**CURRICULUM VITAE (CVA)**

## Part A. PERSONAL INFORMATION

| CV date | Nov. 2025 |
|---|---|

| | | | |
|---|---|---|---|
| First name | Silvia | | |
| Family name | Ortega Gutiérrez | | |
| Gender (*) | Female | Birth date (dd/mm/yyyy) | 03/12/1977 |
| DNI | 50110745R | | |
| e-mail | siortega@ucm.es | URL Web: www.quimicamedicaucm.es | |
| Open Research and Contributor ID (ORCID)(*) | | 0000-0002-0257-6754 | |

*(*) Mandatory*

### A.1. Current position.

| | | | |
|---|---|---|---|
| Position | Catedrática de Universidad | | |
| Initial date | 18/12/2023 | | |
| Institution | Universidad Complutense de Madrid (UCM) | | |
| Department/Center | Organic Chemistry / School of Chemistry / UCM | | |
| Country | Spain | Teleph. number | 913944314 |
| Key words | Medicinal Chemistry, Chemical Biology, drug development, chemical probes, bioisosters, G protein-coupled receptors (GPCRs), endogenous cannabinoid system, isoprenylcarboxymethyl transferase (ICMT), progeria, lysophosphatidic acid receptors (LPARs), PROTACs, DUBTACs, RIBOTACs, cancer | | |

### A.2. Previous positions (research activity interruptions, art. 45.2.b).

| Period | Position/Institution/Country/Interruption cause |
|---|---|
| 2017-2023 | Profesora Titular / Universidad Complutense de Madrid / Spain |
| 2013-2016 | Profesor Contratado Doctor / Universidad Complutense de Madrid / Spain |
| 2008-2012 | Investigador Ramón y Cajal / Universidad Complutense de Madrid / Spain |
| 2005-2007 | Postdoctoral Fulbright Scholar / The Scripps Research Institute / USA |

### A.3. Education.

| PhD, Licensed, Graduate | University/Country | Year |
|---|---|---|
| PhD | Universidad Complutense de Madrid / Spain | 2004 |
| BSc (Licenciatura) | Universidad Complutense de Madrid / Spain | 2000 |

## Part B. CV SUMMARY *(max. 5000 characters, including spaces)*

***2004: PhD by UCM (Organic Chemistry Doctorate Program).*** **Graduation with honors: *Premio Extraordinario*.**

***2005-2007: Postdoctoral Research Associate, The Scripps Research Institute*** **(USA).**

***Ramón y Cajal Researcher, Associate Professor and Full Professor. Dpto. Química Orgánica, UCM.*** As an independent researcher **(i)** I have developed chemical probes for the study of GPCRs, specifically serotonin and cannabinoid receptors (***ACS Med. Chem. Lett.*** **2010**, *1*, 249**;** ***J. Med. Chem.*** **2010**, *53*, 7095 and **2011**, *54*, 5265; ***Angew. Chem. Int. Ed.*** **2012**, *51*, 6896; ***Chem. Eur. J.*** **2016**, *22*, 1313; ***PLoS Negl. Trop. Dis.*** **2018**, *12*, 6267; ***Bioconjugate Chem.*** **2018**, *29*, 2021; ***Pharmacol. Res.*** **2025**, in press). These probes have enabled the discovery of a new mitochondrial $CB_1$ receptor (***Nat. Neurosci.*** **2012**, *15*, 558) and to study the influence of cannabinoid receptors in allergy (***J. Allergy Clin. Immunol.*** **2014**, *133*, 926; ***Bioconjugate Chem.*** **2018**, *29*, 382); **(ii)** I have implemented different metabolomic platforms that are allowing us to determine the levels of endogenous metabolites including endocannabinoids (***Glia*** **2010**, *58*, 1913; ***PLoS One*** **2012**, *7*, e49057; ***Int. J. Neuropsychopharmacol.*** **2013**, *16*, 1407; ***J. Neuroimmune Pharmacol.*** **2015**, *10*, 309; ***Brain Behav. Immun.*** **2015**, *49*, 233; ***J. Natl. Cancer Inst.*** **2015**, 107, djv077; ***J. Neurol.*** **2016**, *263*, 1390; ***Neuropharmacology*** **2019**, *150*, 134; ***Eur. Neuropsychopharmacol.*** **2020**, *40*, 52); **(iii)**

I have contributed to the validation of different enzymes in cancer (**WO2009/000864**, **transferred to Italfarmaco**; ***Clin. Cancer Res.* 2009**, *15*, 7608; ***Breast Cancer Res.* 2011**, *13*, R131; ***J. Med. Chem.* 2012**, *55*, 5013 and **2015**, *58*, 3757; ***Chem. Eur. J.* 2017**, *23*, 1676) and in multiple sclerosis (***J. Biol. Chem.* 2011**, *286*, 28723; ***J. Med. Chem.* 2012**, *55*, 824; ***Angew. Chem. Int. Ed.* 2014**, *53*, 13765; ***J. Neurosci.* 2017**, *37*, 8385; ***Glia* 2018**, *66*, 1447) and **(iv)** I am currently working on the validation of lysophosphatidic acid receptors (***J. Med. Chem.* 2020**, *63*, 2372 and **2022**, *65*, 10956; ongoing research) and of the ICMT enzyme as a target of interest in cancer (**PCT/ES2014/070071**, ***J. Med. Chem.* 2019**, *62*, 6035) and in progeria (***ACS Cent. Sci.* 2021**, *7*, 1300; ***Int. J. Mol.Sci.* 2021**, *22*, 7190; ***Bioorg. Chem.* 2024**, *142*, 106967; ***Adv. Sci.*** Submitted; ongoing research) and on the identification and validation of the targets of bioactive natural products (***Eur. J. Med. Chem.* 2025**, *283*, 117102; ongoing research) as well as in the validation of non-classical bioisosters for drug development (***Nat. Chem.* 2025**, *17*, 734; ongoing research).

In summary, I have carried out pre- and post-doctoral internships in internationally recognized institutions (Cajal Institute, The Scripps Research Institute). I am **PI of competitive** national and international projects and in collaboration with the private sector. I have published **6 book chapters and 80 articles** in the most prestigious journals in my research field (*Science*, *Nature Neurosci., ACS Central Sci., Angew. Chem. Int. Ed., J. Med. Chem.*). I have performed **valorization activities and transference of knowledge**: I have led **projects in collaboration with the private sector** - Italfarmaco, ViviaBiotech, Aenor-, published **3 patents (one transferred)** and **commercialized some of the chemical tools developed in the last years** (Cayman Chemical, Glixx Laboratories Inc.; MedKoo Laboratories), fact that highlights their broad interest for the scientific community.
Finally, I have carried out **outreach activities** to favor scientific engagement, **formal teaching duties** (ca 150 lecture hours per year in Bachelor, Master and Doctorate degrees), hold **institutional responsibilities**, and **supervised Bachelor and Master** (15 in the last 10 years) and **PhD students** (13 in total, 7 in the last 10 years).

## Part C. RELEVANT MERITS *(sorted by typology)*

### C.1. Selection of 20 publications in the last 10 years.

**Total**: **82 articles, 3 patents, and 6 book chapters. In the last 10 years: 27 articles, 1 patent, and 3 book chapters. (CA=corresponding autor):**

1) Gamo, A. et al. (12/12, **CA**) *Chem. Eur. J.* **2016**, *22*, 1313-21 (**IF: 5.236**, Q1)
2) Feliu, A. et al. (7/11) *J. Neurosci.* **2017**, *37*, 8385-8398 (**IF: 6.167**, Q1)
3) Martín-Fontecha, M. et al. (8/11) *Bioconjug. Chem.* **2018**, *29*, 382-389 (**IF: 6.069**, Q1)
4) Gil-Ordóñez, A. et al. (3/4) *Biochem. Pharmacol.* **2018**, *157*, 189-201 (**IF: 5.858,** Q1)
5) Mecha, M. et al. (8/12) *Glia* **2018**, *66*, 1447-1463 (**IF: 5.829**, Q1)
6) Hernández, G. et al. (13/13, **CA**) *Bioconjug. Chem.* **2018**, *29*, 2021-27 (**IF: 6.069,** Q1)
7) Manterola, A. et al. (9/14) *Biochem. Pharmacol.* **2018**, *157*, 189-201 (**IF: 5.858,** Q1)
8) Marín-Ramos, N.I. et al. (2/3) *Semin. Cancer Biol.* **2019**, *54*, 91-100 (**IF: 11.090**, D1)
9) Marín-Ramos, N.I. et al. (18/18, **CA**) *J. Med. Chem.* **2019**, *62*, 6035-46 (**IF: 7.446**, D1)
10) Ruiz-Calvo, A. et al. (10/13) *Neuropharmacology* **2019**, *150*, 134 (**IF: 5.251**, Q1)
11) Herranz-Herrer, J. et al. (4/8) *Eur. Neuropsychopharmacol.* **2020**, *40*, 52-60 (**IF: 4.600**, Q1)
12) González-Gil, I. et al. (17/17, **CA**) *J. Med. Chem.* **2020**, *63*, 2372-90 (**IF: 7.446**, D1)
13) Macicior, J. et al. (3/3, **CA**) *Int. J. Mol. Sci.* **2021**, *22*, 7190-7200 (**IF: 6.208**, Q1)
14) Marcos-Ramiro, B. et al. (14/14, **CA**) *ACS Central Sci.* **2021**, *7*, 1300-10 (**IF: 18.728**, D1)
15) Benhamú, B. et al. (5/5, **CA**) *Biomedicines* **2022**, *10*, 2006-2019 (**IF: 6.081**, Q1)
16) Khiar, N. et al. (15/15, **CA**) *J. Med. Chem.* **2022**, *65*, 10956-10974 (**IF: 8.039**, D1)
17) Macicior, J. et al. (3/3, **CA**) *Bioorg. Chem.* **2024**, *142*, 106967-77 (**IF: 5.100**, Q1)
18) Vázquez-Villa, H. et al. (8/8, **CA**) *Eur. J. Med. Chem.* **2025**, *283,* 117102 (**IF: 6.000**, Q1)
19) Garrido-García, P. et al. (4/10) *Nature Chem.* **2025**, *17*, 734 (**IF: 19.200**, D1)
20) Muñoz-Canales, V. et al. (5/5, **CA**) *Pharmacol. Res.* **2025**, doi: 10.1016/j.phrs.2025.108022 (**IF: 10.500**, D1)

***Selected book chapters:*** **(1)** Ortega-Gutiérrez, S. Fluorescent probes in medicinal chemistry (pp 239-262). Libro: Biophysical techniques in drug discovery-RSC Drug Discovery Series, Royal Society of Chemistry (**2018**, ISBN: 978-1-78262-733-3); **(2)** Martín-Fontecha, M.; Ortega-Gutiérrez,

S. Click chemistry for cell culture. Libro: Click Chemistry: Emerging Applications and Challenges (Vol 2). Ram K. Gupta Ed. 1st Ed. CRC Press, Taylor and Francis Group (**2025**; ISBN 9781003403333).

### Selected invited conferences in the last 5 years.

**2021** Sociedad Española de Bioquímica y Biología Molecular, Madrid
**2021** Department of Organic Chemistry (Araba Campus), Universidad del País Vasco
**2023** Institute for Advanced Research in Chemical Sciences, UAM, Madrid
**2024** Centre for Targeted Protein Degradation, University of Dundee, UK
**2024** Medicinal Chemistry Institute, CSIC, Madrid
**2025** Department of Organic Chemistry, Universidad de Alcalá de Henares
**2026** Faculty of Pharmacy, Aix Marseille Université, Marseille, France

### C.2. Congresses.

**5 selected lectures** from a total of **>170 contributions** in international and national meetings; Organizing committee in **3** international congresses and chairperson in **15** occasions.
**2021** I Jornadas Investigación en Biomedicina (UCM, Madrid). Invited lecture.
**2022** XX National Meeting of the SEQT (Santiago de Compostela). Invited lecture.
**2023** ACSMEDI-EFMC Medicinal Chemistry Frontiers (Boston, EEUU). Invited lecture.
**2023** 57th International Conference on Medicinal Chemistry (Lille, France). Invited lecture.
**2025** PRF 9th International Scientific Workshop (Boston, EEUU). Invited lecture.

### C.3. Projects or research lines in which you have participated.

I have participated in **15 I+D competitive projects funded by public research bodies. Selected projects in the last five years as principal investigator (PI):**
**1)** Ministerio de Ciencia e Innovación (PID2019-106279RB-I00, 2020-2023, 302.500€)
**2)** Progeria Research Foundation, USA (PRF2022-84, 2022-2025, 110.000 US$)
**3)** Ministerio de Ciencia e Innovación (PDC2022-133488-I00, 2023-2025, 146.280€)
**4)** Ministerio de Ciencia e Innovación (PID2022-138797OB-I00, 2023-2026, 250.000€)
**5)** Comunidad de Madrid (SYG-2024/SAL-GL-812, 2026-2029, 762.000€). Coordinator & PI

### C.4. Participation in technology/knowledge transfer activities and exploitation of results.

I have participated in **5 I+D projects funded by private companies.** Selected projects:
**1)** *Synthesis of pomalidomide fluorescent probes.* Funding Entity: ViviaBiotech (50k€, 2013).
**2)** *Development of antitumor drugs*. Funding Entity: ViviaBiotech (60k€, 2017-18). PI.
**3)** *Scientific and Technology Consulting.* Funding Entity: AENOR (10k€, 2019-current). PI.

**Patents: (1)** PCT ES01/00305, WO02/12167A1. Title Entity: UCM; **(2)** PCT/EP2008058099. Title Entity: UCM, IdIBG. Transferred to Italfarmaco; **(3)** PCT/ES2014/070071. Title Entity: UCM.

**Products developed in the laboratory and transferred for commercialization:**
**Compound UCM707** (Cayman Chemical, Cat. 19090); **Compound UCM05** (Cayman Chemical, Cat. 19090; described in *J. Med. Chem.* **2012**, *55*, 5013); **Compound UCM1336** (Glixx Laboratories Inc, Cat. GLXC-21328; MedKoo Laboratories, Cat. 408016; described in *J. Med. Chem.* **2019**, *62*, 6035); **Compound UCM05194** (Glixx Laboratories Inc, Cat. GLXC-21948; MedKoo Laboratories, Cat. 555707; described in *J. Med. Chem.* **2020**, *63*, 2372).

**Award:** Premio de Transferencia de Tecnología y de Conocimiento de la UCM (2017)

### C5. Teaching activity.

**- Quinquenios Docentes:** Tres evaluaciones positivas (2007-2012; 2012-2017; 2017-2022)
**- Evaluación Docente:** Programa Docentia: Evaluación Favorable - Muy Positiva (trienios 2015-2018; 2019-2021; 2022-2024).
**- Grado:** Impartición de 15-18 créditos anuales. Docencia en el Grado en Química, Grado en Biología, Grado en Ciencia y Tecnología de los Alimentos y Grado en Ingeniería Química.
**- Máster Interuniversitario en Química Orgánica.** Asignatura: Química médica en el desarrollo de fármacos: del laboratorio a la clínica (6 créditos, ininterrumpidamente desde 2009).
**- Programa de Doctorado en Química Orgánica.** Asignatura: Diseño de moléculas y materiales orgánicos funcionales (10h, 2017-2022).

**- Proyectos de innovación y mejora de la calidad docente:** 4 (3 en los últimos 5 años)

### C.6. Supervision of students (last ten years).

Supervised Fin de Master Research Project (TFM): 9; Supervised Fin de Grado Research Project (TFG): 7; Supervised Prácticas en Empresas: 5; Supervised Becas de Colaboración: 5; Supervised International Erasmus Students: 10; Supervised Postdoctoral Researchers: 3

**Supervision of PhD Thesis: 13 (7 in the last 10 years)**
A. Rueda Zubiaurre, 2015 (Currently at TFS HealthScience, Spain)
F.J. Nogales Ortega, 2016 (Currently at SP Group Packaging, Spain)
D. Zian, 2017 (Mención Internacional; Currently at Axxam Laboratories, Italy)
A. Gil Ordoñez, 2019 (Mención Internacional; Currently at Curia Research, Spain)
N. Khiar Fernández, 2022 (Mención Internacional; Currently at UCM, Spain)
J. Macicior, 2024 (Mención Internacional; Currently at University of Dundee, UK)
R. Foronda, 2024 (Currently at Technical University Denmark, Denmark)

**4 PhD currently ongoing: (1)** D. Fernández (Contrato Comunidad de Madrid PIPF-2022/SAL-GL-24817; Expected defense: 12/2026); **(2)** S. Borhani (Contrato Comunidad de Madrid PEJ-2024-AI/SAL-GL-32656; Expected defense: 2028); **(3)** P. Monreal (Contrato FPU24/03061; Expected defense 2029); **(4)** A. García (Contrato UCM; Expected defense 2029)

### C.7. Institutional responsibilities.

- Elected member of Junta de Facultad (2018-2022; Re-elected in 2022 for 2022-26 term)
- Member of Comisión de Estudios (2022-Current)
- Coordinator COVID-Lot program in Departamento de Química Orgánica (2020-2022)
- Vice-Coordinator of the Master Interuniversitario en Química Orgánica (2015-Current)
- Coordinator of the subject “Operaciones Básicas de Laboratorio” (Primer curso del Grado en Química en la UCM; 2014-Current).
- General coordinator of the Laboratorio Integrado de la Facultad de CC. Químicas (academic and economic management of more than 2000 students per academic course; 2014-Current).
- Gestora del área CTQ, subárea QMC-RRHH, de la División de Coordinación, Evaluación y Seguimiento Científico Técnico de la Agencia Estatal de Investigación (2019-Current).

### C.8. Participation in international commissions and boards.

Editorial Board Member of *Int. J. Mol. Sci.* (from 2020), *Biomedicines* (from 2021), and *Frontiers in Pharmacology* (from 2022); Reviewer of *J. Med. Chem.; Eur. J. Med. Chem.; Bioorg. Med. Chem.; Bioorg. Med. Chem. Lett.; ACS Med. Chem. Lett., Sci. Reports*, *Int. J. Mol. Sci.*, *Biomedicines*; Reviewer of ANEP (from 2008), French National Research Agency (ANR) (from 2011) and Croatian Science Foundation (from 2014); Education and Training Committee of the European Federation of Medicinal Chemistry (2011-2013)

### C.9. Selected outreaching activity in the last five years.

-Ponencia oral invitada: “Como escribir un artículo científico: pautas y claves” (Madrid, 02/2021)
-Semana de la Ciencia (Madrid, 11/2022)
-Tutorización de estudiantes dentro del Programa 4º ESO+Empresa (Madrid, 04/2024)

### C.10. Awards and recognitions.

**2000, 2004** Premio Extraordinario de Licenciatura y Doctorado
**2001** Coy W. Waller Student Merit Award
**2002** Premio de la Sociedad Española de Investigación en Cannabinoides
**2004** Scientific Achievement Award by the International Cannabinoid Research Society
**2011** Runner-up of the EFMC Prize for a Young Medicinal Chemist in Academia
**2012** Premio RSEQ-Sigma-Aldrich para Investigadores Noveles
**2013** Premio de la Sociedad Española de Química Terapéutica
**2016** EFMC Prize for a Young Medicinal Chemist in Academia
**2017** Premio de Transferencia de Tecnología y de Conocimiento de la UCM
**2021** Runner-up of the 1st Ed. of the European School of Medicinal Chemistry Alumni Award