Curricular Summary

Part A. PERSONAL INFORMATION

Name	**Isabel Viera Alcaide**
Open Researcher and Contributor ID (ORCID) (*)	H-7588-2015, 0000-0003-2019-9013

A.1. Current position

Position	Senior Scientist	
Initial date	2025	
Institution	Spanish National Research Council (CSIC)	
Department/Center	Food Phytochemistry	Instituto de la Grasa
Country	Spain	
Key words	Chlorophyll pigments, HPLC, bioavailability, cell culture	

A.2. Previous positions

Period	Position/Institution/Country/Interruption cause
2001-2002	Trainee Researcher / IG/Spain
2002-2006	Predoctoral /IG/ Spain
2006-2008	Specialist Technician, Head of Virgin Olive Oil Tasting Panel.-IG
2008-2014	Senior Specialist Technician, Quality Manager.-IG
2014-2025	Senior Specialist Technician, Researcher, Food Phytochemistry Department.-IG
2025-Present	Senior Scientist Group: Pigments Chemistry and Biochemistry Group.-IG

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Bachelor in Chemistry	Sevilla University/Spain	2001
Doctorate in Chemistry	Sevilla University/Spain	2007

Part B. CV SUMMARY

Since earning my degree in Chemical Sciences from the University of Seville in 2001, my research career has developed uninterruptedly at the Instituto de la Grasa (IG-CSIC). That same year, I joined the Food Science and Technology area, beginning a path marked by excellence and specialization in the agro-food sector. In 2002, I obtained a predoctoral grant associated with an Industrial Results Transfer Stimulus project, (PTRI-0707-OP) which enabled me to carry out my doctoral thesis focused on Iberian pork-derived products. These investigations laid the foundation for multiple scientific publications, conference presentations, and the attainment of two licensed patents.

My career has combined research with scientific-technical responsibilities. In 2006, I was appointed Specialist Technician and served as a Technician of the Virgin Olive Oil Tasting Panel at the IG, actively collaborating with public and private sectors on oil adulteration research (refer.: 20070080 and refer.: 20070555). Since 2008, as Senior Specialist Technician and Quality Manager of the IG, I have led the implementation of quality management systems (UNE EN ISO 17025, ISO 9001) in laboratories and pilot plants, advising other CSIC centers and promoting innovation and international quality standards. My responsibilities as Quality Manager culminated in the accreditation (File No. 719/ LE1198) and certification (File No. ER-0345/2012) of the Instituto de la Grasa.

In 2014, I joined as a researcher (Senior Graduate) in the Department of Food Phytochemistry and a member of the Chemistry and Biochemistry of Pigments Group at the Instituto de la Grasa (CSIC). Since 2025, I have held the position of Senior Scientist at CSIC

Throughout my career, I have participated in more than eleven competitive R&D projects funded by the Ministry of Science and Innovation, the Spanish State Research Agency, and European programs (PCI2020-112088), as well as in numerous R&D contracts with companies, public organizations, and research support projects funded by regional administrations. I have taught in the Master's Program in Science and Technology of Oils and Fermented Beverages at the Pablo de Olavide University and the Instituto de la Grasa, Seville, and have taught continuing education courses organized by the Gabinete de Formación (CSIC), as well as tutoring students in research staff training programs.

My scientific career has focused on the analysis and identification of chlorophylls, ranging from the advanced chemical study of natural chlorophylls in foods and green food colorants to the investigation of processes such as accumulation, modification, degradation, and bioavailability of chlorophyll pigments.

In this field, I have actively participated as a research team member in national projects funded by the Ministry of Science, Innovation and Universities (Spanish State Research Agency) under the “Knowledge Generation Projects” and “Research Challenges” R&D&I programs AGL 2021-1279920B, AGL2018-095415-B-I00, AGL2015-63890-R). Evidence of my consolidated expertise in the analysis and identification of chlorophylls, as well as in in vivo studies on their bioavailability, is reflected in a wide range of scientific publications in high-impact journals within Food Science & Technology and related disciplines.

In addition to these publications, I have contributed actively to the dissemination of research findings at international conferences focused on digestion and metabolism of natural pigments. Highlights include the oral presentation “Influence of the Food Matrix on Chlorophyll Bioaccessibility” at the International Conference on Food Digestion (VICFD2021, INFOGEST), the poster “What Governs the In Vitro Digestion of Chlorophylls?” at the Food Structures, Digestion & Health – 6th International Conference (2021), and the poster presentation “Chlorophyll Metabolism in Mammals” at the 4th Food Chemistry Conference (Scotland, 2025).

Over the past ten years, my research has focused on the study of chlorophylls and their bioavailability, with particular emphasis on their chemical characterization, identification using advanced analytical techniques, and metabolic evaluation using both in vitro bioaccessibility assays and in vivo studies in animal models. Specifically, I have conducted experiments with mice that have enabled the characterization of the first-pass metabolism of chlorophylls and their derivatives, identifying patterns of absorption, transformation, and distribution in tissues and organs. These in vivo assays (e.g: DOI: 10.1002/mnfr.201800562, DOI: 10.1016/j.foodres.2024.112178.), combined with in vitro digestion method adapted to food matrices (e.g: DOI: 10.1021/acs.jafc.1c02815), have provided robust evidence on how food composition influences the bioavailability and metabolic fate of pigments, consolidating a research line aimed at understanding the mechanisms of absorption, transformation, and biological functions of chlorophylls in food and biological systems.

Part C. RELEVANT MERITS
C.1. Publications

1. Viera, I.; Benito, I.; Pérez-Gálvez, A.; Roca, M. 2025. Authentic composition of in vivo absorbed copper chlorophyllins using a mice model. Food Research International. Vol. 211, Article 112178. DOI: 10.1016/j.foodres.2024.112178.

2. Viera, I.; Hamdi, A.; Guillén-Bejarano, R.; Rodríguez-Arcos, R.; Espejo-Calvo, J.A.; Jiménez-Araujo, A. 2023. Sustainable valorization of co-products from asparagus cultivation by obtaining bioactive compounds. Frontiers in Plant Science. Vol. 14, 1199436. DOI: 10.3389/fpls.2023.1199436.

3. Viera, I.; Herrera, M.; Roca, M. 2023. Study of the authentic composition of the novel green foods: Food colorants and coloring foods. Food Research International. Vol. 162, Article 112165. DOI: 10.1016/j.foodres.2022.112165.

4. Viera, I.; Herrera, M.; Roca, M. 2022. Influence of food composition on chlorophyll bioaccessibility. Food Chemistry. Vol. 373, Article 131465. DOI: 10.1016/j.foodchem.2021.131465.

5. Quiles-Pando, C.; Viera, I.; Roca, M. 2021. Origin of the green colour in virgin olive oils. Food Research International. 147, 110499. DOI: 10.1016/j.foodres.2021.110499.

6. Viera, I.; Herrera, M.; Roca, M. 2021. In vitro bioaccessibility protocol for chlorophylls. Journal of Agricultural and Food Chemistry. 69(31), 8777–8786. DOI: 10.1021/acs.jafc.1c02815.

C.2. Congress

1. I. Viera Alcaide, A. Pérez Gálvez, M. Roca. 2025. Chlorophyll Metabolism in Mamals. 4th Food Chemistry Conference 14-16 October. Scotland. (Poster).

2. I. Viera, M. Herrera, M. Roca. 2024. In vitro digestion of chlorophylls. 8th International Conference on Food Digestion,9th and 11th April in Porto, Portugal. (Poster).

3. Viera-Alcaide, I., Herrera, M., Roca, M. 2024. Influence of the food matrix on chlorophyll bioaccessibility. 8th International Conference on Food Digestion, Sheraton Porto Hotel & Spa, Porto, Portugal, 9-11 de Abril. (Oral).

4. Herrera, M, Viera-Alcaide, I. Roca , M. 2021. Influence of the food matrix on chlorophyll bioaccessibility. International Conference on Food Digestion. VICFD2021. INFOGEST. (Oral).

5. Viera-Alcaide, I.; Herrera, M.; Roca, M. 2021. What Governs the In Vitro Digestion of Chlorophylls? Food Structures, Digestion & Health 6th International Conference. (Poster).

6. Viera-Alcaide, I.; Benito , I, Pérez, A, Roca, A. 2019. Composition and absorption of authorized green natural food colorants. 2nd International Food Chemistry Conference. Sevilla. (Poster).

7. Roca, M.; Viera-Alcaide, I.; Pérez-Gálvez, A. 2019. Isotopic pattern as filtering rule for the screening of authorized green colorants in foods. 1st Iberian Meeting in Separation Sciences & Mass Spectrometry. Santiago de Compostela.(Oral.)

C.3. Research projects

1. **Ministry of Science and Innovation.**
   "The Farm to Fork Strategy applied to chlorophylls and phyllobilins*: in vitro* and *in vivo* evidence of new metabolic pathways (chlorophyllfoods)." AGL 2021-1279920B
   Institution: Instituto de la Grasa (IG-CSIC). IP: María Roca López-Cepero.
   Period: 2022–2026. Budget: €151,250

2. **Agency for Research. Proof of Concept Projects 2021.**
   "Circular economy for valorization of asparagus by-products: applications in the agro-food sector."
   Institution: Instituto de la Grasa. IP: Rocío Rodríguez. Period: 2021–2023.
   Budget: €150,000

3. **Horizon 2020, PRIMA 2019. International Joint Programming Project 2020 (PCI2020-112088).**
   "Development of sustainable date palm-based agro systems by preserving their biodiversity" (GREENPALM).
   Institution: Instituto de la Grasa. IP: Rafael Guillén Bejarano. Period: 2020–2023.
   Budget: €703,600

4. **Spanish Ministry of Science, Innovation and Universities. Agency for Research.**
   "Quality and safety of green and blue food colorants (coloursafe)". AGL2018-095415-B-I00.
   Institution: Instituto de la Grasa.
   IP: María Roca & Beatriz Gandul. Period: 2019–2021. Budget: €174,240

5. **Ministry of Economy & Competitiveness. National Program.**
   "New strategies for stabilization of the green color in table olives".AGL2015-63890-R.
   Institution: Instituto de la Grasa.
   IP: María Roca & Beatriz Gandul. Period: 2016–2019. Budget: €151,250

C.4. Contracts, technological or transfer merits

1. **Analytical control method of pig meat to determine its fattening regime before slaughter.**
   Patent Number: **P200700839** Publication Number**: 2324000** Country: Spain
   Registration Date: 29/03/2007
   Inventors: I.Viera-Alcaide; M. León Camacho, E. Graciani
   Rights Holder: CSIC
   Licensee: IMBIOSIS, S.L. GRUPO GENETRIX

2. **Analytical control method of pig meat to determine its fattening regime.**
   Patent Number: **P200700643** Publication Number**: 2315158** Country: Spain
   Registration Date: 12/03/2007
   Inventors: I. Viera-Alcaide; M León Camacho,JJ Ríos, E Graciani.
   Rights Holder: CSIC and (CRDOJH)
   Licensee: IMBIOSIS, S.L. GRUPO GENETRIX