria, Khodir Madani (GUIA)

Fitoterapia, 172, 105696 (2023)

***Pistacia lentiscus* L. vegetable oil: physicochemical quality, composition and antibacterial capacity.**

Sabrina Djebari, Magdalena Wrona, Asma Boudria, Khodir Madani, Cristina Nerin (GUIA)

Flavour and Fragrance Journal, 38(6), 426-441 (2023)

Antibiofilm activity of LAE (ethyl lauroyl arginate) against food-fungi and its application in polystyrene surface coating.

Raquel Becerril, Marianna Precone, Cristina Nerin (GUIA) Food

Microbiology, 113, 104284 (2023)

A study on the migration of primary aromatic amines in packaged açai-based (*Euterpe oleracea* Mart.) products.

Luis Eduardo Silva Nascimento, Magdalena Wrona, Wellington da Silva Oliveira, Cristina Nerín, Helena Teixeira Godoy (GUIA)

Food Packaging and Shelf-Life, 38, 101118 (2023)

Antioxidant activity of coatings containing eugenol for flexible aluminium foils to preserve food shelf-life.

Elena Orlo, Cristina Nerín, Margherita Lavorgna, Magdalena Wrona, Chiara Russo, Mariamelia Stanzione, Roberta Nugnes, Marina Isidori (GUIA)

Food Packaging and Shelf-Life, 39, 101145 (2023)

Characterization of Volatile Organic Compounds in Food Contact Paperboards and Elucidation of their Potential Origins from the Perspective of the Raw Materials.

Hanke Li, Lichang Chen, Xuefeng Wu, Siliang Wu, Qi-zhi Su, Ben Dong, Dan Li, Tongmei Ma, Huaining Zhong, Xiaohui Wang, Jianguo Zheng, Cristina Nerín (GUIA)
Food Packaging and Shelf Life, 37, 101062 (2023)

Determination of volatile migrants from breast milk storage bags.

Margarita Aznar, Celia Domeño, Celia, Cristina Nerin (GUIA)
Food Packaging and Shelf Life, 40, 101196 (2023)

Migration of volatile substances from recycled high density polyethylene to milkproducts.

Paula Vera, Elena Canellas, Qi-Zhi Su, Daniel Mercado, Cristina Nerín (GUIA)
Food Packaging and Shelf Life, 35, 101020 (2023)

New active packaging based on encapsulated carvacrol, with emphasis on its odour masking strategies.

Magdalena Wrona, Sofia Manso, Filomena Silva, Leticia Cardoso, Jesús Salafranca, Cristina Nerín, María José Alfonso, Miguel Ángel Caballero (GUIA)
Food Packaging and Shelf Life, 40, 101177 (2023)

Poly lactide-Based Films Incorporated with Berberine—Physicochemical and Antibacterial Properties.

Ewa Olewnik-Kruszkowska, Magdalena Gierszewska, Magdalena Wrona, Agnieszka Richert, Anna Rudawska (GUIA)
Foods, 12(1), 91 (2023)

Ultra-high performance liquid chromatography coupled to ion mobility quadrupole time-of-flight mass spectrometry for the identification of non-volatile compounds migrating from 'natural' dishes.

Magdalena Wrona, Ana Román, Xue-Chao Song; Cristina Nerín, Nicola Dreolin, Jeff Goshawk, Esther Asensio (GUIA)
Journal of Chromatography A, 1691, 463836 (2023)

Combination of response surface methodology and UPLC-QTOF-MSE for phenolic compounds analysis from Cinnamomum cassia bark as a novel antifungal agent.

Kenza Bedjaoui, Amine Belbahi, Farid Dahmoune, Sabrina Djebari, Magdalena Wrona, Cristina Nerin, Hana Soualah-alila, Nassime Nabet, Ourdia-Nouara Kernou, Khodir Madani (GUIA)
Journal of Food Measurement and Characterization, 17, 2805-2820 (2023)

Optimization of Washing Parameters to Minimize the Degradation of Poly(lactic acid) Using Design of Experiments: A Contribution to the Recycling Chain.

Robert Paiva, Magdalena Wrona, Edenir Rodrigues Pereira-Filho, Sandra Andrea Cruz (GUIA)
Journal of Polymers and the Environment, 35, 101020 (2023)

Evaluation the Potential of Onion/Laponite Composites Films for Sustainable Food Packaging with Enhanced UV Protection and Antioxidant Capacity.

Maciel L. Barbosa, Leticia M. De Oliveira, Robert Paiva, Alessandra C. Dametto, Diogenes dos S. Dias, Clovis A. Ribeiro, Magdalena Wrona, Cristina Nerín, Hernane ds S. Barud, Sandra Andrea Cruz(GUIA)
Molecules, 28(19), 6829 (2023)

Migration of packaging and labelling components and advances in analytical methodology supporting exposure assessment.

Cristina Nerín, Elena Canellas, Paula Vera (GUIA)
Present Knowledge in Food Safety, Chapter 14, pp. 218-239, Editors: Michael E. Knowles, Lucia Anelich, Alan Boobis, Bert Popping. Elsevier. ISBN 9780128194706 (2023)

LABORATORIO DE ANÁLISIS DE AROMA Y ENOLOGÍA (LAAE)

A method for the quantitative and reversible trapping of sulfidic gases from headspaces and its application to the study of wine reductive off-odors.

Vicente Ferreira, Diego Sánchez, Ignacio Ontañón (LAAE)
Food Chemistry, 421, 136092 (2023)

Combination of SPE and fluorescent detection of AQC-derivatives for the determination of sub-mg/L levels of biogenic amines in dairy products.

Marta Moniente, Laura Botello, Diego García, Raquel Virto, Rafael Pagán, Vicente Ferreira, Ignacio Ontañón (LAAE)
Food Research International, 165, 112448 (2023)

Pervaporation of the low ethanol content extracting stream generated from the dealcoholization of red wine by membrane osmotic distillation.

Joaquín Coronas, Javier Esteras, Óscar de la Iglesia, Izumi Kumakiri; Cristina Peña, Ana Escudero, Carlos Téllez (LAAE)
Journal of Industrial and Engineering Chemistry, 122, 231-240 (2023)

Natural versus conventional production of Spanish white wines: an exploratory study.

M. Pilar Saenz-Navajas, Carlota Sánchez, Marivel González-Hernández, Mónica Bueno, Cristina Peña, Purificación Fernández Z, Jordi Ballester, Eva Parga, Pablo Alonso González (LAAE)
Journal of the Science of Food and Agriculture, 103(7), 3540-3549 (2023)

Optimization and Validation of a Method to Determine Enolones and Vanillin Derivatives in Wines—Occurrence in Spanish Red Wines and Mistelles.

Mónica Bueno, Julián Zapata, Laura Culleré, Ernesto Franco, Arancha de la Fuente, Vicente Ferreira (LAAE)
Molecules, 28(10), 4228 (2023)

Sensory dimensions derived from competitive and creative perceptual interactions between fruity ethyl esters and woody odorants in wine-like models.

Arancha de la Fuente, M. Pilar Sáenz-Navajas, Jordi Ballester, Ernesto Franco, Dominique Valentin, Vicente Ferreira (LAAE)
OENO One, 57, 2 (2023)

GRUPO DE INVESTIGACIÓN DE MÉTODOS DE ANÁLISIS RÁPIDOS (MARTE)

Gold Nanoparticle Delivery to Solid Tumors by Macrophage Depletion, Hypoxia Inhibition, and Collagen Degradation.

Christy Maksoudian, Mukaddes Izci, Robbe Salembier, Irati Perez, Filipa Roque, Carla Rios, Eduardo Bolea, Frank Vanhaecke, Bella B Manshian, Stefaan J Soenen (MARTE)
ACS Applied Nano Materials, 6, 7605-7618 (2023)

The Efficacy of Nanoparticle Delivery to Hypoxic Solid Tumors by cRGD Co-Administration Depends on Neuropilin-1 and Neutrophil Levels.

Mukaddes Izci, Christy Maksoudian, Filipa Gonçalves, Irati Pérez, Carla Rios, Eduardo Bolea, Frank Vanhaecke, Bella B Manshian, Stefaan J Soenen (MARTE)
Advanced Healthcare Materials, 12(24), 2300594 (2023)

Laser Ablation for Nondestructive Sampling of Microplastics in Single-Particle ICP-Mass Spectrometry.

Thibaut Van Acker, Ana Rua, Frank Vanhaecke, Eduardo Bolea (MARTE)
Analytical Chemistry, 50, 18579-18586 (2023)

Photothermal nanofibers enable macromolecule delivery in unstimulated human T cells

Dominika Berdecka, Manon Minsart, Tao Lu, Deep Punj, Riet De Rycke, Mina Nikolić, Eduardo Bolea, Frank Vanhaecke, Ranhua Xiong, Stefaan C. De Smedt, Peter Dubruel, Winnok H. De Vos, Kevin Braeckmans (MARTE)
Applied Materials Today, 35, 101991 (2023)

Serum Mg isotopic composition reveals that Mg dyshomeostasis remains in type 1 diabetes despite the resolution of hypomagnesemia.

Kaj Vaughan Sullivan, Yasmina Assantuh, Rosa Grigoryan, Marta Costas, Eduardo Bolea, Bruno Lapauw, Steven Van Laecke, Frank Vanhaecke (MARTE)
International Journal of Molecular Sciences, 24(21), 15683 (2023)

Cu fractionation, isotopic analysis, and data processing via machine learning: new approaches for the diagnosis and follow up of Wilson's disease via ICP-MS.

M Carmen García, Sylvain Bérail, Anne Laure Ronzani, Luis Rello, Elena García, Flávio V Nakadi, Maite Aramendía, Javier Resano, Martín Resano, Christophe Pécheyran (MARTE)
Journal of Analytical Atomic Spectrometry, 38, 229-242 (2023)

Electrochemically assisted production of biogenic palladium nanoparticles for the catalytic removal of micropollutants in wastewater treatment plants effluent.

Cindy Ka y Law, Kankana Kundu, Luiza Bonin, Lorena Peñacoba, Eduardo Bolea-Fernandez, Frank Vanhaecke, Korneel Rabaey, Abraham Esteve, Bart De Gussemme, Nico Boon (MARTE)
Journal of Environmental Sciences, 128, 203-212 (2023)

The influence of H₂ partial pressure on biogenic palladium nanoparticle production assessed by single-cell ICP-mass spectrometry.

Cindy Ka y Law, Eduardo Bolea, Tong Liu, Luiza Bonin, Elien Wallaert, Kim Verbeken, Bart De Gussemme, Frank Vanhaecke, Nico Boon (MARTE)
Microbial Biotechnology, 16 (5), 901-914 (2023)

An Approach Based on an Increased Bandpass for Enabling the Use of Internal Standards in Single Particle ICP-MS: Application to AuNPs Characterization.

Antonio Bazo, Maite Aramendía, Flávio V. Nakadi, Martín Resano (MARTE) Nanomaterials, 13(12), 1838 (2023)

Isotope Dilution Analysis for Particle Mass Determination Using Single-Particle Inductively Coupled Plasma Time-of-Flight Mass Spectrometry: Application to Size Determination of Silver Nanoparticles.

Maite Aramendía, Diego Leite, Javier Resano, Martín Resano, Kharmen Billimoria, Heidi Goenaga (MARTE)
Nanomaterials, 13 (17), 2392 (2023)

Results of an interlaboratory comparison for characterization of Pt nanoparticles using single-particle ICP-TOFMS.

Lyndsey Hendriks, Robert Brünjes, Sara Taskula, Jovana Kocic, Bodo Hattendorf, Garret Bland, Gregory Lowry, Eduardo Bolea, Frank Vanhaecke, Jingjing Wang, Mohammed Baalousha, Marcus von der Au, Björn Meermann, Timothy Ronald, Stephan Wagner, Stasia Harycki, Alexander Gundlach, Frank von der Kammer (MARTE)
Nanoscale, 15, 11268-11279 (2023)

Inductively coupled plasma mass spectrometry.

Thibaut Van Acker, Sarah Theiner, Eduardo Bolea-Fernandez, Frank Vanhaecke, Gunda Koellensperger (MARTE)
Nature Reviews Methods Primers, 3, 52 (2023)

GRUPO DE NANOSENSORES Y SISTEMAS BIOANALÍTICOS (N&B)

Enzymatically mediated fluorescent copper nanocluster generation for tyramine determination.

Javier Camacho, Susana de Marcos, Marta Pericás, Javier Galbán (N&SB) Analytical And Bioanalytical Chemistry, 415(11), 2037-2044 (2023)

Portable colorimetric enzymatic disposable biosensor for histamine and simultaneous histamine/tyramine determination using a smartphone.

Isabel Sanz, Irina Rivero, Lucía Marcuello, M. Pilar Montano, Susana de Marcos, Javier Galbán (N&SB) Analytical And Bioanalytical Chemistry, 415, 1777-1786 (2023)

A cyclometalated N-heterocyclic carbene and acetylacetonate ligands in phosphorescence

Irene Melendo, Javier Camacho, Sareh Pazireh, Sara Fuertes, Antonio Martín, Susana de Marcos, Javier Galbán, Violeta Sicilia (N&SB)
Dyes and Pigments, 219, 111630 (2023)

Automated multiple development.

Luis Membrado, Vicente Cebolla, Carmen Jarne, Rosa Garriga, Pierre Bernard-Savary, Jesús Vela (N&SB)
Instrumental Thin-Layer Chromatography (Second Edition). Handbooks in Separation Science, chapter 4, pp. 81-110. Editor Colin F. Poole. Elsevier. ISBN 978-0-323-99970-0 (2023)

Gradient high-performance thin-layer chromatography for characterizing complex hydrocarbon-containing products.

Carmen Jarne, Vicente Cebolla, Luis Membrado, José Manuel Escuín, Jesús Vela (N&SB). Journal of Planar Chromatography-Modern TLC, 36, 335-349 (2023)

In situ enzymatic generation of Au/Pt nanoparticles as an analytical photometric system: proof of concept determination of tyramine.

Javier Camacho, Susana de Marcos, Carlos Felices, Javier Galbán (N&SB)
Microchimica Acta, 190, 114 (9), 2023

Tectomer-mediated optical nanosensors for tyramine determination.

Mario Domínguez, Sofía Oliver, Rosa Garriga, Edgar Muñoz, Vicente Cebolla, Susana de Marcos, Javier Galbán (N&SB)
Sensors, 23 (5), 2524 (2023)

QUÍMICA Y MEDIO AMBIENTE (QMA)

Determination of Cyanide at Trace Levels by Computational Scanning Densitometry.

Waheed-Uz-Zaman, Muhammad Salman, Umar Farooq, Amara Dar, Isma Haq, Tahira Burhan, Jamil Anwar, Jesús Manuel Anzano, Umer Shafique (QMA)
Current Analytical Chemistry, 19(6), 466-471, (2023)

From multi to single-particle analysis: a seasonal spectroscopic study of airborne particulate matter in Zaragoza.

César Marina, Elisa Abás, Juan Buil, Jesús Anzano (QMA)
Talanta, 259, 124550, 2023

OTROS

Remote Activation of Enzyme Nanohybrids for Cancer Prodrug Therapy Controlled by Magnetic Heating.

Beatriz Torres, Iliaria Armenia, Maria Alleva, Laura Asín, Sonali Correa, Cecilia Ortiz, Yilian Fernández, Lucía Gutiérrez, Jesús M de la Fuente, Lorena Betancor, Valeria Grazú
ACS Nano, 17, 13, 12358–12373 (2023)

Optimization of iron oxide nanoparticles for MRI-guided magnetic hyperthermia tumorthrapy: reassessing the role of shape in their magnetocaloric effect.

Jose Maria Paez, Francisco Gámez, Yilian Fernández, Roberto Gallardo, Manuel Pernia, Lucía Gutiérrez, Jesús M de la Fuente, Carlos Caro, María Luisa García
Journal of Materials Chemistry B, 11, 11110-11120 (2023)