Part A. PERSONAL INFORMATION

CV date	2023-10-20

First and Family name	ELIZALDE RUIZ DE LARRAMENDI, MARIA		
Social Security, Passport, ID number		Age	67
Researcher numbers	Researcher ID		
	Author ID		
	ORCID code	0000-0001-9128-4472	

A.1. Current position

Name of University/Institution	UNIVERSITY OF THE BASQUE COUNTRY		
Department	ANALYTICAL CHEMISTRY		
Address and Country	PO BOX 644, 48080 BILBAO, SPAIN		
Phone number		E-mail	maria.elizalde@ehu.eus
Current position	PROFESSOR	From	1997
UNESCO code	2301		
Key words	Liquid-liquid extraction, Hydrometallurgy, Environmental analysis, Migration of contaminants from food packaging		

A.2. Education

Degree/PhD	University	Year
CHEMISTRY DEGREE	UNIVERSITY OF THE BASQUE COUNTRY	1978
CHEMISTRY PhD	UNIVERSITY OF THE BASQUE COUNTRY	1983

A.3. JCR articles, h Index, thesis supervised…

6 Sexenios de investigación (Six-year periods).
Thesis supervised in the last 10 years: Director of 2 PhD Thesis
Total publications in the last 10 years: 15

Part B. CV SUMMARY *(max. 3500 characters, including spaces)*

Teaching experience: 40 years teaching in Chemistry, Biochemistry and Biotechnology Degrees at the University of the Basque Country (UPV/EHU). Tutor of Chemistry and Environmental Sciences of the UNED University at Bizkaia from 1997.

Research experience

Over the first years after PhD, the research was mainly focussed on environmental studies for metal recovery by liquid-liquid extraction, studying the thermodynamics and kinetics of solvent extraction processes.

The identification and analysis by chromatography and electrochemistry of commercial extractants containing active components and modifiers, as well as their aggregation and interaction reactions in organic solvents was also afforded.

The metal separation studies were finally extended to the use of ion exchangers as well as supported membranes and emulsion membranes techniques.

In the last years two research fields were started. The first one, focussed on the analysis of contaminants in wastes, and the second one on the migration of contaminants from recycled paper and paperboard materials to food simulants and foods as well as the migration of components from food contact materials derived from biorenewable resources

The results are reflected in the direction/codirection of 26 research projects, the presentation of 81 congress communications and the publication of 90 articles in international journals.

Part C. RELEVANT MERITS

C.1. Publications

Extractant characterization:
G. Germain, J.P. Declercq, J.M. Castresana, M.P. Elizalde, J.M. Arrieta. **4-methyl -N-8-quinolybenzenesulphonamide, C16H14N2O2S. The active component of LIX 34**.

Acta Crystallographica C39 230-232, 1983

M.P. Elizalde, J.M. Castresana, M. Aguilar, M. Cox. **On the interactions of metal extractant reagents. II. The aggregation of chelatings extractants in toluene**
Chemica Scripta 25, 300- 304, 1985

J.M. Castresana, M.P. Elizalde, , M. Aguilar, M. Cox. **Spectrophotometric determination of the acidity constants of 4-methylphenyl-N-8-quinolinylbenzenesulphonamide**
Chemica Scripta 26 325- 329, 1986

M. Huebra, M.P. Elizalde, J. M. Castresana. **Electrochemical study of chelating extractants: LIX 34**
Journal of Electroanalysis, 6, 785-790, 1994

A. Almela, M.P. Elizalde, B. Menoyo. **The interactions of metal extractant reagents. VI. Aggregation equilibria of Cyanex 302 and SPAN-80 in toluene**
Journal of Solution Chemistry 23(6) 685-696, 1994

I. Alava, M.P. Elizalde, M.M. Huebra. **Electrochemical study of the industrial extractant LIX 54**
Analyst 120, 1069-1072, 1995

B. Menoyo, M.P. Elizalde. C**omponent analysis of the commercial metal extractant cyanex 302 by GC-MS**
Analytical Sciences 18, 141-146, 2002

B. Menoyo, M.P. Elizalde. **Composition of Cyanex 301 by gas chromatography-mass spectrometry**
Solvent Extraction and Ion Exchange 20(1) Páginas, inicial: 35 final: 47 Fecha: 2002

B. Menoyo, M.P. Elizalde. **Determination of the degradation compounds formed by the oxidation of thiophosphinic acids and phosphine sulphides with nitric acid**
Analytical Sciences18(7) 799-804, 2002

A. Ocio, M.P. Elizalde, J.A. Prieto. **Determination of 5-dodecylsalicylaldoxime and 5-nonylsalicylaldoxime in commercial extractants by high.performance liquid chromatography with photometric detection**
Journal of Chromatography A 1032 129-133, 2004

M. S. Rúa, A. Almela, M. P. Elizalde. **Aggregation equilibria of the components of the commercial extractants LIX622 and LIX622N in toluene and n-heptane**
Fluid Phase Equilibria, 244, 111-116, 2006

B. Menoyo, A. Ocio, M. P. Elizalde. **Identification of components of commercial alkylsalicylaldoxime based reagents by GC-MS**
Chromatographia, 65, 35-44, 2007

Metal extraction processes

M.P. Elizalde, J.M. Castresana, L.A. Fernández, E. Astigarraga. **On the extraction with long chain amines. XXXVII. The extraction of lead(II) by trilaurylamine and trilaurylammonium, tri-n-octylammonium and tri-n-hexylammonium chlorides dissolved in benzene**
Polyhedron 6(3), 563- 569, 1987

J.M. Castresana, M.P. Elizalde, , M. Aguilar, M. Cox. **Synergic extraction of cobalt(II) with mixtures of 4-methylphenyl-N-8-quinolinylbenzenesulphonamide and neutralorganophosphorus compounds**
Analytica Chimica 198, 315-318, 1987

A. Almela, M.P. Elizalde. **Solvent Extraction of cadmium(II) from acidic media by Cyanex 302 in toluene**
Hydrometallurgy 37, 231-241, 1995

A. Almela, M. Huebra, M.P. Elizalde, B. Menoyo . **Copper extraction by 4-chloro-N-8-quinolinylbenzenesulphonamide dissolved in toluene**
Journal of Chemical Technology and Biotechnology, 79, 299-305, 2004

A. Andrade, M.P. Elizalde. **Synergistic extraction of Ni(II) by LIX 860 and bis(2-ethylhexyl)phosphoric acid**
Solvent Extraction and Ion Exchange, 23(1), 985-999, 2005

M. P. Elizalde, A. Ocio, A. Andrade, B. Menoyo . **Synergistic extraction of Cobalt(II) by mixtures of bis-(2-ethylhexyl)phosphoric acid and LIX 860**
Solvent Extraction and Ion Exchange, 31, 269 -280, 2013

M. P. Elizalde, B. Menoyo, A. Ocio, M. S. Rúa . **Palladium extraction from nitric acid solutions by LIX 34**
Journal of Chemical Technology and Biotechnology, 89(6), 884-889, 2014

M. P. Elizalde, M. Sol Rúa, B. Menoyo, A. Ocio. Copper extraction from acidic chloride solutions by LIX 84
Hydrometallurgy, 183, 213-220, 2019

M. P. Elizalde, M.S. Rúa, B.Menoyo. Palladium extraction from nitric acid solutions by LIX 84 and LIX 860-I
Solvent Extraction & Ion Exchange, 37(6), 411-421, 2019

Transport through liquid membranes

L.A. Fernández, M.P. Elizalde, J.L. Aparicio. **HCl transport through a trilaurylamine supported liquid membrane from aqueous LiCl media**
Journal of Membrane Science 44, 213-232, 1989

Solution equilibria. Calculations of activity coefficients

M.P. Elizalde, J.L. Aparicio. **Current theories in the calculation of activity coefficients. Part II. Specific interaction theories applied to some equilibrium studies in Analytical Chemistry**
Talanta 42(3), 395-400, 1995

J.L. Aparicio M.P. Elizalde. **Activity coefficient calculation applied to the Zn(II)-Cl- system in LiCl media. Distinction between the real activity coefficient and the effect of complexation**
Journal of Solution Chemistry, 25, 1055-1069, 1996

A. Almela, M.P. Elizalde, J.M. Gómez. **Correlation of the extraction constants of the system Cd(II)-H3PO4-Cyanex302-kerosene at different ionic strengths**
Fluid Phase Equilibria 153, 243-249, 1998

Ion Exchange processes

F. Mijangos, M.P. Elizalde, M. Kamel. **Oxidative regeneration of sulphonic resins for the chromium(III) accumulation**
Ion Exchange Processes: Advances and Applications 323-331, 1997

M. Kamel, F. Mijangos, M.P. Elizalde. **Oxidative treatment for the prevention of chromium accumulation in a polymeric matrix**
Solvent Extraction and Ion Exchange 20(4) 575-588, 2002

Metal recovery from wastes

A. Almela, M.P. Elizalde, I. Dañobeitia. **Liquid-liquid extraction applied to metals separation from Waeltz oxide**
Separation Science and Technology 33(15) , 2411- 2422, 1998

M. Huebra, M.P. Elizalde, A. Almela. **Hg(II) extraction by LIX 34. Mercury removal from sludge**
Hydrometallurgy 68, 33-42, 2003

M. P. Elizalde, E. García Pavón, A. Almela. **Vanadium extraction from phosphoric acid Solutions by LIX 860I. Application to industrial phosphoric acid**
Solvent Extraction and Ion Exchange, 26(3), 180-191, 2008

Contaminant migration from food Packaging

J. L. Aparicio, M. P. Elizalde. Migration of photoinitiators in food packaging: A review
Packaging Technology and Science, 28, 181-2003, 2015

María P. Elizalde, Sonia Gómez-Lavín, Ane M. Urtiaga. Migration of perfluorinated compounds from paperbag to Tenax® and lyophilised milk at different temperatures
International Journal of Environmental Analytical Chemistry, 98 (15), 1423-1433, 2018

L. Blanco, I. Zabaleta, A. Usobiaga, A. Prieto, M. Olivares, O. Zuloaga, M. P. Elizalde. Target and suspect screening of substances liable to migrate from food contact paper and cardboard materials using liquid chromatography-high resolution tandem mass spectrometry
Talanta, 2020, https://doi.org/10.1016/j.talanta.2019.120394

M. P. Elizalde, J.L. Aparicio, M. Rincón. Interpretation of the migration of benzophenone type photoinitiators into different food simulants and foodstuffs in terms of the physicochemical properties of the migrants
Food Packaging and Shelf Life, 2020, https://doi.org/10.1016/j.fpsl.2019.100444

Occurrence of per- and polyfluorinated compounds in paper and board packaging materials and migration to food simulants and foodstuffs
Itsaso Zabaleta, Laura Blanco-Zubiaguirre, Ekin Nilsu Baharlia, Maitane Olivares, Ailette Prieto, Olatz Zuloaga, María P. Elizalde
Food Chemistry, 2020, 321, 126746

Migration of photoinitiators, phthalates and plasticizers from paper and cardboard materials into different simulants and foodstuffs
L. Blanco-Zubiaguirre, I. Zabaleta, A. Prieto, M. Olivares, O. Zuloaga, M.P. Elizalde
Food Chemistry, 2021, 344, 128597

Migration of biocides from paperboard into food simulants and vegetables
Maria P. Elizalde, Jose L. Aparicio, Elisabete Bañales
Food Additives and Contaminants, Part A, 2023, https://doi.org/10.1080/19440049.2023.2169361

Analysis of perfluorinated compounds in solid waste landfills
I.Fuertes, S. Gómez-Lavín, M.P. Elizalde, A. Urtiaga. Perfluorinated alkyl substances (PFASs) in northern Spain municipal solid waste landfill leachates
Chemosphere, 168, 399-407 2017

C.2. Research projects and grants (from 2000)

Eliminación de metales de disoluciones de ácido fosfórico industrial
Entidad financiadora: Gobierno Vasco 2000-2002 Investigadora principal

Estudio de reacciones de oxidación-reducción en procesos de extracción líquido-líquido
Entidad financiadora: Universidad del País Vasco 2003-2005 Investigadora principal

Procesos de transporte en membranas poliméricas funcionales
Entidad financiadora: MEC CTQ2006-13088 Duración, desde: 2006-2008 Investigadora

Estudio analítico de la formación de un fertilizante a partir de nutrientes recuperados de cauces acuáticos
Entidad financiadora: Universidad del País Vasco 2007- 2009 Investigadora principal

Migración de fotoiniciadores de cartones reciclados a alimentos
Entidad financiadora: Universidad del País Vasco(EHU14/47 2014- 2016 Investigadora principal

Desarrollo de tecnologías innovadoras para el tratamiento de contaminantes perfluorados en aguas.
Entidad financiadora: Programa estatal de investigación, desarrollo e innovación orientada a los retos de la sociedad, en el marco del plan estatal de investigación científica y técnica y de innovación 2013-2016.Entidades participantes: Universidad de Cantabria (UC) y (UPV/EHU) 2014- 2017 Investigadora principal en UPV/EHU

Estrategias avanzadas de integración de membranas y procesos electrocatalíticos para la eliminación de contaminantes persistentes.
Entidad financiadora: Agencia Estatal de Investigación (AEI/FEDER, UE) Entidades participantes: Universidad de Cantabria (UC) y UPV/EHU 30/12/2016-9/12/2019 Investigadora principal en UPV/EHU

Estudios de migración a los alimentos de componentes de cartones reciclados utilizados en envasado alimentario
Entidad financiadora: Gobierno Vasco. Plan de Coordinación de Investigación en Seguridad Alimentaria de la CAPV 2017-2020 2018-2019 Investigadora principal

C.5, C.6, C.7… (e. g., Institutional responsibilities, memberships of scientific societies…)

Secretary of the Analytical Chemistry Department from: 20/03/97 to 17/04/00
Director of the Analytical Chemistry Department from: 18/04/00 to 29/01/04
Director of the Doctorate Program of Analytical Chemistry from 2001 to 2004

C.6

Member of the Editorial Board of the journal Solvent Extraction and Ion Exchange" 2000-2023
Reviewer of many international journals