CURRICULUM VITAE ABREVIADO (CVA)

Part A. PERSONAL INFORMATION

First name	FERNANDO		
Family name	HERNANDEZ MATEO		
e-mail	fhmateo@ugr.es	URL Web:	https://glycochembio.ugr.es/
Open Researcher and Contributor ID (ORCID) (*)		0000-0003-2737-6211	

(*) Mandatory

A.1. Current position

Position	Full Professor of Organic Chemistry		
Initial date	2012		
Institution	University of Granada		
Department/Center	Organic Chemistry	Faculty of Sciences	
Country	SPAIN	*Teleph. number*	958243187
Key words	Click-Chemistry, Carbon Nanoparticles, Vinylsulfones, Bioconjugation, Glycochemistry, Selenium		

A.2. Previous positions (research activity interuptions, indicate total months)

Period	*Position/Institution/Country/Interruption cause*
1987-1988	Postdoctoral Assistant and NATO Scientific Committee Fellow
1988-1989	Assistant Professor
1990-1991	Interim Professor of University
1992-2011	Associate Professor

A.3. Education

PhD, Licensed, Graduate	*University/Country*	*Year*
Graduate	Universidad de Granada	1982
PhD	Universidad de Granada	1986

Part B. CV SUMMARY

Professor Hernandez-Mateo (https://bit.ly/m/fhm) studied at the UGR (Graduate, 1982, and PhD in Chemistry, 1986). After a postdoctoral stay (1987-1988) in the group of Prof. Hans H. Baer, University of Ottawa (Canada) (Postdoctoral Assistant and NATO Scientific Committee Fellow) he started his academic career at the Department of Organic Chemistry of the UGR: Assistant Professor (1988-1989), Interim Professor of University (1990-1991), Associate Professor (1992-2011) and Full Professor of University (since 2012). He is an active member of the research group Glycochemistry and Bioconjugation "GlycoChemBio", since its foundation in 1988. He has been a visiting researcher on multiple occasions at the University of Ottawa (Canada) and at the University of Quebec in Montreal (UQAM, Canada) in the groups of Prof. Hans H. Baer and René Roy.

Professor Hernandez-Mateo' main scientific interests are focused on (a) the development and applications of novel synthetic methodologies in the areas of carbohydrate chemistry, glycochemistry and bioconjugation, and (b) the biological activity and technological applications of synthetic compounds and materials related to such areas. Professor Hernandez-Mateo' main contributions and outputs are:

I. Generation of knowledge:

I.1. Development of novel synthetic methodologies and their applications related to: **(1) The synthesis and reactivity of: (a) carbohydrates** (doubly branched sugars, glycals, cyclic sulfate sugars, and the use of regioselective protecting groups), and (b) **cyclodextrins and their derivatives**; **(2) Click-chemistry reactions**: (a) **the Cu(I) catalyzed cycloaddition of alkyne and azides**, through the development of novel heterogeneous and non-

heterogeneous magnetic and non-magnetic catalysts for such reactions, (b) **the free-cooper 1,3-dipolar and Michael reaction of vinyl sulfones** and their applications, and (c) **click coupling-and-decoupling methodologies based in vinyl sulfonates**; **(3) The synthesis of neoglycoconjugates** (glycodendrimers, glycocyclodextrins, glycocalixarenes); **(4) Click-based techniques for bioconjugation, labeling and immobilization of biomolecules, (5) The synthesis of Organic-inorganic hybrid materials and carbohydrate-based polymeric matrices, (6) Non-viral gene vectors** for transfection and drug targeted delivery systems; **(7) Nanoparticle-based systems: (a) Au-based Nanoparticles** and their applications as catalyst, and (b) Carbon Nanodots **(CNDots) based** and their applications nano-platforms for the preparation of glyco-CNDots, amphiphilic CNDots for drug delivery, microfluidic systems

I.2. Biological studies related to: (1) Biological activity of neoglycoconjugates; (2) Gene-transfection; and (3) Drug-delivery.

I.3. *Funding:* Research in 15 Research Projects from diverse Government and Private Entities.

I.4. *Results:* 79 research articles (H index: 27; Times cited: 2228 (total); 29 (cite/item); 95 (cites/year last 5 years) (Source: Scopus and Clarivate)

II. Contributions to the society.

II.1. Knowledge-transfer for the technological development and innovation activities: inventor of 10 patents (2 under exploitation)

II.3. *Interdisciplinary collaborations*: (a) R. Salto Gonzalez, Regulación Bioquímica y Genética del Metabolismo, Bioquímica y Biología Molecular, UGR; (b) L.F. Capitan Valley, Espectrometría de Fase Solida, Química Analítica, UGR; (c) F.J. Gamiz-Perez, Electronica y Tecnologia de Computadores, UGR; (d) F. Rodríguez Serrano, Anatomía y Embriologia Humana, Instituto de Biopatología y Medicina Regenerativa, UGR; (e) A. Vargas Berenguel, Quimica Organica, UAL; (f) J.M. Garcia Fernandez, Q. Bioorganica y Supramolecular de Carbohidratos, IIQ, CSIC, Sevilla; (g) C. Ortiz-Mellet, Q. Bioorgánica de Carbohidratos, Química Organica, US.

II.4. *International Collaborations:* Professor Hans-Baer (University of Ottawa-Canada) and Professor Rene Roy (University of Ottawa, Canada and Université Du Québec À Montréal)

III. Development of individuals

Professor Hernandez-Mateo contributions to the training of young researchers included (a) *Direction of Collaboration Grants, Research Initiation Grants, Undergraduate and Master's Degree Final Projects*. 1 (average/year) (b) ***Doctoral Theses*** Supervised or in progress: 1 (total); (c) ***Alumni PhD*** *trained in the research group:* Megia-Fernandez, A. UGR, Postdoctoral Research Maria Zambrano, UGR.

Part C. RELEVANT MERITS

C.1. Publications

1. Perez-Garrido, L.; Ortega-Muñoz, M.; **Hernandez-Mateo, F.;** Lopez-Jaramillo, F.J.*; Santoyo-Gonzalez, F*. *Turning carbon dots into selenium bearing nanoplatforms with in vitro GPx-like activity and pro-oxidant activity Nano Research* **2023,** 16, 7784–7791 (DOI 10.1007/s12274-023-5442-3) Position **(3/5)**
2. Alvarado, S., Megia-Fernandez, A., Ortega-Muñoz, M., **Hernandez-Mateo, F.,** Lopez-Jaramillo, F.J., Santoyo-Gonzalez, F. Removal of the Water Pollutant Ciprofloxacin Using Biodegradable Sorbent Polymers Obtained from Polysaccharides. *Polymers* **2023**, 15, 3188 (DOI: 10.3390/polym15153188) Position **(4/6)**
3. **Ortega-Muñoz, M**.; Vargas-Navarro, P.; Plesselova, S. et al.; Lopez-Jaramillo, F.J.*; Santoyo-Gonzalez, F.* Amphiphilic-like carbon dots as antitumoral drug vehicles and phototherapeutical agents, *Mater. Chem. Front.* **2021**, 5, 8151-8160 (DOI: 10.1039/d1qm00855b) Position **(7/10).**

4. Plesselova, S.; Garcia-Cerezo, P.; Blanco, V.; Reche-Perez, F. J. ; Hernandez-Mateo, F.; Santoyo-Gonzalez, F.; Giron-Gonzalez, M. D.; Salto-Gonzalez, R. Polyethylenimine–Bisphosphonate–Cyclodextrin Ternary Conjugates: Supramolecular Systems for the Delivery of Antineoplastic Drugs; Journal of Medicinal Chemistry 2021, 64(16), 12245-12260DOI: 10.1021/acs.jmedchem.1c00887**(5/8)**
5. Santoyo-Gonzalez, F.; **Hernandez-Mateo, F**.; Lopez-Jaramillo, F.; Ortega-Muñoz, M. Divinyl sulfone. Enclopedia of Reagents for Organic Chemistry, John Wiley & Sons, **2021**. DOI: 10.1002/047084289X.rd476.pub2. Position (**2/4)**
6. De Los Reyes-berbel, E.; Ortiz, I.; Ortega-Muñoz, M.; Salinas-Castillo, A.; Capitán-Vallvey, L.; **Hernandez-Mateo, F.**; Lopez-Jaramillo, F.J.; Santoyo-Gonzalez, F.. Carbon dots-inspired fluorescent cyclodextrins: competitive supramolecular "off-on" (bio)sensors. *Nanoscale*, **2020**, 12, pp. 9178-9185. (DOI: 10.1039/D0NR01004A) Position **(5/8)**
7. Ortega-Muñoz, M.; Vargas-Navarro, P.; **Hernandez-Mateo, F**.; et al.. Acid anhydride coated carbon nanodots: activated platforms for engineering clicked (bio)nanoconstructs, *Nanoscale* **2019**, 11, 7850-7856 (DOI: 10.1039/c8nr09459d)) Position **(3/10)**
8. Ortega-Muñoz, M..; Blanco, V.; **Hernandez-Mateo, F**.; Lopez-Jaramillo F.J*: Santoyo-Gonzalez F*, Catalytic materials based on surface coating with poly(ethyleneimine)-stabilized gold nanoparticles *ChemCatChem* **2017**, 9: 3965-3973 (DOI: 10.1002/cctc.201700776) Position **(3/5)**
9. Megia-Fernandez, A, Ortega-Muñoz, M., Lopez-Jaramillo J., **Hernandez-Mateo, F**.; Santoyo-Gonzalez, F. Non-Magnetic and Magnetic Supported Copper (I) Chelating Adsorbents as Efficient Heterogeneous Catalysts and Copper Scavengers for Click Chemistry. **2010**. *Advanced Synthesis & Catalysis* 352 (18), 3306-3320. (doi.org/10.1002/adsc.201000530) Position **(4/5)**
10. Ortega-Munoz, M; Morales-Sanfrutos, J; Megia-Fernandez, A; Lopez-Jaramillo, F; **Hernandez-Mateo, F** ; Santoyo-Gonzalez, F. Vinyl sulfone functionalized silica: a "ready to use" pre-activated material for immobilization of biomolecules. *Journal of material chemistry*, **2010,** 20(34), 7189-7196. (DOI10.1039/c0jm00720j) Position **(5/6)**

C.3. Research projects,

1. *Síntesis y aplicaciones biomédicas de seleno derivados de azucares* (PP2022-24)
   Programa del Plan Propio de Investigación “Proyectos de Investigación Precompetitivos”, UGR; Desde: 01/10/2022 hasta 30/09/2023
   IP: F. J. Lopez-Jaramillo Cuantía: 2.500 € **(Investigador)**
2. *Matrices poliméricas biodegradables basadas en polisacáridos y ciclodextrinas. Materiales secuestrantes de contaminantes emergentes en aguas*
   Programa operativo FEDER Andalucia. Desde 1/07/2021 hasta 30/06/2023
   IPs: F. Santoyo-González & F. J. Lopez-Jaramillo, U. de Granada; Cuantía: 35000 € **(Investigador)**
3. *Carbon Dots Funcionales: Síntesis, Caracterización y Aplicaciones Biológicas* (CTQ2017-86125-P)
   Ministerio de Economía. Industria y Competitividad. Desde 2018/01/01 hasta 2020/12/31
   IP: F. Santoyo Gonzalez; Univ. Granada; Cuantia: 50.000 € **(Investigador)**
4. *Síntesis y Evaluación Biológica de Vectores Antitumorales Dirigidos Basados en Ciclodextrinas para el Transporte Activo de Fármacos* (CTQ2011-29299-C02-01)
   Ministerio de Ciencia y Competitividad; Desde 01/01/2015 hasta 31/12/2018
   IP: F. Santoyo Gonzalez; Univ. Granada; Cuantía: 71.390 € **(Investigador)**
5. *Sintesis de nuevos agentes de transfeccion especificos basados en vinil sulfonas.*
   Ministerio de ciencia e innovación. CTQ2011-29299-C02-01.
   IP Santoyo-Gonzalez, Francisco (UGR). 2012-2015. 87120 EUR. (**Investigador)**
6. *Aplicaciones Tecnológicas y Biotecnológicas de la química de vinil sulfonas y Sulfatos Cíclicos* **(**CTQ2008-01754)
   Ministerio de ciencia e innovación. Desde 2009 hasta 2011
   I.P. Santoyo-Gonzalez, Francisco (Universidad de Granada).. 175450 EUR. Responsable.

C.4. Contracts, technological or transfer merits,

Contracts.

1. Derechos de Comercialización a la Plataforma KitMyGEN. Santoyo-Gonzalez, Francisco UGR. **2013-2014.**

Patents

1. Uso de polímeros basados en sacáridos entrecruzados como secuestrantes de ácidos biliares
   Inventores: Lopez Jaramillo, J.; Girron Gonzalez, M.D.; Salto Gonzalez, R.; Hernandez Mateo, F..; Santoyo González, F.
   Nº de solicitud: ES 2015-30160; Fecha de solicitud :11/02/2015Nº de Patente: ES 2579487 A1
2. Methods for obtaining maslinic acid and oleanolic acid
   Inventores: Santoyo González, F., Hernandez Mateo, F., Ortega Muñoz, M.Nº de solicitud: WO 2011-ES255; Fecha de solicitud: 14/07/2011Nº de Patente: WO 2012/017108 A1 (PCT Int. Appl.)
3. Extraction procedure of hydroxytyrosol triterpenic acids from solutions of olives
   Inventores: Santoyo González, F., Ortega Muñoz, M., Hernandez Mateo, F.Nº de solicitud: ES2011/796; Fecha de solicitud: 11/07/2011Nº de Patente: ES 2367734 A1
4. Drug delivery and transfection agents based on alkylsulfonate functionalized PAMAM dendrimers
   Inventores: Morales Sanfrutos, J., Santoyo González, F., Girón González, M. D., Megia Fernández, A., Hernandez Mateo, F., Salto González, R.
   Nº de solicitud: ES2010/1350; Fecha de solicitud: 14/10/2010
   Nº de Patente: ES 2351909 A1
5. Triazolyl containing vinyl sulfones as double-labeling agents and their preparation and use in the marking of biomolecules
   Inventores: Santoyo González, F., Hernandez Mateo, F., López Jaramillo, F. J., Morales Sanfrutos, J., Salto González, R., Girón González, D.Nº de solicitud: WO 2009/ES70035; Fecha de solicitud: 19/02/2009Nº de Patente: WO 2009/106665 A1 (PCT Int. Appl.)
6. Single-labeling agents based on vinyl sulfones and their preparation and use in marking biomolecules such as protein
   Inventores: Santoyo González, F., Hernandez Mateo, F., López Jaramillo, F.J., Ortega Muñoz, M.Nº de solicitud: WO 2009/ES70034; Fecha de solicitud: 19/02/2009Nº de Patente: WO 2009/106664 A1 (PCT Int. Appl.)
7. Compound for labeling biomolecules based on vinyl sulfone, their preparation and use in marking biomolecules such as proteins
   Inventores: Santoyo González, F., Hernández Mateo, F., López Jaramillo, J., Morales Sanfrutos, J., Ortega Muñoz, M.Nº de solicitud: WO2009/ES00309; Fecha de solicitud: 20/05/2009Nº de Patente: WO/2009144344 A2 (PCT Int. Appl.)
8. Polymeric adsorbents based on polysaccharides and cyclodextrins for water purification
   Inventores: Santoyo González, F., Hernandez Mateo, F., Morales Sanfrutos, J.
   Nº de solicitud: ES2009/0001744; Fecha de solicitud: 28/07/2009 Nº de Patente: ES 2334756 A1
9. Silica-vinylsulfone compound, synthesis and uses as immobilization surface
   Inventores: Santoyo González, F., Hernandez Mateo, F., López Jaramillo, J., Ortega Muñoz, M., Morales Sanfrutos, J.Nº de solicitud|WO20087/ES70151; Fecha de solicitud: 30/07/2008Nº de Patente: WO 2009/040460 A1 (PCT Int. Appl.)
10. Methods of production of porous biotin carriers and uses thereofInventores: Santoyo González, F., Hernandez Mateo, F., Ortega Muñoz, M., Salto González, R., Girón González, M. D., Sevillano Tripero, N.Nº de solicitud: WO/2008ES/70105 ; Fecha de solicitud: 29/05/2008Nº de Patente: WO 2009/004106 A1 (PCT Int. Appl.)

CURRICULUM VITAE ABREVIADO (CVA)

Part A. PERSONAL INFORMATION

First name	MARIANO		
Family name	ORTEGA MUÑOZ		
Gender (*)		Birth date (dd/mm/yyyy)	
DNI number			
e-mail	mortegam@ugr.es	URL web https://bit.ly/m/mom-ugr	
Open Researcher and Contributor ID (ORCID) (*)		0000-0002-2395-9391	

(*) Mandatory

A.1. Current position

Position	Associate Professor (Profesor Titular Universidad)		
Initial date	21/07/2022		
Institution	Universidad de Granada		
Department/Center	Organic Chemistry	Faculty of Science	
Country	Spain	Teleph. number	
Key words	Click-Chemistry, Carbon Nanoparticles, Vinylsulfones, Bioconjugation, Glycochemistry, Selenium		

A.2. Previous positions (research activity interuptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
2021-2022	Associate Professor (Profesor Contratado Doctor) Universidad de Granada
2018-2021	Associate Professor (Profesor Ayudante Doctor) Universidad de Granada
2016-2018	Director I+D Grontal Soluciones Biotecnológicas (P.Torres-Quevedo) 2014
2013-2016	Contratado Investigación con cargo a Proyecto Química Orgánica UGR
2011-2013	Post-doctoral CNIC Madrid (GREIB Excellence Post-Doc)
2008-2011	Postdoctoral excelencia Junta Andalucia Dept. Organic Chemistry UGR
2003-2007	PhD (MEC FPU fellowship) Dept. Organic Chemistry Universidad de Granada

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Licenciado en Química	**Universidad de Granada**	**2002**
Doctor en Química Orgánica	**Universidad de Granada**	**2007**

(Include all the necessary rows)

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

Professor Ortega-Muñoz (**https://bit.ly/m/mom-ugr**) studied at the UGR (Graduate B.Sc., 2002, and Ph.D. in Chemistry, 2007). Since his student stage he works in the research group “Glycochemistry and Bioconjugation” "GlycoChemBio" led by Professor F. Santoyo-Gonzalez. He did a pre-doctoral stay (Professor F. Albericio, Parc Cientific de Barcelona, 2004) and a post-doctoral stay (Professor J. Vazquez; Spanish National Centre for Cardiovascular Research, 2011-13). Since 2022 he is a Senior Lecturer at the Department of Organic Chemistry at the UGR.

Professor Ortega-Muñoz' main scientific interests are focused on (a) the development and applications of novel synthetic methodologies in the areas of carbohydrate chemistry, glycochemistry, bioconjugation and nanoparticles, and (b) the biological activity and technological applications of synthetic compounds and materials related to such areas. Professor Ortega-Muñoz' main contributions and outputs are:

I. Generation of knowledge:

I.1. Development of novel synthetic methodologies and their applications related to: **(1) Click-chemistry reactions**: (a) **the Cu(I) catalyzed cycloaddition of alkyne and azides**, through the development of novel heterogeneous and non-heterogeneous magnetic and non-magnetic catalysts for such reactions, (b) **the free-cooper 1,3-dipolar and Michael reaction of vinyl sulfones** and their applications, and (c) **click coupling-and-decoupling methodologies based in vinyl sulfonates**; **(2) The synthesis of neoglycoconjugates** (glycodendrimers, glycocyclodextrins, glycocalixarenes); **(3) Click-based techniques for bioconjugation, labeling and immobilization of biomolecules, (4) The synthesis of Organic-inorganic hybrid materials and carbohydrate-based polymeric matrices, (5) Non-viral gene vectors** for transfection and drug targeted delivery systems; **(6) Nanoparticle-based systems: (a) Au-based Nanoparticles** and their applications as catalyst, and (b) Carbon Nanodots **(CNDots) based** and their applications nano-platfomrs for the preparation of glyco-CNDots, amphiphilic CNDots for drug delivery, microfluidic systems and Selenium funcionalizated CNDots.

I.2. Biological studies related to: (1) Biological activity of neoglycoconjugates; (2) Gene-transfection; and (3) Drug-delivery.

I.3. *Funding:* Research in 12 Research Projects from diverse Government and Private Entities.

I.4. *Results:* 41 research articles (H index: 20; Times cited: 1408 (total); 31.3 (cite/item); (Source: Scopus and Clarivate, October/2023)

II. Contributions to the society.

II.1. Knowledge-transfer for the technological development and innovation activities: inventor of 6 patents.

II.3. *Interdisciplinary collaborations*: (a) R. Salto Gonzalez, Regulación Bioquímica y Genética del Metabolismo, Bioquímica y Biología Molecular, UGR; (b) L.F. Capitan Valley, Espectrometría de Fase Solida, Química Analítica, UGR; (c) F.J. Gamiz-Perez, Electronica y Tecnologia de Computadores, UGR; (d) F. Rodríguez Serrano, Anatomía y Embriologia Humana, Instituto de Biopatología y Medicina Regenerativa, UGR; (e) A. Vargas Berenguel, Quimica Organica, UAL; (f) J.M. Garcia Fernandez, Q. Bioorganica y Supramolecular de Carbohidratos, IIQ, CSIC, Sevilla; (g) C. Ortiz-Mellet, Q. Bioorgánica de Carbohidratos, Química Organica, US.

III. Development of individuals

Professor Ortega-Muñoz contributions to the training of young researchers included (a) *Direction of Collaboration Grants, Research Initiation Grants, Undergraduate and Master's Degree Final Projects*. 13 (total) (b) ***Doctoral Theses*** Supervised or in progress: 1 in progress (total); (c) ***Alumni PhD*** *trained in the research group:* Perez Garrido, Laura. UGR, Predoctoral Research, UGR.

IV. Scientific Identifiers: https://bit.ly/m/mom-ugr

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

C.1. Publications *(see instructions)*

1. Perez-Garrido, L.; **Ortega-Muñoz, M**.; Hernandez-Mateo, F.; Lopez-Jaramillo, F.J.*; Santoyo-Gonzalez, F*. Turning carbon dots into selenium bearing nanoplatforms with in vitro GPx-like activity and pro-oxidant activity *Nano Research* **2023,** 16, 7784–7791 (DOI 10.1007/s12274-023-5442-3) Position **(2/5)**
2. Alvarado, S., Megia-Fernandez, A., **Ortega-Muñoz, M.,** Hernandez-Matero, F., Lopez-Jaramillo, F.J., Santoyo-Gonzalez, F. Removal of the Water Pollutant Ciprofloxacin Using Biodegradable Sorbent Polymers Obtained from Polysaccharides. *Polymers* **2023**, 15, 3188 (DOI: 10.3390/polym15153188) Position **(3/6)**
3. **Ortega-Muñoz, M**.; Vargas-Navarro, P.; Plesselova, S. et al.; Lopez-Jaramillo, F.J.*; Santoyo-Gonzalez, F.* Amphiphilic-like carbon dots as antitumoral drug vehicles and phototherapeutical agents, *Mater. Chem. Front.* **2021**, 5, 8151-8160 (DOI: 10.1039/d1qm00855b) Position **(1/10).**
4. **Ortega-Muñoz, M**.; Plesselova, S.; Delgado, A.V.; Santoyo-Gonzalez, F.; Salto-Gonzalez, R.; Giron-Gonzalez, M.D.; Iglesias, G.R.*; Lopez-Jaramillo, F.J.* Poly(ethylene-imine)-functionalized magnetite nanoparticles derivatized with folic acid: heating and targeting properties, *Polymers* **2021**, 13, 1599 (DOI: 10.3390/polym13101599) Position (**1/8)**
5. Santoyo-Gonzalez, F.; Hernandez-Mateo, F.; Lopez-Jaramillo, F.; **Ortega-Muñoz, M**. Divinyl sulfone. Enclopedia of Reagents for Organic Chemistry, John Wiley & Sons, **2021**. DOI: 10.1002/047084289X.rd476.pub2. Position (**4/4)**
6. De Los Reyes-berbel, E.; Ortiz, I.; **Ortega-Muñoz, M**.; Salinas-Castillo, A.; Capitán-Vallvey, L.; Hernandez-Mateo, F.; Lopez-Jaramillo, F.J.; Santoyo-Gonzalez, F.. Carbon dots-inspired fluorescent cyclodextrins: competitive supramolecular "off-on" (bio)sensors. Nanoscale, **2020**, 12, pp. 9178-9185. (DOI: 10.1039/D0NR01004A) Position **(3/8)**
7. **Ortega-Muñoz, M**.; Vargas-Navarro, P.; Hernadez-Mateo, F.; et al. Lopez-Jaramillo, F.J.*; Santoyo-Gonzalez, F*. Acid anhydride coated carbon nanodots: activated platforms for engineering clicked (bio)nanoconstructs, *Nanoscale* **2019**, 11, 7850-7856 (DOI: 10.1039/c8nr09459d)) Position **(1/10)**
8. **Ortega-Muñoz, M**..; Blanco, V.; Hernandez-Mateo, F..; Lopez-Jaramillo F.J*: Santoyo-Gonzalez F*, Catalytic materials based on surface coating with poly(ethyleneimine)-stabilized gold nanoparticles *ChemCatChem* **2017**, 9: 3965-3973 (DOI: 10.1002/cctc.201700776) Position **(1/5)**
9. Megia-Fernandez, A, **Ortega-Muñoz, M**., Lopez-Jaramillo J., Hernadez-Mateo, F.; Santoyo-Gonzalez, F. Non-Magnetic and Magnetic Supported Copper (I) Chelating Adsorbents as Efficient Heterogeneous Catalysts and Copper Scavengers for Click Chemistry. **2010**. *Advanced Synthesis & Catalysis* 352 (18), 3306-3320. (doi.org/10.1002/adsc.201000530) Position **(2/5)**
10. **Ortega-Munoz, M**; Morales-Sanfrutos, J; Megia-Fernandez, A; Lopez-Jaramillo, F; Hernandez-Mateo, F ; Santoyo-Gonzalez, F. Vinyl sulfone functionalized silica: a "ready to use" pre-activated material for immobilization of biomolecules. *Journal of material chemistry*, **2010,** 20(34), 7189-7196. (DOI10.1039/c0jm00720j) Position **(1/6)**

C.3. Research projects,

1. CEI2014-MPBS26. Avances en proteómica usando sistemas biotina-vinilsulfonato. Universidad de Granada. Ortega-Muñoz, Mariano (Universidad de Granada). 2014-2014. 3000 EUR. (**Responsable)**
2. Matrices poliméricas biodegradables basadas en polisacáridos y ciclodextrinas. Materiales secuestrantes de contaminantes emergentes en aguas. Progama operativo FEDER Andalucia. Desde 1/07/2021 hasta 30/06/2023. IPs: F. Santoyo-González & F. J. Lopez-Jaramillo, U. de Granada; Cuantía: 35000 € **(Investigador)**
3. UGRVID: sistema electrónico de detección rápida y cUantitativa de inmunoGlobulinas (IgA secretora, IgGs e IgMs) para el diagnóstico pRecoz de coVID-19 mediante un biosensor portátil de grafeno. Junta de Andalucía. Desde 10/07/2020 hasta 10/10/21
   IP: F. Gámiz; Universidad de Granada; Cuantía: 99.745 € **(Investigador)**

4. Carbon Dots Funcionales: Síntesis, Caracterización y Aplicaciones Biológicas (CTQ2017-86125-P) Ministerio de Economía. Industria y Competitividad. Desde 2018/01/01 hasta 2020/12/31. IP: F. Santoyo Gonzalez; Univ. Granada; Cuantia: 50.000 € **(Participante)**
5. Síntesis y Evaluación Biológica de Vectores Antitumorales Dirigidos Basados en Ciclodextrinas para el Transporte Activo de Fármacos (Ref CTQ2011-29299-C02-01) Ministerio de Ciencia y Competitividad; Desde 01/01/2015 hasta 31/12/2018. IP: F. Santoyo Gonzalez; Univ. Granada; Cuantía: 71.390 € **(Investigador)**
6. Sintesis de nuevos agentes de transfeccion especificos basados en vinil sulfonas. Ministerio de ciencia e innovación. Referencia: CTQ2011-29299-C02-01. Santoyo-Gonzalez, Francisco (Universidad de Granada). 2012-2015. 87120 EUR. (**Investigador)**

C.4. Contracts, technological or transfer merits

Contracts.

1º) Ayuda Torres Quevedo Convocatoria 2014:
Título: Desarrollo de nuevos marcajes isotópicos estables basados en vinilsulfonas para proteómica cuantitativa y redox. Organismo: Ministerio de Economia y Competitividad. Convocatoria: Ayuda Torres Quevedo 2014. Referencia: PTQ-14-07053 subvención: 115.817€. Investigador: Mariano Ortega Muñoz. Centro: Grontal Soluciones Biotecnológicas s.l.

Patentes:

1. Francisco Santoyo González Fernando Hernández Mateo, Javier López Jaramillo, **Mariano Ortega Muñoz**, Julia Morales Sanfrutos; P200702542, Titulada "Compuesto de sílica-vinilsulfona, síntesis y usos del mismo", con fecha de prioridad 28/09/2007. De la que posteriormente se realizó solicitud PCT con Nº PCT/ES2008/070151
2. Francisco Santoyo González, Fernando Hernández Mateo, Francisco Javier López Jaramillo, **Mariano Ortega Muñoz**. P200800576, Titulada "Agentes de etiquetado simple basados en vinilsulfona", con fecha de prioridad 28/02/2008. De la que posteriormente se realizó solicitud PCT con Nº PCT/ES2009/070034
3. Francisco Santoyo González Fernando Hernández Mateo, Javier López Jaramillo, Julia Morales Sanfrutos, **Mariano Ortega Muñoz**, P200801474, Titulada "Compuesto para el etiquetado de biomoléculas basado en vinilsulfona, preparación y usos", con fecha de prioridad 20/05/2008. De la que posteriormente se realizó solicitud PCT con N PCT/ES2009/000309
4. Santoyo González, Francisco, **Ortega Muñoz, Mariano**, Hernández Mateo, Fernando.P201001077, Titulada "Procedimiento de obtención de ácido maslínico y ácido olenólico", con fecha de prioridad 16/08/2010. De la que posteriormente se realizó solicitud PCT con Nº PCT/ES2011/000255
5. Santoyo González, Francisco, **Ortega Muñoz, Mariano**, Hernández Mateo, Fernando.P201100796, Titulada "Procedimiento de extracción de ácidos triterpénicos e hidroxitirosol a partir de soluciones de aderezo de aceitunas", con fecha de prioridad 11/07/2011. De la que posteriormente se realizó solicitud PCT con Nº PCT/ES2012/070389

MINISTERIO DE CIENCIA E INNOVACIÓN

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AGENCIA ESTATAL DE INVESTIGACIÓN

CURRICULUM VITAE ABREVIADO (CVA)

***IMPORTANT** – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.*

Part A. PERSONAL INFORMATION

First name	Carmen		
Family name	Ortiz Mellet		
Gender (*)		Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail	mellet@us.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)		0000-0002-7676-7721	

(*) Mandatory

A.1. Current position

Position	Professor of Organic Chemistry			
Initial date	2009			
Institution	University of Seville			
Department/Center	Organic Chemistry	Faculty of Chemistry		
Country	Spain		Teleph. number	+34 954 559806
Key words	carbohydrates; iminosugars; glycomimetics; supramolecular chemistry; immunomodulation; biological chemistry			

A.2. Previous positions (research activity interuptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
1987-2009	Tenured Professor / University of Seville

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD in Chemistry	University of Seville/ Spain	1984

Total number of citations / Average nº of citations during last five years: 8370**/** 586
JCR articles: 284
h-index: 52 (WOS).
Thesis supervised: 23 (+ 4 in preparation).
Six-year research periods acknowledged by the Spanish Agency CNEAI: 6. Last period approved: 2013-2018
Six-year knowledge transference period acknowledged by the Spanish Agency CNEAI: 1 (2019)

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

Born in Seville, I studied Chemistry at the University of Seville, where I was graduated in 1979 and received her doctorate in 1984 in the field of glycoconjugate synthesis. In 1987 I got a position as Lecturer of Organic Chemistry. She furthered her postdoctoral training at the Center for Nuclear Studies in Grenoble, France (1990 and 1995) where she acquired skills in supramolecular chemistry and synthesis of bioactive complex oligosaccharides. Upon her return to the University of Seville, she assumed the direction of the Group of Bioorganic Chemistry of Carbohydrates, being promoted to Full Professor of Organic Chemistry in 2009. Since 2019 she serves as Director of the Department of Organic Chemistry of the Faculty of Chemistry of the University of Seville, being since 2021 Commissioner of the Science Branch in the Research Commission at the same University. I have been Visiting Professor at the École Normale Supérieure de Cachan (Paris-Saclay University) and the University of Picardie in France and at the University of Hokkaido (Japan).

My field of work and the research lines of her group revolve around "Carbohydrates for health and well-being" with a clear focus on the development of new therapies, both for orphan diseases and global health problems. Recently, I have been the co-inventor of a patent on a new treatment for Alzheimer's disease and, in the context of the current Covid-19 pandemic, she has established a collaboration contract with the company BioNTech (Germany) for the development of a new generation of nucleic acid-based vaccines acting as co-inventor of four new patents. In addition, she collaborates with Amicus Therapeutics (USA) in the development of new drugs for the treatment of Fabry disease. Although chemistry is the central axis, all these topics require multidisciplinary approaches that involve collaborations with national and international groups in areas such as pharmacology, physical chemistry, biophysics, biochemistry, immunology, medicine or food technology, among others.
The research activity has been complemented throughout her career with a clear vocation for teaching and training young researchers. I am the author of more than 250 articles in scientific publications, 10 chapters in books and 22 patents. I have supervised 23 Doctoral Theses (4 more in preparation) and 23 Master's Thesis. My academic citation h-index is 52 (November 2022), that mean one of the most cited researchers in the field in Spain. I have numerous interactions and contracts with companies, especially in the pharmaceutical and agri-food sectors, including Farmhispania, Herba Ricemills, Dosbio, Amicus Therapeutics and BioNTech SE. I has been awarded the Research Prize “University of Seville-Bruker” in three occasions and the“Premio Fama” for my research career and the “Knowledge Transfer Award”, both from the University of Seville in the area of Science.

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

C.1. Publications *(see instructions)*

1. M. González-Cuesta, … Y.-J. Chang**, C. Ortiz Mellet** (**AC**; 9/9). **2023** Serine-/Cysteine-Based sp2-Iminoglycolipids as Novel TLR4 Agonists: Evaluation of Their Adjuvancy and Immunotherapeutic Properties in a Murine Model of Asthma*. J. Med. Chem.. FI: 7.446 (D1*); DOI: 10.1021/acs.jmedchem.2c01948

2. I. Herrera-González, M. Thepaut, E.M. Sánchez-Fernández,…**C. Ortiz Mellet** (**AC**; 10/10). **2022**, Mannobioside biomimetics that trigger DC-SIGN binding selectivity. *Chem. Commun. 58*, 12086-12089. FI: 5.996 (Q2); DOI: https://doi.org/10.1039/D2CC04478A

3. M. González-Cuesta, P. Sidhu, R. Ashmus, …, **C. Ortiz Mellet** (**AC**; 12/13), D. J. Vocadlo. **2022,** Bicyclic picomolar OGA inhibitors enable chemoproteomic mapping of its endogenous post-translational modifications. *J. Am. Chem. Soc., 144*, 832-844. FI: 16.383 (D1). DOI: 10.1021/jacs.1c10504.

4. L. Gallego-Yerga, C. de la Torre, F. Sansone, A. Casnati, **C. Ortiz Mellet**, J. M. García Fernández, V. Ceña. **2021**. Synthesis, self-assembly and anticancer drug encapsulation and delivery properties of cyclodextrin-based giant amphiphiles. *Carbohydr. Polym*., *252*, 117135. FI: 10.723 (D1). DOI: 10.1016/j.carbpol.2020.117135

5. A. I. Carbajo Gordillo, J. L. Jiménez Blanco, J. M. Benito,…**C. Ortiz Mellet** (**AC**; 10/13),..José M. García Fernández. **2020**. “Click” synthesis of size and shape-tunable star polymers with functional macrocyclic cores for synergistic DNA complexation and delivery. *Biomacromolecules, 21,* 5173-5188*.* FI :6.988 (D1); DOI: 10.1021/acs.biomac.0c01283.

6. P. Guillen-Poza, E. M. Sánchez-Fernández, G. Artigas, J. M. García Fernández, H. Hinou, **C. Ortiz Mellet (AC)**, S.-I. Nishimura, F. García Martín **2020.** “Amplified detection of breast cancer autoantibodies using MUC1-based Tn antigen mimics”. *J. Med*. *Chem. 63*, 8524-8533. FI: 7.446 (D1); DOI: 10.1021/acs.jmedchem.0c00908.

7. A. Bermejo, C. D. Navo, J. Castro-López, ..**C. Ortiz Mellet** (11/17),…F. Corzana . **2020**. “Synthesis, Conformational Analysis and in vivo Assays of an Anti-cancer Vaccine that features an Unnatural Antigen based on a sp^2-Iminosugar Fragment”. *Chem. Sci. 11*, 3946-4006. FI*:* 9.825 (Q1); DOI: 10.1039/C9SC06334J.

8. I. Herrera-González, E. M. Sánchez-Fernández, A. Sau, C. Nativi, J. M. García Fernández, M. C. Galan, **C. Ortiz Mellet (AC)**. **2020**. “Stereoselective Synthesis of Iminosugar 2-Deoxy(thio)glycosides from Bicyclic Iminoglycal Carbamates Promoted by Cerium(IV) Ammonium Nitrate and Cooperative Brønsted Acid-Type Organocatalysis”. *J. Org. Chem. Chem. 85*, 5038-5047. FI*:* 4.354 (Q1); DOI: 10.1021/acs.joc.0c00324.

9. M. González-Cuesta, D. Goyard, E. Nanba, K. Higaki, J. M. García Fernández, O. Renaudet, **C. Ortiz Mellet (AC)**. **2019** .“Multivalent glycoligands with lectin/enzyme dual specificity: self-

deliverable glycosidase regulators". *Chem. Commun. 55*, 12845-12848. FI: 5.996 (Q1); DOI: 10.1039/C9CC06376E.
10. E. M. Sánchez-Fernández, M. I. García-Moreno, A. I. Arroba,…**C. Ortiz Mellet (AC**; 12/12**)**. **2019.** "Synthesis of polyfluoroalkyl sp^2-iminosugar glycolipids and evaluation of their immunomodulatory properties towards anti-tumor, anti-leishmanial and anti-inflammatory therapies". *Eur. J. Med. Chem. 182*, 111604. FI: 5.572 (D1); DOI: 10.1016/j.ejmech.2019.111604.
11. J.-F. Nierengarten, J. P. Schneider, T. M. N. Trinh,.. **C. Ortiz Mellet (AC**; 10/11**)**, P. Compain. **2018** "Giant Glycosidase Inhibitors: First- and Second-Generation Fullerodendrimers with a Dense Iminosugar Shell". *Chem. Eur. J. 24*, 2483-2492. FI: 5.160 (Q1); DOI: 10.1002/chem.201705600.

C.2. Congress, indicating the modality of their participation (invited conference, oral presentation, poster). Please visit https://prisma.us.es/investigador/3098

C.3. Research projects, indicating your personal contribution. In the case of young researchers, indicate lines of research for which they have been responsible.
. Ref: PID2019-105858RB-I00 Glycoconjugate mimetics: new glycomedicine strategies targeting neurological and immune system-related diseases. (Convocatoria 2019 Proyectos de I+D+i - RTI Tipo B). Ministerio de Ciencia e Innovación. **C. Ortiz Mellet (IP).** June 2020 - May 2023. 139.150,00 €.
2. Ref: US-1380698. Crossed recognition between glycosidases and lectins: mechanisms and opportunities for the development of multitarget drugs. Junta de Andalucía. **C. Ortiz Mellet (IP).** September 2021 – December 2022. 80.000,00 €.
3. Ref: SAF2016 76083R. Glycomimetic-based therapies for the treatment of protein folding diseases, inflammation and cáncer. Ministerio de Economía y Competitividad. **C. Ortiz Mellet (IP).** January 2017 hasta December 2019. 169.400,00 €.
4. Ref. FP7-PEOPLE-2012-CIG. Glycodrugs: new strategies for controlling the activity of glycosidaseenzymes and their application in therapies for lysosomal storage diseases and cancer (GLYCODRUGS). 7º Programa Marco (Marie Curie Career Integration Grants, CIG. **C. Ortiz Mellet (IP).** July 2013 - July 2017. 200.000 €.
5. Ref. SAF2013-44021R. Inhibitors, Chaperones and Nutraceutics based on carbohydrates for biomedical applications in lysosomal storage disorders, cancer and Crohn disease. Ministerio de Economía y Competitividad. **C. Ortiz Mellet (IP).** January 2014 - December 2016. 217.800,00 €.

C.4. Contracts, technological or transfer merits,
1. Next generation mRNA-based vaccines. BioNTech SE. **C. Ortiz Mellet (IP).** April 2021 to April 2024. 450.000,00€
2. Propiedades farmacocinéticas de la 6S-NBI-DGJ. AMICUS THERAPEUTICS. **C.Ortiz Mellet.** June 2018 to May 2019. 24.529,84€. **C. Ortiz Mellet (IP).** April 2021 - April 2024. 450.000,00€.
3. INTERCONECTA. Experimental development of transformation proceses of lignocellulosic biomass. CENTRO DE ANÁLISIS AGROPECUARIO, S.L. -CANAGROSA. **C. Ortiz Mellet (IP).** January 2012 to December 2014. 90.000,90€
4. Development of New products from rice and legume. Chemical Analysis. HERBA RICEMILLS, S.L. **C. Ortiz Mellet (IP).** November 2010 to June 2012. 143.405,00€
5. (a) Investigation, preparation and possible use of cyclodextrin derivatives as muscle relaxants antagonists. FARMHISPANIA S. A. **C. Ortiz Mellet (IP).** December 2011 - January 2012. 62.538,90€. (b) March 2012 to March 2013. 65.665,90€.

C.4. Patents (selected from 2017)
1. J. M. García Fernández, A. Parejas Barranco, **C. Ortiz Mellet**, et al. Immunomodulatory Thiourea and Urea Carbohydrate Compounds and uses thereof. CSIC – Univ. Sevilla –Univ. Hokkaido – Univ. Kanazawa (Japan). EP23382023.2, **2023**. Priority date: 13/01/**2023**.
D. Vocadlo, J. M. García Fernández, **C. Ortiz Mellet**, et al. Glycosidase inhibitors and uses thereof. Univ. Simon Fraser (Canada) – CSIC – Univ. Sevilla. US Provisional Patent Application 63/083,293, **2020**. Priority date: 25/09/2020. PCT/IB**2021**/058706. Priority date: 27/09/**2021**.

2. J. M. García Fernández, **C. Ortiz Mellet**, et al. Multiantennary Glycolipid Mimetics and Uses Thereof. CSIC – Univ. Sevilla – Academia Sinica (Taiwan). EP21382980.7, **2021**. Priority date: 29/10/2021. PCT/EP2022/079553, **2022.** Priority date: 22/10/**2022.** Licenced BioNTech SE.
3. J. M. García Fernández, **C. Ortiz Mellet**, et al. Anti-Inflammatory Glycolipid Mimetics and Uses Thereof. CSIC – Univ. Sevilla – Academia Sinica (Taiwan). EP21382981.5, **2021**. Priority date: 29/10/**2021**. PCT/EP2022/079912, **2022.** Priority date: 24/10/**2022.** Licenced BioNTech SE.
4. J. Moreno Herrero, H. Haas, … **C. Ortiz Mellet,** et al. Oligosaccharide compounds and complexes. EP21382958.3, **2021**. Priority date: 22/10/**2021**. EP22382514.2. Priority date: 30/05/**2022**. EP22382895.5. Priority date: 29/09**/2022**. PCT/EP2022/079340, **2022**. Priority date: 21/10/**2022**. CSIC – Univ Sevilla – BioNTech SE. Licenced BioNTech SE.
5. J. Moreno Herrero, H. Haas, … **C. Ortiz Mellet,** et al. Oligosaccharide complexes and uses. EP21383082.1., **2021**. Priority date: 30/11/2021. EP22382517.5. Priority date: 30/05/2022. EP22382898.9. Priority date: 29/09/2022. PCT/EP2022/079345, **2022**. Priority date: 21/10/2022. CSIC – Univ Seville – BioNTech SE. Licenced BioNTech SE.
6. J. M. García Fernández, L. E. Atencio Genes, **C. Ortiz Mellet**, et al. ES/ P201530475, **2017,** PCT**/**ES **2017**/070764. Procedure for the preparation of caramels with a high content of prebiotic oligosaccharides. Spain. 30/03/2015. CSIC – Univ. Seville– CNRS – Univ. of Poitiers.
7. J. M. García Fernández, **C. Ortiz Mellet**, et al. ES/ P201530475, PCT/ES**2016**/070244. Composition for the treatment of lysosomal diseases. Spain. 10/04/2015. CSIC – Univ. Seville– Univ. Pablo de Olavide.

C.5 Supervised PhD (from 2017, 23 in total and 4 more in preparation).
1. Strategies of glycosidation with sp^2-iminosugars. Synthesis of multivalent mannooligosacharide mimetics and study of their interactions with C-type lectins using spectroscopic, computational and biophysical techniques. Irene Herrera González. University of Seville. December **2022**
2. New strategies based on carbohydrates for the study and treatment of neurodegenerative diseases, regulation of immune system and nucleic acid delivery. doctorando: Manuel González Cuesta. University of Seville. June **2022**
3. Biomolecular transport systems based on cyclooligosaccharides and dendrimers. Ana Isabel Carbajo Gordillo. University of Seville. Enero **2021**.
4. Control of supramolecular properties of cyclodextrins based in the incorporation of aromatic clips. applications in gene material transport. Tania Neva Rodríguez. Univ. de Seville, **2019.**
5. Glycobiotics: Preparation of caramels with functional properties. Loyda Esther Atencio Genes. Univ. de Seville, **2017.**

C.6 Selected Prizes and others
1.- Awarded with the prize for the trajectory in transfer of knowledge-University of Seville (**2019**) and with the research prize FAMA-University of Seville for the trajectory in Natural Sciences (**2014**).
2. Awarded with the Research prize University of Seville-BRUKER (**2014, 2016** and **2021**).
3. Head of Research Group “Bioorganic Chemistry of Carbohydrates (FQM 308) financed by Junta de Andalucía from **2001**.
4. Head of “Servicio de Criogenia de los Servicios Generales de Investigación de la Universidad de Sevilla” (CITIUS, from September 2011).
5. Project reviewer for the Spanish Fondo for the Ministerio de Ciencia e Innovación (MEC) and Ministerio de Economía y Competitividad (MINECO), the European Research Council (ERC projects), the Colombian Fondo para proyectos de Ciencia (COLCIENCIAS), Tecnología e Innovación the Argentinian Fondo for Investigación Científica y Técnica de Argentina (FONCYT), and the French Agence Nationale de la Recherche de Francia (ANR).
6. Expert reviewer of projects of European call H2020-FETOPEN-2014/2015 and Cross-read Vice-chair of European calls H2020-FETOPEN-2015, H2020-FETOPEN-2017, H2020-FETOPEN-2019, HORIZON-EIC-2021-PATHFINDEROPEN).

Parte A. DATOS PERSONALES

Nombre y apellidos	José Luis JIMÉNEZ BLANCO		
Núm. identificación del investigador		Researcher ID	C-3946-2013
		Código Orcid	0000-0002-5249-9013

A.1. Situación profesional actual

Organismo	Universidad de Sevilla			
Dpto./Centro	Química Orgánica / Facultad de Química			
Dirección	C/ Profesor García González 1, 41012- Sevilla			
Teléfono	954551519	Correo electrónico	iljb@us.es	
Categoría profesional	Profesor Titular Universidad	Fecha inicio	2008	
Espec. cód. UNESCO	2306 (Química Orgánica); 230606 (Carbohidratos)			
Palabras clave	carbohidratos, glicomiméticos, reconocimiento molecular, transporte de fármacos, síntesis orgánica, química supramolecular, nanoparticulas moleculares, ciclodextrinas, ciclotrehalanas.			

A.2. Formación académica (título, institución, fecha)

Licenciatura/Grado/Doctorado	Universidad	Año
Licenciatura Química	Universidad de Sevilla	1992
Doctorado	Universidad de Sevilla	1996

A.3. Indicadores generales de calidad de la producción científica *(véanse instrucciones)*

Indicador	Medida
Sexenios de investigación	5
Índice H	24
Tesis doctorales dirigidas	3
Promedio de citas/año durante los últimos 5 años	18
Publicaciones totales en primer cuartil (Q1)	35
Citas totales	1585
Fecha del último sexenio	19/06/2017

Parte B. RESUMEN LIBRE DEL CURRÍCULUM

José Luis Jiménez Blanco studied chemistry at the University of Seville (Spain)where he obtained adegree in Chemistry in 1992. He completed his PhD in the field of carbohydrate chemistry (1996) obtaining the Extraordinary Doctorate Awards of the University of Seville (academic year 1995/96) and San Alberto Magno of the Official College of Chemists (1997) for his Doctoral Thesis. He joined the Professor J. F. G. Vliegenthart and J. P. Kamerling's research group at the University of Utrecht (Netherlands), obtaining a Marie Curie scholarship (1998) during this stay. In 2000, he rejoined the University of Seville under the direction of Professor C. Ortiz Mellet, to carry out studies in the design of pseudooligosaccharides of biological interest. He obtained an associate professor position in the Department of Organic Chemistry of this university in 2002 and was promoted to Full Professor of University in 2008. His recent research focuses on the design, synthesis and characterization of new glycosystems for the study of carbohydrate-protein and carbohydrate-nucleic acid interactions, aimed at the development of applications in specific drugs and gene transfection.

He is co-author of 52 publications in indexed journals of the area of knowledge of Organic Chemistry and Multidisciplinary Chemistry, 31 located in the first quartile of the corresponding area and in 8 of them as "corresponding author". Almost all publications are circumscribed to the chemistry of carbohydrates although they have touched very different aspects such as the synthesis of mono- and disaccharidic glycomimetics (Doctoral Thesis), structural and conformational studies of oligosaccharides of biological interest (Postdoctoral stay), design of pseudooligosaccharides of biological interest (Return to the University of Seville), design and evaluation of the supramolecular and biological properties of amphiphilic derivatives of linear and cyclic oligosaccharides as gene

transfection agents (University of Seville). He has also published a book chapter and a publication in a non-indexed scientific journal and given a lecture at the Real Academia Sevillana de Ciencias on the occasion of the award of the Young Researchers Prize of the Real Academia Sevillana de Ciencias in 2003. During all this time he has participated with 78 contributions in national and international congresses in the field of Organic Chemistry, Carbohydrate Chemistry and Biological Chemistry, including 4 oral communications in international congresses and 4 in national congresses.

Since the beginning of his scientific career, he has participated in 9 projects of the National Research Plans, 1 project of the General Subprogram of Scholarships Abroad of the Ministry of Education and Culture, 3 projects of the Marie Curie Program of the European Community, 1 project financed with FEDER Funds, 2 project of the Junta de Andalucía and 1 project financed by the Ramón Areces Foundation.

He has also directed two Master's Final Projects and three Doctoral Theses and has held the position of Chemistry Speaker for the Evaluation and University Access Tests from the University of Seville from 2016-2019 and was Vice-Dean of Institutional Relations of the Faculty of Chemistry since February 2020 until May 2023 and currently is head of the Mass Spectrometry Service of the Center of Investigation, Technology and Innovation of the University of Seville (CITIUS).

Parte C. MÉRITOS MÁS RELEVANTES *(ordenados por tipología)*

C.1. Publicaciones

1 AUTORES: C. de la Torre, P. Játiva, I. Posadas, D. Manzanares, **J. L. Jiménez Blanco**, C. Ortiz Mellet, J. M. García Fernández, V. Ceña.
TÍTULO: A β-cyclodextrin based nanoparticle with very high transfection efficiency unveils siRNA-activated TLR3 responses in 3 human prostate cancer cells.
REF. REVISTA/LIBRO: Pharmaceutics. (2022) 14, 2424. Índice de impacto año 2022: 5.400, (51/277, Q1, Farmacología y Farmacia).

2 AUTORES: A.I. Carbajo-Gordillo, J. López-Fernández, J.M., Benito, **J. L. Jiménez Blanco**, M. L. Santana-Armas, G. Marcelo, C. Di Giorgio, C. Przybylski, C. Ortiz Mellet, C. Tros de Ilarduya, F. Mendicuti, J.M García Fernández.
TÍTULO: Enhanced Gene Delivery Triggered by Dual pH/Redox Responsive Host-Guest Dimerization of Cyclooligosaccharide Star Polycations
REF. REVISTA/LIBRO: Macromolecular Rapid Communications, (2022) 43, 2200145. Índice de impacto año 2022: 4.600 (18/86, Q1, Ciencia de polímeros).

3 AUTORES: A. I. Carbajo-Gordillo, M. González-Cuesta, **J. L. Jiménez Blanco**, J. M. Benito, M. L. Santana-Armas, T. Carmona, C. Di Giorgio, C. Przybylski, C. Ortiz Mellet, C. Tros de Ilarduya, F. Mendicuti, J. M. García Fernández.
Trifaceted Mickey Mouse Amphiphiles for Programmable Self-Assembly, DNA Complexation and Organ-Selective Gene Delivery
Chemistry – A European Journal (2021) 27, 9429-94. Índice de impacto año 2021: 5.02, (64/180, Q2, Química Multidisciplinar).

4 AUTORES: A. Martín-Moreno, **J. L. Jiménez Blanco**, J. Mosher, D. Swanson, J. M. García Fernández, A. Sharma, V. Ceña, M. A. Muñoz-Fernández.
TÍTULO: Nanoparticle-delivered HIV peptides to dendritic cells a promising approach to generate a therapeutic vaccine.
REF. REVISTA/LIBRO: Pharmaceutics. (2020) aceptado. Índice de impacto año 2019: 4.421, (44/270, Q1, Farmacología y Farmacia).

5 AUTORES: A. I. Carbajo-Gordillo, J. Rodríguez-Lavado, **J. L. Jiménez Blanco**, J. M. Benito, C. Di Giorgio, I. Vélaz, C. Tros de Ilarduya, C. Ortiz Mellet, J. M., García Fernández.
TÍTULO: Trehalose-based Siamese twin amphiphiles with tunable self-assembling, DNA nanocomplexing and gene delivery properties.
REF. REVISTA/LIBRO: Chem. Commun. (2019) 55 8227-8230. Índice de impacto año 2018: 6.319, (23/166, Q1, Química Multidisciplinar).

5 AUTORES **J. L. Jiménez Blanco**, J. M. Benito, C. Ortiz Mellet, J. M. García Fernández.
TÍTULO: Molecular nanoparticles-based gene delivery systems.

REF. REVISTA/LIBRO: J. Drug Deliv. Sci. Technol. (2017) 42 18-37. Índice de impacto: 2,297 (148/261, Q3, Farmacología y Farmacia).
7 AUTORES: D. Manzanares, I. Araya-Durán, L. Gallego-Yerga, P. Játiva, V. Márquez-Miranda, J. Canan, **J. L. Jiménez Blanco**, C. Ortiz Mellet, F. D. González-Nilo, J. M. García Fernández, V. Ceña.
TÍTULO: Molecular determinants for cyclo-oligosaccharide-based nanoparticle-mediated effective siRNA transfection.
REF. REVISTA/LIBRO: Nanomedicine. (2017) 12 1607-1621. Índice de impacto: 5,005 (22/161, Q1, Biotecnología y Microbiología Aplicada).

C.2. Proyectos
>Título del proyecto: Miméticos de Glicoconjugados: Nuevas Estrategias en Glicomedicina Dirigidas a Enfermedades Neurológicas y del Sistema Immune.
Entidad financiadora: Ministerio de Ciencia, Innovación y Universidades. Ref: PID2019-105858RB-I00.
Entidades participantes: Universidad de Sevilla
Duración: Jun-20/Mayo-23 Cuantía de la subvención: ¿?€
>Título del proyecto: Terapias Basadas en Glicomiméticos para el Tratamiento de Enfermedades de Plegamiento de Proteínas, Inflamación y Cáncer.
Entidad financiadora: Ministerio de Economía y Competitividad. Ref: SAF2016-76083-R.
Entidades participantes: Universidad de Sevilla
Duración: Dic-16/Dic-19 Cuantía de la subvención: 169.400,0€
Investigador responsable: Prof. Dr. Carmen Ortiz Mellet Tipo de participación: Investigador
>Título del proyecto: Sistemas nanométricos autoensamblados para el transporte de fármacos y material génico: Aplicaciones en terapias contra el cancer.
Entidad financiadora: Proyecto de Investigación de Excelencia. Junta de Andalucia (Ref. FQM 1467).
Entidades participantes: Universidad de Sevilla
Duración: Mayo-14/Mayo-18 Cuantía de la subvención: 177.744,0€
Investigador responsable: Prof. Dr. José M. García Fernández Tipo de participación: Investigador

C.3. Contratos, méritos tecnológicos o de transferencia
1 Título del contrato/proyecto: Estudio y caracterización de materiales para la consolidación de la Fuente de los Pájaros y restauración de mosaicos del conjunto arqueológico de Itálica. Tipo de contrato: Contrato 68/83 LOU Ref: 3979/0751 Empresa/administración financiadora: Metis Conservación y Restauración. Entidades participantes: Universidad de Sevilla
Duración: 01/09/20-30/09/2020 Investigador responsable: Dr. Vicente Flores Alés
PRECIO TOTAL DEL PROYECTO: ¿?€ Tipo de participación: Investigador
2 Título del contrato/proyecto: Estudio de las Alteraciones Aparecidas en las Láminas de Cartón de unas Placas de Yeso Laminado Mediante la técnica FTIR con Dispositivo ATR. Tipo de contrato: Contrato 68/83 LOU Ref: 3949/1058 Empresa/administración financiadora: GEYSER GESTIÓN Y SERVICIOS TÉCNICOS A LA CONSTRUCCIÓN, S.L.. Entidades participantes: Universidad de Sevilla
Duración: 05/10/20-04/11/2020 Investigador responsable: Dr. José Luis Jiménez Blanco
PRECIO TOTAL DEL PROYECTO: 700 € Tipo de participación: Responsable
3 Título del contrato/proyecto: Estudio de materiales y evaluación de tratamientos de restauración en el pabellón de Perú (Sevilla). Tipo de contrato: Contrato 68/83 LOU Ref: 3203/0751 Empresa/administración financiadora: CONDISA S.A.U. Entidades participantes: Universidad de Sevilla
Duración: 30/11/17-29/01/2018 Investigador responsable: Dr. Vicente Flores Alés
PRECIO TOTAL DEL PROYECTO: 12.884,0€ Tipo de participación: Investigador
4 Título del contrato/proyecto: Estudio científico-técnico de la Piedra de la Fachada del Apeadero del Real Alcázar de Sevilla. Tipo de contrato: Contrato 68/83 LOU Ref: 2969/0056

Empresa/administración financiadora: Patronato del Real Alcázar. Entidades participantes: Universidad de Sevilla
Duración: 13/02/17-31/03/2017 Investigador responsable: Dr. Francisco Javier Blasco López
PRECIO TOTAL DEL PROYECTO: ¿?€ Tipo de participación: Investigador
5 Título del contrato/proyecto: Controles para la Restauración de la estatua a Murillo de Sevilla: Ensayos, Diagnóstico y Pruebas de Protección (Sevilla) Tipo de contrato: Contrato 68/83 LOU Ref: 3105/0056 Empresa/administración financiadora: Dédalo Bienes Culturales, S.L.U. Entidades participantes: Universidad de Sevilla
Duración: 02/06/17-01/11/2017 Investigador responsable: Francisco Javier Blasco López
PRECIO TOTAL DEL PROYECTO: 8750,0€ Tipo de participación: Investigador

C.5. Trabajos dirigidos

-Tesis doctoral de Ana Isabel Carbajo Gordillo. Título: Sistemas de Transporte Molecular Basados en Ciclooligosacáridos y Dendrímeros. Universidad de Sevilla, Facultad de Química, Enero 2021

-Tesis doctoral de María del Valle García Soria. Título: Evaluación de la eficiencia de diversos alcoholes alifáticos empleados durante la molienda del cemento Portland. Universidad de Sevilla, ETSI de la Edificación, Septiembre 2017

-Tesis doctoral de Julio Rodríguez Lavado. Título: Glicomiméticos y Glicoligandos anfifílicos. Interacciones con enzimas, receptores y ácidos nucléicos. Universidad de Sevilla, Facultad de Química, Noviembre 2015

-Proyecto Fin de Máster de Adrián Pérez Rodríguez. Título: Síntesis de compuestos de tipo sp^2-iminoazúcar para el tratamiento de la enfermedad de Alzheimer. Universidad de Sevilla, Facultad de Química, Diciembre 2017

-Proyecto Fin de Máster de Julio Rodríguez Lavado. Título: Diseño de Sistemas Supramoleculares de Transporte Vectorizado de Agentes Terapéuticos basados en ciclodextrinas. Universidad de Sevilla, Facultad de Química, Junio 2011.

C.6. Organización de eventos de divulgación científica:

1. Responsable por la Facultad de Química en la organización de las XVIII (2020), XIX (2021), XX (2022) y XXI (2023) ediciones de la Feria de las Ciencias.
2. Responsable de la organización de las XV(2020) y XVI(2022) Jornadas de Laboratorio de la Facultad de Química para Centros de Secundaria y Bachillerato.
3. Responsable por la Facultad de Química en la organización del Salón del Estudiante 2022 y 2023.
4. Ponente en XXV Ciclo de Mesas Redondas de Orientación para la Transición a la Universidad 2020.
5. Secretario de la Comisión Juzgadora de los Premios al Artículo del Mes cursos 2020-21 y 2021-22 de la Facultad de Química.
6. Participación como Vocal de la Comisión Juzgadora de la Olimpiada de Química en su fase local en las ediciones 2011, 2012, 2014, 2015, 2016, 2017, 2018, 2019 y 2021.

C.7. Cargos académicos

1. Ponente de Química para las Pruebas de Evaluación y Acceso a la universidad por la Universidad de Sevilla de 2016-2019 y 2020-21.
2. Vicedecano de Relaciones Institucionales de la Facultad de Química desde Febrero de 2020 a Mayo 2023.
3. Director del Servicio de Espectrometría de Masas del CITIUS (Universidad de Sevilla) desde Octubre 2023.

CURRICULUM VITAE ABREVIADO (CVA)

DATE: 07/11/2023

Part A. PERSONAL INFORMATION

First name	Alba		
Family name	Millán Delgado		
Open Researcher and Contributor ID (ORCID) (*)		0000-0003-2754-270X	
Email		amillan@ugr.es	

(*) Mandatory

A.1. Current position

Position	Associate Professor of Organic Chemistry		
Initial date	20/06/2023		
Institution	University of Granada		
Department/Center	Organic Chemistry, Faculty of Science		
Country	Spain	Teleph. number	958243321
Key words	organic synthesis, organometallic chemistry, radicals, polycyclic aromatic hydrocarbons, single-molecule conductance		
"Sexenios de investigación"	2		
"Quinquenios docentes"	2		

A.2. Previous positions (research activity interuptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
2019-2023	Lecturer, University of Granada
2012-2017	Juan de la Cierva-Incorporación, University of Granada

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD	University of Granada	2012
Degree in Chemistry	University of Granada	2007

(Include all the necessary rows)

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

Alba Millán graduated in Chemistry from the University of Granada (UGR) in 2007. During her PhD studies at the UGR (FPU fellowship, 2008–2012, Supervisors: J. M. Cuerva, L. Álvarez de Cienfuegos, A. G. Campaña) she worked on the development of new reactions combining free radical (Cp_2TiCl_2) and organometallic chemistry (palladium and nickel complexes). This strategy led to expand the substrate scope of classic titanocene (III) chemistry to non-activated pronucleophiles. She defended her PhD with the maximum grade "Summa Cum Laude" and her Thesis was selected as one of the best 5 PhD thesis in Science at UGR. In addition, one of her works was highlighted in Synfacts. In those years, she gained experience in organic synthesis and synthetic methodologies and she acquired strong lab skills. Moreover, she carried out two predoctoral internship: i) 2 months at the Institut Català d'Investigació Química (ICIQ) under the supervision of Prof. A. M. Echavarren and ii) 3 months the Massachusetts Institute of Technology under the supervision of Prof. T. Jamison. These internships led her to work on gold chemistry and expand her knowledge on nickel chemistry respectively. After her PhD, she moved back to the ICIQ for her first postdoctoral stay (2013). She joined Prof. K. Muñiz group, where she was working during one year on iodine(III)-promoted amination reactions, focused on the first "metal-free" synthesis of indoles and diversification of tryptamines. During that year, she gained greater scientific maturity and team-working skills. Afterwards, she was awarded a 2-years postdoctoral fellowship from the Martin Escudero Foundation to continue her development as a researcher in the group of Prof. V.K. Aggarwal

at the University of Bristol (UoB). During this period, she worked on the development of a new methodology for stereocontrolled synthesis of tetrahydropyrans and its application to the total synthesis of (–)-clavosolide A (work selected as Hot Paper by the Editorial). In 2015, she was awarded a Marie Curie fellowship (MSCA) to continue her postdoctoral studies in the same group working on the stereocontrolled synthesis of polypropionates by lithiation-borylation. During these postdoctoral stays she gain experience in different spectroscopic, spectrometric and chromatographic techniques as well as in stereoselective synthesis, which complement her previous background. In this period, she took on a key role in running the research project and managing younger members of the group. As a result, she developed into a capable manager, able to motivate, organize and delegate and she complete the development of teamwork, leadership and inter-personal skills. Moreover, working in an international environment led to develop a greater understanding and flexibility to different working practices and thinking and to establish new collaborations. In 2018, she joined the Department of Organic Chemistry (Prof. Cuerva´s group) at the UGR. Currently she is an Associate Professor in the same Department. Her research is divided in two different research lines: i) the study of properties of polycyclic conjugated compound with especial emphasis on those with diradical character; and ii) the development of simplified analogues of granadaene for the development of a vaccine against Group B Streptococcus (GBS). Since 2018, she has been principal investigator (PI) of 2 national projects and 3 regional projects. Along her career, she has published 23 peer-reviewed articles and her work has been presented in more than 40 scientific meetings. She had been an evaluator of the MSCA program (H2020 and HORIZON) from the European Commission. Since 2018, she has supervised 15 final-year projects, 7 MSc and 2 PhD theses and, currently, she is supervising 3 doctoral theses and 1MSc. Over the years, she has been involved in outreach activities in UK and Spain

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

C.1. Publications *(last ten years, selected)*

1) "*CD1 and iNKT cells mediate immune responses against the GBS hemolytic lipid toxin induced by a non-toxic analog*." A.Furuta, M. Coleman, R. Casares, R, Seepersaud, A. Orvis, A. Brokaw, P. Quach, S. Nguyen, E. Sweeney, K. Sharma, G. Wallen, R. Sanghavi, J. Mateos-Gil, J. M. Cuerva, **A. Millán**, L. Rajagopal. *PLoS Pathog* **2023**, *19*, e1011490.

2) **"***Chiral Single-Molecule Potentiometers Based on Stapled ortho-Oligo(phenylene)ethynylenes*". A. M. Ortuño, P. Reiné, L. Álvarez de Cienfuegos, I. R. Márquez, W. Dednam, E. B. Lombardi, J. J. Palacios, E. Leary, G. Longhi, V. Mujica, **A. Millán**, M. T. González, L. A Zotti, D. Miguel, J. M Cuerva. *Angew. Chem. Int. Ed.* **2023**, *62*, e202218640.

3) "*Engineering the HOMO–LUMO gap of indeno[1,2-b]fluorene*". R. Casares, Á. Martínez-Pinel, S. Rodríguez-González, I. R. Márquez, L. Lezama, M. T. González, E. Leary, V. Blanco, J. G. Fallaque, C. Díaz, F. Martín, J. M. Cuerva, **A. Millán (AC)**. *J. Mater. Chem. C*, **2022**,*10*, 11775-11782.

4) "*Three-state molecular potentiometer based on the non-symmetric position of an in-backbone linker*". L. Palomino-Ruiz, P. Reiné, I. R. Márquez, L. Álvarez de Cienfuegos, J. M. Cuerva, A. G. Campaña, E. Leary, D. Miguel, **A. Millán (AC)**, L. A. Zotti, M. T. González. *J. Mat. Chem. C* **2021**, *9*, 16282-16289.

5) "*Single-Molecule Conductance of 1,4-Azaborine Derivatives as Models of BN-doped PAHs*" L. Palomino-Ruiz, S. Rodríguez-González, J. G Fallaque, I. R. Márquez, N. Agraït, C. Díaz, E. Leary, J. M. Cuerva, A. G Campaña, F. Martín, **A. Millán (AC)**, M. T. González. *Angew. Chem. Int. Ed.* **2021**, *60*, 6609-6616.

6) "*Lipid analogs reveal features critical for hemolysis and diminish granadaene mediated Group B Streptococcus infection*". B. Armistead, P. Herrero-Foncubierta, M. Coleman, P. Quach, C. Whidbey, J. Justicia, R. Tapia, R. Casares, **A. Millan**, A. Haidour, J. Rodriguez

Granger, J. Vornhagen, V. Santana-Ufret, S. Merillat, K. Adams Waldorf, J. M. Cuerva, L. Rajagopal. *Nat. Commun.* **2020**, *11*, 1502.

7) "*O–H and (CO)N–H bond weakening by coordination to Fe(II)*". S. Resa, **A. Millán (AC)**, N. Fuentes, L. Crovetto, M. L. Marcos, L. Lezama, D. Choquesillo-Lazarte, V. Blanco, A. G. Campaña, D. J. Cárdenas, J. M. Cuerva. *Dalton Trans.* **2019**, *48*, 2179-2189.

8) "*Synthesis of distorted nanographenes containing seven- and eight- membered*". I. R. Márquez, S. Castro-Fernández, **A. Millán**, A. G. Campaña
Chemical Communications **2018**, *54*, 6705-6718.

9) "*Tandem allylboration-Prins reaction for the rapid construction of substituted tetrahydropyrans: Application to the total synthesis of (-)-Clavosolide A*". **A. Millán**, J. R. Smith, J. L.- Chen, V. K. Aggarwal*. Angew. Chem. Int. Ed.* **2016**, *55*, 2498-2502.

10) "*Indole synthesis based on a modified Koser reagent*" L. Fra, A. Millán, J. A. Souto, K. Muñiz. *Angew. Chem. Int. Ed.* **2014**, *53*, 7349-7353.

C.2. Congress, (selected)

5) "*Exploring the indenofluorene diradical*". Oral presentation
A. Millán, R. Casares, A. Martínez-Pinel, J. M. Cuerva
"International Workshop on Spin Research in Graphene Nanostructures (SPRING'23)". 18-20 September 2023, San Sebastián, Spain

4) "*Single-molecule conductance of closed- and open-shell diradicals*". Poster
A. Millán, R. Casares, I. R. Márquez, M. T. González, E. Leary, J. M. Cuerva
"The 19th International Symposium on Novel Aromatic Compounds (ISNA-19)". 3-8 July 2022, Warsaw, Poland

3) "*Studies on the optical and electronic properties of 1,4-azaborine derivatives*" Oral presentation
A. Millán, L. Palomino-Ruiz, I. R. Márquez, A. G. Campaña, M. T. González, J. M. Cuerva
"XXVII Biennial Meeting in Organic Chemistry". June 2018, Santiago de Compostela, Spain

2) "*Studies on the optical and electronic properties of 1,4-azaborine derivatives*" Oral presentation
A. Millán, L. Palomino-Ruiz, I. R. Márquez, A. G. Campaña, M. T. González, J. M. Cuerva.
"12th Spanish-Italian Symposium on Organic Chemistry". July 2018, Ferrara (Italy)

1) "*Stereocontrolled synthesis of polypropionates based on building block assembly strategies by lithiation-borylation methodologies*" Oral presentation
A. Millán, B. Zhou, V. K. Aggarwal.
"253rd American Chemical Society National Meeting & Exposition". April 2017, San Francisco (USA)

C.3. Research projects (last five years).

As Principal Investigator:

5. Reference: **PID2021-127964NB-C22**
Title: **Explorando sistemas multirradicalarios fuera del plano**
Funding entity (call): Ministerio de Economía y Competitividad (2021)
Principal investigator: **Alba Millán Delgado**
Participating entity: University of Granada
Start-end date: September 2022- August 2025 Amount: 90.750 €

4. Reference: **B-FQM-130-UGR20**

Title: **Desarrollo de una segunda generación de análogos de granadaeno como vacuna universal de Streptococcus del grupo B**
Funding entity (call): Junta de Andalucía (Programa Operativo FEDER Andalucia 2014-2020)
Principal investigator: **Alba Millán Delgado**/ Juan Manuel Cuerva Carvajal
Participating entity: University of Granada
Start-end date: November 2021- June 2023 Amount: 45.000 €

3. Reference: **P20_00028**
Title: **Hacia una vacuna universal para Streptococcus Grupo B: síntesis y evaluación de analogos lipídicos simplificados de granadaeno**.
Funding entity (call): Junta de Andalucía (PAIDI-2020)
Principal investigator: **Alba Millán Delgado**
Participating entity: University of Granada
Start-end date: October 2021- June 2023 Amount: 35.000 €

2. Reference: **PGC2018-101873-A-I00**
Title: **Polycyclic heteroaromatics as model compounds for the study of fundamental conductance properties**
Funding entity (call): Ministerio de Economía y Competitividad (2018)
Principal investigator: **Alba Millán Delgado**
Participating entity: University of Granada
Start-end date: January 2019- December 2021 Amount: 62.920 €

1. Reference: **A-FQM-221-UGR18**
Title: **Unimolecular conductance in boron- and nitrogen-doped PAHs as model of BN-nanographenes**.
Funding entity (call): Junta de Andalucía (2018)
Principal investigator: **Alba Millán Delgado** /Juan Manuel Cuerva Carvajal
Participating entity: University of Granada
Start-end date: January 2020- December 2021 Amount: 37.150 €

As member of the research team

2. Reference: **R01AI167421 (subcontract 12877SUB)**
Title: **Neutralization of the GBS lipid toxin**
Funding entity (call)**:** National Institute of Health (NIH), EEUU
Principal investigator: Juan Manuel Cuerva Carvajal
Start-end date: June 2022- June 2027 Amount: 313.200 €

1. . Reference: **P20_00028**
Title: **SPIRALITY: Quiralidad helicoidal y espin: diseño molecular de nuevos sistemas para aplicaciones en espintrónica, transduccion óptica de polarización de espin en interfacies quirales y procesosfotoinducidos**.
Funding entity (call): Junta de Andalucía (PAIDI-2020)
Principal investigator: Delia Miguel Álvarez
Participating entity: University of Granada
Start-end date: October 2021- June 2023 Amount: 35.000 €

MINISTERIO DE CIENCIA E INNOVACIÓN

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CURRICULUM VITAE (CVA)

Part A. PERSONAL INFORMATION

First name	FRANCISCO		
Family name	SANTOYO-GONZALEZ		
e-mail	fsantoyo@ugr.es	URL Web: https://glycochembio.ugr.es/	
Open Researcher and Contributor ID (ORCID) (*)		0000-0002-2142-3067	

(*) Mandatory

A.1. Current position

Position	Full Professor of Organic Chemistry		
Initial date	2000		
Institution	University of Granada		
Department/Center	Organic Chemistry	Faculty of Science	
Country	Spain	Teleph. number	34-958248087
Key words	Click-Chemistry, Glicoquímica, Química Supramolecular, Química de Carbohidratos, Síntesis Orgánica, Vectores génicos no-víricos, Vinil sulfonas, bioconjugación		

A.2. Previous positions (research activity interuptions, art. 14.2.b))

Period	*Position/Institution/Country/Interruption cause*
1982-2000	Associated Professor - University of Granada - Spain
1978-1982	Assistant Professor - University of Granada - Spain
1976-1978	Scholar Ship Assistant - University of Granada - Spain
1988,1989, 1990, 1998	Vissiting Professor – University of Ottawa - Canada

A.3. Education

PhD, Licensed, Graduate	*University/Country*	*Year*
Graduate	Universidad de Granada - Spain	1976
PhD	Universidad de Granada - Spain	1979

Part B. CV SUMMARY

Professor Santoyo-Gonzalez (https://bit.ly/m/fsg) is the founder (1988) and leader of the research Group “Glycochemistry&Bioconjugation”. Professor Santoyo' main scientific interests are focused on (a) the development and applications of novel synthetic methodologies in the areas of carbohydrate chemistry, glycochemistry and bioconjugation, and (b) the biological activity and technological applications of synthetic compounds and materials related to such areas. Professor Santoyo' main contributions and outputs are:

I. Generation of knowledge:

I.1. Development of novel synthetic methodologies and their applications related to: **(1) The synthesis and reactivity of: (a) carbohydrates** (doubly branched sugars, thiosugars, glycals, cyclic sulfate sugars and the use of regioselective protecting groups), and (b) **cyclodextrins and their derivatives**; **(2) Click-chemistry reactions**: (a) **the Cu(I) catalyzed cycloaddition of alkyne and azides**, through the development of novel heterogeneous and non-heterogeneous magnetic and non-magnetic catalysts for such reactions, (b) **the free-cooper 1,3-dipolar and Michael reaction of vinyl sulfones** and their applications, and (c) **click coupling-and-decoupling methodologies based in vinyl sulfonates**; **(3) The synthesis of neoglycoconjugates** (glycodendrimers, glycocyclodextrins, glycocalixarenes); **(4) Click-based techniques for bioconjugation, labeling and immobilization of biomolecules, (5) The synthesis of Organic-inorganic**

hybrid materials and carbohydrate-based polymeric matrices, (6) Non-viral gene vectors for transfection and drug targeted delivery systems; **(7) Nanoparticle-based systems: (a) Au-based Nanoparticles** and their applications as catalyst, and (b) Carbon Nanodots **(CNDots) based** and their applications nano-platfomrs for the preparation of glyco-CNDots, amphiphilic CNDots for drug delivery, microfluidic systems **(9) Rotaxane** supramolecular systems.

I.2. Biological studies related to: (1) Biological activity of neoglycoconjugates; (2) Gene-transfection; and (3) Drug-delivery.

I.3. *Funding:* 15 Research Projects as PI and others 13 Research Projects from diverse Government and Private Entities.

I.4. *Results:* More than 160 research articles (H index: 36; Times cited: 3867 (total); 27 cites/item) (Source: Scopus and Clarivate, January 2023).

II. Contributions to the society.

II.1. Knowledge-transfer for the technological development and innovation activities: inventor of 13 patents (2 under exploitation)

II.2. Collaboration with industry and the private sector: (a) F. Fernández Sánchez, NanoMyP, (b) Sanchez Romero Carvajal – JABUGO SA.

II.3. *Interdisciplinary collaborations*: (a) R. Salto Gonzalez, Regulación Bioquímica y Genética del Metabolismo, Bioquímica y Biología Molecular, UGR; (b) J.M. Domínguez Vera, BioNanoMetal, Química Inorgánica, UGR; (c) L.F. Capitan Valley, Espectrometría de Fase Solida, Química Analítica, UGR; (d) A. Osuna Carrillo de Albornoz, Bioquímica y Parasitología Molecular Parasitología, UGR; (e) J.M. Sanchez Ruiz, Biomoleculas, Química Fisica (UGR); (f) F.J. Gamiz-Perez, Electronica y Tecnologia de Computadores, UGR; (g) B.J.F. Corpas, Biología Celular y Molecular de Plantas, Bioquímica, CSIC; (f) F. Rodríguez Serrano, Anatomía y Embriologia Humana, Instituto de Biopatología y Medicina Regenerativa, UGR; (h) A. Vargas Berenguel, Quimica Organica, UAL; (i) J.M. Garcia Fernandez, Q. Bioorganica y Supramolecular de Carbohidratos, IIQ, CSIC, Sevilla; (j) C. Ortiz-Mellet, Q. Bioorgánica de Carbohidratos, Química Organica, US; (k) J.B. Barroso-Albaran, Bioquímica y Señalización Molecular Bioquímica y Biología Molecular, UJA, (l) F. J: Plou, Biocatalisis aplicada, CSIC, Madrid

II.4. *International Collaborations:* Professor Hans-Baer (University of Ottawa-Canada) and Professor Rene Roy (University of Ottawa, Canada and Université Du Québec À Montréal)

III. Development of individuals

As the founder and leader of the research Group “Glycochemistry&Bioconjugation” since 1988, Professor Santoyo` contributions to the training of young researchers included (a) *Direction of Collaboration Grants, Research Initiation Grants, Undergraduate and Master's Degree Final Projects*. 3 (average/year) (b) ***Doctoral Theses*** Supervised or in progress: 8 (total) (c) ***Alumni PhD*** *trained in the research group:* (1) F. Hernandez-Mateo, A. (2) Vargas Berenguel, A. Univ. de Almería, Catedrático de Universidad. (3) Asensio Rosell, J. L. Roche Farma SA, Manager de Excelencia Comercial. (4) Garcia-Lopez, J. J., Tradecorp International, Dpto. de Desarrollo Químico; (5) Perez Balderas, F. Univ. Oxford; (6) Morales Sanfrutos, J. CRG - Centre de Regulació Genòmica, Barcelona; (7) Megia-Fernandez, A. UGR, Postdoctoral Research Maria Zambrano, UGR.

Part C. RELEVANT MERITS

C.1. Publications

1. Reche, Francisco José; Plesselova, Simona; Reyes-berbel, Eduardo; Ortega-Muñoz, Mariano; Lopez-Jaramillo, Francisco Javier; Hernandez-Mateo, Fernando; Santoyo-Gonzalez, Francisco; Salto-Gonzalez, Rafael; Giron-Gonzalez, Maria Dolores. 2021. Single chain variable fragment fused to maltose binding protein: a modular nanocarrier platform for the targeted delivery of antitumorals. Biomaterials Science. 9, pp. 1728-1738.

2. Plesselova, Simona; Blanco, Victor; Reche, Francisco José; Hernandez-Mateo, Fernando; Santoyo-Gonzalez, Francisco; Giron-Gonzalez, Maria Dolores; Salto-Gonzalez, Rafael. 2021. Polyethylenimine-Bisphosphonate-Cyclodextrin Ternary Conjugates: Supramolecular Systems for the Delivery of Antineo-plastic Drugs. Journal of Medicinal Chemistry. 64, pp. 12245-12260.
3. Ortega-Muñoz, Mariano; Vargas-navarro, Paula; Plesselova, Simona; Giron-Gonzalez, Maria Dolores; Iglesias Salto, Guillermo Ramón; Salto-Gonzalez, Rafael; Hernandez-Mateo, Fernando; Delgado-Mora, Angel Vicente; Lopez-Jaramillo, Francisco Javier; Santoyo-Gonzalez, Francisco. 2021. Amphiphilic-like carbon dots as antitumoral drug vehicles and phototherapeutical agents. Materials Chemistry Frontiers.
4. Santoyo-Gonzalez, Francisco; Hernandez-Mateo, Fernando; Lopez-Jaramillo, Francisco Javier; Ortega-Muñoz, Mariano. 2021. Divinyl sulfone. Enclopedia of Reagents for Organic Chemistry, John Wiley & Sons, 2021. DOI: 10.1002/047084289X.rd476.pub2
5. De Los Reyes-berbel, Eduardo; Ortiz, Inmaculada; Ortega-Muñoz, Mariano; Salinas-Castillo, Alfonso; Capitán-Vallvey, Luis Fermín; Hernandez-Mateo, Fernando; Lopez-Jaramillo, Francisco Javier; Santoyo-Gonzalez, Francisco. 2020. Carbon dots-inspired fluorescent cyclodextrins: competitive supramolecular "off-on" (bio)sensors. Nanoscale. 12, pp. 9178-9185.
6. Ortega-Muñoz, Mariano; Vargas-navarro, Paula; Hernandez-Mateo, Fernando; Salinas-Castillo, Alfonso; Capitán-Vallvey, Luis Fermín; Plesselova, Simona; Salto-Gonzalez, Rafael; Giron-Gonzalez, Maria Dolores; Lopez-Jaramillo, Francisco Javier; Santoyo-Gonzalez, Francisco. 2019. Acid anhydride coated carbon nanodots: activated platforms for engineering clicked (bio)nanoconstructs. Nanoscale. 11, pp. 7850-7856.
7. De Los Reyes-berbel, Eduardo; Salto-Gonzalez, Rafael; Ortega-Muñoz, Mariano; Jódar-Reyes, Ana Belén; Hernandez-Mateo, Fernando; Giron-Gonzalez, Maria Dolores; Santoyo-Gonzalez, Francisco. 2018. PEI-NIR Heptamethine Cyanine Nanotheranostics for Tumor Targeted Gene Delivery. Bioconjugate Chemistry. 29, pp. 2561-2575.
8. Ortega-Muñoz, Mariano; Blanco, Victor; Hernandez-Mateo, Fernando; Lopez-Jaramillo, Francisco Javier; Santoyo-Gonzalez, Francisco. 2017. Catalytic Materials Based on Surface Coating with Poly(ethyleneimine)-Stabilized Gold Nanoparticles. ChemCatChem. 9, pp. 3965-3973.
9. M. Cruz, Carlos; Ortega-Muñoz, Mariano; Lopez-Jaramillo, Francisco Javier; Hernandez-Mateo, Fernando; Blanco, Victor; Santoyo-Gonzalez, Francisco. 2016. Vinyl Sulfonates: A Click Function for Coupling-and-Decoupling Chemistry and their Applications. Advanced Synthesis & Catalysis. 358, pp. 3394-3413.
10. Rodriguez-serrano, F; Mut-salud, N.; Cruz-Bustos, Teresa; Gómez-Samblás, Mercedes; Garrido, J. M.; Lopez-Jaramillo, Francisco Javier; Santoyo-Gonzalez, Francisco; Osuna-Carrillo De Albornoz, Antonio. 2016. Functionalized immunostimulating complexes with protein A via lipid vinyl sulfones to deliver cancer drugs to trastuzumab-resistant HER2-overexpressing breast cancer cells. International Journal of Nanomedicine. 11, pp. 4777-

C.3. Research projects

1. Matrices poliméricas biodegradables basadas en polisacáridos y ciclodextrinas. Materiales secuestrantes de contaminantes emergentes en aguas. Progama operativo FEDER Andalucia. Desde 1/07/2021 hasta 30/06/2023.IPs: F. Santoyo-González & F. J. Lopez-Jaramillo, UGR; Cuantía: 35000 €
2. **CV20-36685. UGRVID:** *Sistema electrónico de detección rápida y cUantitativa de inmunoGlobulinas (IgA secretora, IgGs e IgMs) para el diagnóstico pRecoz de coVID-19 mediante un biosensor portátil de grafeno.* Sistema Andaluz Del Conocimiento Con Cargo A Fondos Feder. 2020-2021. 99745 EUR. Investigador/a.
3. **DRAINCOV** / *Detección RApida de INmunoglobulinas (IgA secretora, IgGs e IgMs) para el diagnóstico precoz del SARS-COV-2 mediante un biosensor portátil de grafeno*. CRUE 01/07/2020 **-** 31/06/2021. Investigador/a.
4. **RTC-2017-6263-2**. *Investigación Y Desarrollo De Sistemas Avanzados Para El Control De Zoonosis Parasitarias.* Ministerio de Ciencia, Innovación y Universidades. 2019-2021. 620,789.00 EUR. Investigador/a.

5. **CTQ2017-86125-P**. *Carbon Dots Funcionales: Sintesis, Caracterizacion Y Aplicaciones Biologicas'. Ministerio De Economía Y Competitividad.* Giron-Gonzalez, Maria Dolores (Universidad de Granada). 2018-2020. 59290 EUR. Responsable IP
6. **CTQ2014-55474-C2-1-R**. *Sintesis Y Evaluacion Biologica De Vectores Antitumorales Dirigidos Basados En Ciclodextrinas Para El Transporte Activo De Farmacos.* Ministerio De Economía Y Competitividad. Santoyo-Gonzalez, Francisco (Universidad de Granada). 2015-2017. 71390 EUR. Responsable IP
7. **CEI2014-PBS55.** *Funcionalización de Tejidos Nanoestructurados con Ciclodextrinas. Fabricación de Apósitos terapéuticos.* UNIVERSIDAD DE GRANADA. Santoyo-Gonzalez, Francisco (Universidad de Granada). 2014-2014. 21500 EUR. Responsable.
8. **CTQ20111-29299-CO2-01.** *Síntesis De Nuevos Agentes De Transfeccion Específicos Basados En Vinil Sulfonas*. Santoyo-Gonzalez, Francisco (Universidad de Granada). 2012-2014. Responsable.
9. **CTQ2011-29299-C02-01.** *Síntesis De Nuevos Agentes De Transfección Específicos Basados En Vinil Sulfonas. Ministerio De Ciencia E Innovación.* Santoyo-Gonzalez, Francisco (Universidad de Granada). 2012-2015. 87120 EUR. Responsable.
10. **CTQ2008-01754.** *Aplicaciones Tecnológicas Y Biotecnológicas De La Quimica De Vinil Sulfonas Y Sulfatos Cíclicos*. Santoyo-Gonzalez, Francisco (Universidad de Granada). 2009-2011. 175450 EUR. Responsable.

C.4. Contracts, technological or transfer merits

Contracts.

1. Investigación de nuevos sistemas enzimáticos de maceración de snacks de maíz, pertenecientes al proyecto Investigación y diseño de nuevas tecnologías enzimáticas de maceración para snacks de maíz frito. Santoyo-Gonzalez, Francisco. UGR. 2014-2015.
2. Derechos de Comercialización a la Plataforma KitMyGEN. Santoyo-Gonzalez, Francisco UGR. **2013-2014.**
3. Desarrollo de tejidos inteligentes con propiedades inmovilizantes. 2012-2014. 47500 EUR.
4. Desarrollo de Tejidos inteligentes con Propiedades inmovilizantes. Fernandez-Sanchez, Jorge Fernando. UGR. 2012-2014. 44261,8 EUR.

Patents

1. Osuna-Carrillo De Albornoz, Antonio; Cruz-Bustos, Teresa; Santoyo-Gonzalez, Francisco. Immunological adjuvant for the formulation of vaccines and Leishmaniasis vaccine comprising same. **2015.**
2. Santoyo-Gonzalez, Francisco; Ortega-Muñoz, Mariano; Hernandez-Mateo, Fernando. Extraction procedure and hydroxytyrosol triterpenic acids from solutions of olives. **2013**.
3. Santoyo-Gonzalez, Francisco; Megía-Fernández, Alicia; Morales-Sanfrutos, Julia Isabel; Hernandez-Mateo, Fernando; Salto-Gonzalez, Rafael; Giron-Gonzalez, Maria Dolores. Drug delivery and transfection agents based on alkylsulfonate functionalized PAMAM dendrimers. **2012.**
4. Santoyo-Gonzalez, Francisco; Hernandez-Mateo, Fernando; Ortega-Muñoz, Mariano. Method for obtaining maslinic acid and oleanolic acid. **2012.**
5. Gomez-Garcia, Marta; Giron-Gonzalez, Maria Dolores; Salto-Gonzalez, Rafael; Ortiz-Mellet, Carmen; Méndez-Ardoy, Alejandro; Sevillano-Tripero, Natalia; García-Fernández, José Manuel; Santoyo-Gonzalez, Francisco. Ciclooligosacáridos Anfifílicos Policatiónicos Y Su Uso Como Transportadores Moleculares. **2011.**
6. Santoyo-Gonzalez, Francisco; Morales-Sanfrutos, Julia Isabel; Hernandez-Mateo, Fernando. Polymeric adsorbents based on polysaccharides and cyclodextrins for water purification. **2011**.
7. Fernandez-Gutierrez, Alberto; Santoyo-Gonzalez, Francisco; Medina-Castillo, Antonio Luis; Morales-Sanfrutos, Julia Isabel; Megía-Fernández, Alicia. Polymer compounds having immobilizing properties. .**2012**
8. Santoyo-Gonzalez, Francisco; Ortega-Muñoz, Mariano; Hernandez-Mateo, Fernando. Method for extraction of triterpenic acids and hydroxytyrosol from olive-dressing solutions. **2011**

CURRICULUM VITAE ABREVIADO (CVA)

Parte A. DATOS PERSONALES

Nombre	F. Javier
Apellidos	López Jaramillo

Dirección email	fjljara@ugr.es	URL Web	https://bit.ly/m/fjljara
Open Researcher and Contributor ID (ORCID) (*)	0000-0002-6030-7384		

* *datos obligatorios*

A.1. Situación profesional actual

Puesto	Profesor Titular de Universidad		
Fecha inicio	27/12/2016		
Organismo/ Institución	UNIVERSIDAD DE GRANADA		
Departamento/ Centro	QUIMICA ORGANICA – FACULTAD DE CIENCIAS		
País	ESPAÑA	Teléfono	958248036
Palabras clave	Bioconjugation, Drug delivery, transfection agent, vinyl sulfone, oxidative/nitrosative stress		

A.2. Situación profesional anterior (incluye interrupciones en la carrera investigadora, de acuerdo con lo indicado en la convocatoria, indicar meses totales)

Periodo	Puesto/ Institución/ País / Motivo interrupción
2009-2017	Profesor Contratado Doctor (Universidad de Granada)
2006-2007	Profesor Asociado Laboral (Universidad de Jaén)
2006-2009	Contrato con cargo a proyecto (Universidad de Granada)
2005-2006	Contrato Programa retorno de la Junta de Andalucía (no se llegó a formalizar con el CSIC y fue rescatado por la Universidad de Granada, formalizándose en 2006)
2002-2005	Contrato programa I3P (Laboratorio Estudios Cristalográficos, CSIC)
1999-2002	Contrato reincorporación del MEC (Laboratorio Estudios Cristalográficos, CSIC)
1998-1999	Contrato con cargo a proyecto con Gensia (Harvard University, USA)
1996-1998	Beca Predoctoral del MEC (Harvard University, USA)
1992-1996	Becario Predoctoral (Estación Experimental del Zaidín, CSIC)
1990-1992	Becario de Introducción a la Investigación (Instituto de Fermentaciones Industriales, CSIC)

(Incorporar todas las filas que sean necesarias)

A.3. Formación Académica

Grado/Master/Tesis	Universidad/Pais	Año
Licenciado en Farmacia	Universidad de Granada	1991

Doctor en Farmacia	Universidad de Granada	1995

(Incorporar todas las filas que sean necesarias)

Parte B. RESUMEN DEL CV *(máx. 5.000 caracteres, incluyendo espacios):* ***MUY IMPORTANTE: se ha modificado el contenido de este apartado para progresar en la adecuación a los principios DORA. Lea atentamente las "Instrucciones para cumplimentar el CVA"***

Licenciado en Farmacia por la U. de Granada en 1991, fue becario de Introducción a la Investigación del CSIC durante los años 1990 y 1991 y becario predoctoral del MEC para realización de la tesis doctoral en la Estación Experimental del Zaidín (CSIC). Continuó su formación en la U. de Harvard (USA) con el Premio Nobel de Química Prof. Lipscomb, inicialmente como becario postdoctoral del MEC (1996-1998) y posteriormente como investigador contratado (1998-1999), donde colaboró con la empresa farmacéutica "Metabasis Therapeutics". Se reincorporó al Laboratorio de Estudios Cristalográficos (U. Granada-CSIC) con un Contrato de Reincorporación del MEC (1999-2002) y con un contrato I3P apoyado por la empresa farmacéutica "PharmaMar" (2002-2005). En 2005 obtuvo una Ayuda para Facilitar el Retorno de Investigadores a Centros de Investigación y Universidades de Andalucía (programa análogo al Ramón y Cajal de ámbito autonómico), incorporándose al Dept. de Química Orgánica de la U, de Granada como investigador contratado. En 2009, previa evaluación de su trayectoria científico-técnica en el marco del Programa I3, accedió por concurso a la figura de Profesor Contratado Doctor. En diciembre de 2016 accedió por oposición al cuerpo de Profesores Titulares de Universidad. Tiene reconocidos 4 tramos de investigación (sexenios), 4 tramos autonómicos y 5 tramos docentes.

Su actividad investigadora se caracteriza por la movilidad y el carácter interdisciplinar (de los 4 sexenios, tres han sido evaluado positivamente por un área distinta de conocimiento). Ha formado parte de 4 grupos de investigación de excelencia en áreas de conocimiento complementarias, realizando contribuciones científicas relevantes en todas ellas, con periodos de ciencia básica y ciencia aplicada. El eje vertebrador de su actividad científica ha sido la convicción de que los retos científicos están en la frontera entre disciplinas y requieren de una aproximación interdisciplinar. Las primeras contribuciones fueron en el área de Bioquímica y Biología Molecular durante su periodo predoctoral en el **grupo del Prof. López-Gorgé** (CSIC). Durante la estancia postdoctoral en el **grupo del Prof Lipcomb,** desarrolló su labor investigadora en ciencia aplicada, participando en un proyecto confidencial con la empresa farmacéutica "Metabasis Therapectic" para el desarrollo de un fármaco frente a la diabetes tipo II. En 1999 se incorporó al **grupo del Prof. Garcia-Ruiz** del Laboratorio de Estudios Cristalográficos (CSIC-U. Granada) donde contribuyó al desarrollo del Gel Acupuncture Method (GAME) y al estudio de la calidad cristalina, colaboró en varios experimento de cristalización en microgravedad en el marco de ESA y la NASA y realizó numerosos proyectos de investigación en sincrotrón. En una segunda etapa, financiada vía un contrato I3 apoyado por la empresa "PharmaMar", trabajó en ciencia aplicada en el estudio confidencial de la interacción entre el fármaco ET743 (Yondelis) y fragmentos de ADN. En 2005 se incorporó al **grupo del Prof. Santoyo** (Dept. Química Orgánica, UGR). Actualmente trabaja en la química de vinilsulfonas desde la perspectiva de la síntesis de nuevos materiales híbridos orgánico-inorgánicos basados en sílice así como en el diseño de nuevas metodologías de bioconjugación, marcaje e inmovilización de biomoléculas y colabora con otros grupos de investigación en el estudio de los mecanismos mediante los cuales los sistemas biológicos producen modificaciones químicas en las proteínas.

Parte C. LISTADO DE APORTACIONES MÁS RELEVANTES

C.1. Publicaciones más importantes en libros y revistas con "peer review" y conferencias (ver instrucciones).

1. Perez-Garrido, L., Ortega-Muñoz, M., Hernandez-Matero, F., **Lopez-Jaramillo, F.J**., Santoyo-Gonzalez, F. (**AC**, 4/5)
   Turning carbon dots into selenium bearing nanoplatforms with in vitro GPx-like activity and pro-oxidant activity
   NanoResearch, **2023,** 16, 7784–7791 (DOI 10.1007/s12274-023-5442-3)

2. Alvarado, S., Megia-Fernandez, A., Ortega-Muñoz, M., Hernandez-Matero, F., **Lopez-Jaramillo, F.J**., Santoyo-Gonzalez, F. (**AC**, 5/6)
Removal of the Water Pollutant Ciprofloxacin Using Biodegradable Sorbent Polymers Obtained from Polysaccharides
Polymers **2023**, 15, 3188 (DOI: 10.3390/polym15153188)

3. Ortega-Muñoz, M.; Vargas-Navarro, P.; Plesselova, S. et al.; **Lopez-Jaramillo, F.J**.; Santoyo-Gonzalez, F. (**AC**, 9/10)
Amphiphilic-like carbon dots as antitumoral drug vehicles and phototherapeutical agents, *Mater. Chem. Front.* **2021**, 5, 8151-8160 (DOI: 10.1039/d1qm00855b)

4. Ortega-Muñoz, M. , Simona Plesselova, S., Delgado, A.V., Santoyo-Gonzalez, F., Salto-Gonzalez, R., Giron-Gonzalez, M.D., Iglesias, G.R. , **López-Jaramillo, F.J.** (**AC** 8/8)
Poly(ethylene-imine)-Functionalized Magnetite Nanoparticles Derivatized with Folic Acid: Heating and Targeting Properties
*Polymers **2021**, 13, 1599 (DOI: 10.3390/polym13101599)*

5. De los Reyes-Berbel, E., Ortiz-Gomez, I., Ortega-Muñoz, M. Salinas-Castillo, A., Capitan-Vallvey, L.F., Hernandez-Mateo, F., **Lopez-Jaramillo, F.J**, Santoyo-Gonzalez, F. (**AC**, 7/8)
Carbon dots-inspired fluorescent cyclodextrins: competitive supramolecular **"**off–on**"** (bio)sensors
Nanoscale **2020**, 12, 9178-9185 (DOI: 10.1039/d0nr01004a)

6. Ortega-Munoz, M., Blanco, V., Hernandez-Mateo, F., **Lopez-Jaramillo, F.J.**, Santoyo-Gonzalez, Francisco. (**AC**, 4/5)
Catalytic materials based on surface coating with PEI-stabilized gold nanoparticles
*ChemCatChem**, 2017,** 9, 3965-3973 (DOI: 10.1002/cctc.201700776.)*

7. Morales-Sanfrutos, J. **Lopez-Jaramillo, F.J**., Elremaily, M.A.A., Hernández-Mateo, F., Santoyo-Gonzalez, F. (**AC**, 2/5)
Divinyl Sulfone Cross-Linked Cyclodextrin-Based Polymeric Materials: Synthesis and Applications as Sorbents and Encapsulating Agents
Molecules **2015**, 20, 3565-3581 (DOI: 10.3390/molecules20033565)

8. **Lopez-Jaramillo, F.J**., Giron-Gonzalez, M.D., Salto-Gonzalez, R., Hernandez-Mateo, F., Santoyo-Gonzalez, F. (**AC**, 1/5)
In Vitro and in Vivo Evaluation of Novel Cross-Linked Saccharide Based Polymers as Bile Acid Sequestrants
Molecules **2015**, 20, 3716-3729 (DOI: 10.3390/molecules20033565)

9. Lopez-Jaramillo, F.J., Herandez-Mateo, F., Santoyo-Gonzalez, F. (**AC**, 1/3)
Response to Wilson et al. Comments on Lopez-Jaramillo et al. DivinylSulfone Cross-Linked Cyclodextrin-Based Polymeric Materials: Synthesis and Applications as Sorbents and Encapsulating Agents. Molecules, 2015, 20, 3565–3581.
Molecules **2016**, 21, 98 (DOI: 10.3390/molecules21010098)

C.3. Proyectos o líneas de investigación en los que ha participado,

1. Treatments and technologies for prevention of zoonotic agents in cured meat samples (ToDetect) (CPP2021-008843)
Ministerio de Ciencia e innovación; Desde: 01/09/2022 hasta: 31/08/2024
Consorcio: SÁNCHEZ ROMERO CARVAJAL-JABUGO S.A., ANTONIO VILLORIA, S.A., UNIVERSIDAD DE GRANADA . Cuantía: 790.903 € **(Equipo Investigación)**

2. Matrices poliméricas biodegradables basadas en polisacáridos y ciclodextrinas. Materiales secuestrantes de contaminantes emergentes en aguas
Progama operativo FEDER Andalucia. Desde 1/07/2021 hasta 30/06/2023
IPs: F. Santoyo-González & **F. J. Lopez-Jaramillo**, U. de Granada; Cuantía: 35000 €

3. UGRVID: sistema electrónico de detección rápida y cUantitativa de inmunoGlobulinas (IgA secretora, IgGs e IgMs) para el diagnóstico pRecoz de coVID-19 mediante un biosensor portátil de grafeno
   Junta de Andalucía. Desde 10/07/2020 hasta 10/10/21
   IP: F. Gámiz; Universidad de Granada; Cuantía: 99.745 € **(Equipo de Investigación)**

4. Carbon Dots Funcionales: Síntesis, Caracterización y Aplicaciones Biológicas (CTQ2017-86125-P)
   Ministerio de Economía. Industria y Competitividad. Desde 01/01/2018 hasta 31/12/2020
   IP: F. Santoyo Gonzalez; Univ. Granada; Cuantia: 50.000 € (**Equipo de Investigación**)

6. Síntesis de nuevas matrices poliméricas por entrecruzamiento de polisacáridos y ciclodextrinas. Evaluación *in vitro* e *in vitro* de su potencial como agentes secuestrantes de colesterol y ácidos biliares
   GREIB translacional (Univesidad de Granada) Desde: 22/07/2011 hasta: 31/12/2011
   IP: F. Javier López Jaramillo; Entidad de Afiliación: Univ. Granada; Cuantia:10.000€.

C.4. Participación en actividades de transferencia de tecnología/conocimiento y explotación de resultados

1. Inventores: J. López Jaramillo, M. D. Girón González, R. Salto Gonzáles, F. Hernández Mateo, F. Santoyo González
   Uso de polímeros basados en sacáridos entrecruzados como secuestrantes de ácidos biliares
   Nº de solicitud: P201530160; Pais de prioridad: España
   Fecha de Prioridad: 11-Agosto-2016 (ES 25794879) Entidad titular: Univ. Granada

2. Inventores: Santoyo-González, F., Hernández-Mateo, F., Lopez-Jaramillo, J., Morales-Sanfrutos, J., Ortega-Muñoz, M.
   Compound for labeling biomolecules based on vinyl sulfone, their preparation and use in marking biomolecules such as proteins
   Nº de solicitud: WO 2009144344 A2 (PCT Int. Appl.); País prioridad: España
   Fecha de Prioridad: 20-Mayo-2008 (ES 2008-1474); Entidad Titular: Univ. Granada

3. Inventores: Santoyo-González, F., Hernández-Mateo, F., Lopez-Jaramillo, J., Morales-Sanfrutos, J., Ortega-Muñoz, M.
   Single-labeling agents based on vinyl sulfone, their preparation and use in marking biomolecules such as proteins
   Nº de solicitud: WO 2009106664 (PCT Int. Appl.); País prioridad: España
   Fecha de prioridad: 28-Febrero-2008 (ES 2008-576); Entidad titular: Univ. Granada

4. Inventores: Santoyo-González, F., Hernández-Mateo, F., Lopez-Jaramillo, J., Morales-Sanfrutos, J., Ortega-Muñoz, M., Salto Gonzalez, R., Girón González D.
   Triazolyl containing viyl sulfones as double-labeling agents and their preparation and use in the marking of biomolecules
   Nº de solicitud: WO2009106665 A1 (PCT Int. Appl.); País prioridad: España
   Fecha prioridad: 29-02-2008 (ES-2008-592); Entidad Titular: Univ. Granada

5. Inventores: Santoyo González, F., Hernandez Mateo, F., López Jaramillo, J., Ortega Muñoz, M., Morales Sanfrutos, J.
   Titulo: Silica-vinylsulfone compound, synthesis and uses as immobilization surface
   Nº solicitud: WO 2009040460A1 (PCT Int. Appl.) País Prioridad: España
   Fecha prioridad: 28/09/2007 ES 2007-2542; Entidad Titular: Univ. Granada.

CURRICULUM VITAE (CVA)

Fecha del CVA	08/11/2023

Part A. DATOS PERSONALES

Nombre	Inmaculada		
Apellidos	Fernández Fernández		
DNI			
e-mail	inmaff@us.es	URL Web https://bibliometria.us.es/prisma/investigador/1256	
Open Research and Contributor ID (ORCID)		0000-0002-3468-387X	
SEXENIOS: 6 (1985-2020)			

A.1. Situación profesional actual

Categoría Profesional	Catedrática de Universidad		
Fecha inicio	2009		
Institucion	Universidad de Sevilla		
Departamento/Centro	Química Orgánica y Farmacéutica. Facultad de Farmacia		
Pais	España	Teléfono	954556735

A.2. Puestos anteriores

Periodo	**Posición/Institución/País**
1990- 2009	Profesor Titular/Universidad de Sevilla/ España

A.3. Formación Académica

Licenciatura/Grado/Doctorado	**Universidad/País**	**Año**
Doctorado	Universidad de Sevilla/Sevilla	1988
Licenciatura	Universidad de Sevilla/Sevilla	1984

Parte B. Resumen

Inmaculada Fernández Fernández obtuvo el título de Licenciada en Química en la Universidad de Sevilla en 1984, y realizó su Tesis Doctoral en la misma Universidad, obteniendo el título de Doctor en Química en 1988. En este año, obtuvo una beca NATO del Ministerio de Asuntos Exteriores de España para realizar una estancia Post-Doctoral (1988-1990) en el laboratorio del Prof. G. Solladié en la Universidad Louis Pasteur de Estrasburgo, trabajando en el campo de la síntesis total enantioselectioselectiva de macromoléculas quirales de interés biológico. En el periodo 1993-1995 fué Profesora visitante en la Universidad Autónoma de Madrid. Se promocionó a Profesora Titular en la Universidad de Sevilla en 1990 y a Catedrática de esta misma Universidad en 2009.

Actualmente es responsable del grupo de investigación Estereoquímica y Síntesis Asimétrica (FQM-102) y Directora del Departamento de Química Orgánica y Farmacéutica desde Diciembre de 2016 hasta la actualidad.

Su grupo de investigación ha desarrollado una de las aproximaciones más eficientes para la síntesis asimétrica de derivados quirales de azufre de interés sintético y/o biológico. Tiene una dilatada experiencia en la química de los hidratos de carbono, en la síntesis asimétrica tanto estequiométrica como catalítica (orgánica y organometálica), y en la síntesis total de productos de interés terapéutico. Sus trabajos en estos campos se han plasmado en más de 90 publicaciones científicas en las revistas más prestigiosas del campo de la síntesis orgánica (Journal of Medicinal Chemistry, European Journal of Medicinal Chemistry, Pharmaceuticals, Chemical Review, Journal of American Chemical Society, Chemical Communication, Journal of Organic Chemistry, Organic Letters, Organic and Biomolecular Chemistry, etc..) y 8 patentes, una de las cuales ha sido licenciada a la empresa farmacéutica inglesa Evgen Pharma. Es coautora de 13 capítulos de libro y ha supervisado 14 tesis

doctorales. Durante el desarrollo de su carrera científica, ha participado en varios proyectos científicos y ha impartido conferencias en congresos especializados, así como varios cursos de postgrado.

Sus principales intereses científicos se encuadran en el campo de la síntesis asimétrica, utilizando compuestos quirales de azufre y de fósforo, desarrollando nuevas metodologías para su síntesis enantioselectiva. En la última década ha centrado su investigación en el desarrollo de nuevos catalizadores quirales eficientes en catálisis asimétrica orgánica y organometálica, y en la síntesis de compuestos de interés terapéutico. Esta última línea de investigación se ha centrado en el desarrollo de nuevos agentes antioxidantes con actividad anticancerosa y antinflamatoria.

Parte C. MÉRITOS MÁS RELEVANTES *(ordenados por tipología)*

C.1. Publicaciones (*seleccionadas las 10 mas relevantes de los 10 últimos años***)**

1. M. Alcarranza, I. Villegas, R. Recio, R. Muñoz-García, **I. Fernández,** C. Alarcón-de-la-Lastra. (R)-8-Methylsulfinyloctyl isothiocyanate from Nasturtium officinale inhibits LPS-induced immunoinflammatory responses in mouse peritoneal macrophages: chemical synthesis and molecular signaling pathways involved. *Food Funct.,* **2023**,*14,* 7270-7283. ***IF: 6,100.***

2. M. Alcarranza, I. Villegas, R. Muñoz.García, R. Recio, **I. Fernández,** C. Alarcon-de–la-Lastra. Immunomodulatory effects of (R)-sulforaphane on LPS-activated murine immune cells: molecular signaling pathways and epigenetic changes in histone markers. *Pharmaceuticals.* **2022**, 15, 966. ***IF: 7,088.***

3. L.G. Borrego, R. Recio, N. Moreno, A. Chelouan, E. Álvarez, A. Sánchez-Coronilla, C. Caro, J.R. Pearson, M.L. García-Martín, N. Khiar, **I. Fernández**. Enantioselective synthesis of 4-amino-3,4-dihydrocoumarins and their non-cyclic hydroxyester precursors: Biological evaluation for the treatment of glioblastoma multiforme. *European Journal of Medicinal Chemistry*. **2022**, *243*, 114730. ***IF:5.076.***

4. R. Recio, P. Lerena, E. Pozo, J. M. Calderón-Montaño; E. Burgos-Morón, M. López-Lázaro, V. Valdivia, M. Pernía-Leal, B. Mouillac, J, A. Organero, N. Khiar, **I. Fernández**. Carbohydrate-Based NK1R Antagonists with Broad-Spectrum Anticancer Activity. *Journal of Medicinal Chemistry.* **2021**, *64*, 10350 - 10370. ***IF: 7.446.***

5. N. Moreno, R. Recio, V. Valdivia, N. Khiar, I. Fernández. N-Isopropylsulfinylimines vs. N-tert-butylsulfinylimines in the Stereoselective Synthesis of Sterically Hindered Amines: An Improved Synthesis of Enantiopure (R)- and (S) Rimantadine and the Trifluoromethylated Analogues. *Organic and Biomolecular Chemistry*. **2019**, *17*, 9854 - 9858. ***IF: 3.412***

6. R. Recio, E. Elhalem, J.M. Benito, **I. Fernandez**, N. Khiar. NMR study on the stabilization and chiral discrimination of sulforaphane enantiomers and analogues by cyclodextrins. *Carbohydrate Polymers*. **2018**. 186, 118-125. ***IF:4.811***.

7. Borrego, L. G.; Recio, R.; Alcarranza, M.; Khiar, N.; **Fernández, I**. An efficient and practical method for the enantioselective synthesis of tertiary trifluoromethyl carbinols. *Adv. Synth. & Catal.* **2018**, *360*, 1273-1279 ***IF : 5,646.***

8. R. Recio. E. Vengut, B. Mouillac, H. Orcel, M. López-Lázaro, J.M. Calderón-Momtaño, E. Álvarez, N. Khiar, **I. Fernández**. Design, synthesis and biological studies of a library of NK1-Receptor Ligands Based on a 5-arylthiosubstituted 2-amino-4,6-diaryl-3-cyano-4H-pyran core: Switch from antagonist to agonist effect by chemical modification. *European Journal Of Medicinal Chemistry*. **2017**,*138*, 644-660. ***IF: 4.519.***

9. Chelouan, A.; Recio, R.; Borrego, L. G.; Álvarez, E.; Khiar N.; **Fernández, I**. Sulfinamide Phosphinates as Chiral Catalysts for the Enantioselective Organocatalytic Reduction of Imines. *Org. Lett*. **2016**, *13*, 3258-3261. ***IF: 6,579.***

10. N. Khiar, A. Salvador, V. Valdivia, A. Chelouan, A. Alcudia, E. Alvarez, **I. Fernandez**. Flexible C2-Symmetric Bis-Sulfoxides as Ligands in Enantioselective 1,4-Addition of Boronic Acids to Electron-Deficient Alkenes. *Journal of Organic Chemistry*. **2013,** *78*, 6510 - 6521. ***IF:4,64***

C.2. Proyectos. (*en los últimos 10 años)*

1. Diseño, síntesis y aplicaciones terapéuticas de nuevos isotiocianatos derivados de carbohidratos como fármacos multidiana: Un enfoque basado en la polifarmacología. IP: Inmaculada Fernández Fernández; Tipo: Generación de Conocimiento. Ref.: PID2022-

138863OB-I00. Instituciones: Universidad de Sevilla; Inicio: 01/09/2023. Final: 31/08/2026; Entidad Financiadora: Ministerio de Ciencia e Innovación; Presupuesto: 132.875 euros.

2. Validación de un nuevo análogo del fitoquímico sulforafano como candidato a fármaco para el tratamiento de cánceres hematológicos. IP: Inmaculada Fernández Fernández; Tipo: Prueba de Concepto. Ref.: PDC2022-133627-100. Instituciones: Universidad de Sevilla; Inicio: 01/01/2023. Final: 30/11/2024; Entidad Financiadora: Ministerio de Ciencia e Innovación; Presupuesto: 149.500 euros

3. Nuevas estrategias para la optimización de la transferencia de quiralidad en procesos de interés sintético y terapéutico: Aproximaciones modulares para la síntesis de bissulfinilderivados enantiopuros. I.P: Inmaculada Fernández Fernández; Tipo: Proyectos I+D+i FEDER Andalucía; Ref.: US-1381590; Instituciones: Universidad de Sevilla; Inicio: 01/01/2022. Final: 31/05/2023**;** Entidad Financiadora: Consejería de Economía, Conocimiento, Empresas y Universidad**;** Presupuesto: 80.000,00 euros

4. Fármacos multidiana estructuralmente relacionados con isotiocianatos naturales: diseño, síntesis y aplicaciones terapéuticas. IP: Inmaculada Fernández Fernández; Tipo: PAIDI: Proyectos I+D+i; Ref.: P20_01171; Instituciones: Universidad de Sevilla; Inicio: 05/10/2021. Final: 30/06/2023**;** Entidad Financiadora: Consejería de Economía, Conocimiento, Empresas y Universidad**;** Presupuesto: 70.000,00 euros

5. Los Carbohidratos y el Azufre como Herramientas Básicas en el Diseño y Síntesis de Nuevos Sistemas Moleculares Privilegiados de Interés Terapéutico y/o Sintético. I.P.: Inmaculada Fernández Fernández; Tipo: Plan Estatal 2017-2020 Retos - Proyectos I+D+i; Ref.: PID2019-104767RB-I00; Institución: Universidad de Sevilla; Inicio: 01/06/2020. Final: 31/05/2023**;** Entidad Financiadora: Ministerio de Ciencia, Innovación y Universidades**;** Presupuesto: 90.750,00 euros

6. Investigación traslacional sobre la regulación farmacológica de Nrf2 en enfermedades no transmisibles. I.P.:**: Antonio Cuadrado**. Tipo: "Acciones de dinamización «Redes de Investigación» correspondientes al Programa Estatal de Generación de Conocimiento y Fortalecimiento Científico y Tecnológico del Sistema de I+D+i, en el marco del Plan Estatal de Investigación Científica y Técnica y de Innovación 2017-2020". Ref.: RED2018-102362-T. Instituciones: UAM, US hasta un total de 12. Inicio: 2019. Final: 2021. Entidad Financiadora: Ministerio de Ciencia, Innovación y Universidades. Presupuesto: 20.000 euros

7. Desarrollo de Nuevos Sistemas Moleculares y Supramoleculares para una Catálisis Asimétrica Sostenible. Síntesis de Compuestos Antitumorales, Antivíricos y Antibacterianos. I.P.:: Inmaculada Fernández Fernández; Tipo: Plan Estatal 2013-2016 Retos - Proyectos I+D+i; Ref.: CTQ2016-78580-C2-2-R; Instititución: Universidad de Sevilla; Inicio: 30-12-2016. Final: 29-12-2019**;** Entidad Financiadora: Ministerio de Economía y Competitividad**;** Presupuesto: 80.000,00 euros

8. Diseño y Síntesis de Nuevos Sistemas Moleculares y Supramoleculares Nanométricos como Herramientas Útiles en Síntesis Asimétrica y Biomedicina. I.P.: Inmaculada Fernández Fernández; Tipo: Plan Estatal 2013-2016 Retos. Ref.: CTQ2013-49066-C2-2-R; Institución: Universidad de Sevilla; Inicio: 01-01-2014. Final: 31-08-2017; Entidad Financiadora: Ministerio de Economía y Competitividad; Presupuesto: 127.050,00 euros

9. **Nuevos Análogos del Sulforafano: Síntesis Enantioselectiva y Actividad Biológica.** I.P.: Inmaculada Fernández Fernández; Tipo: Proyectos de Excelencia de la Junta de Andalucía; Ref.: P11-FQM-8046; Institución: Universidad de Sevilla; Inicio: 26-03-2013. Final: 31-03-2018**;** Entidad Financiadora: Junta de Andalucía (Consejería de Innovación, Ciencia y Empresas); Presupuesto: 208.242€

10. **Carbohidratos y Compuestos Quirales de Azufre: Aplicación para la Síntesis Estereoselectiva de Compuestos de Interés Biológico**. I.P.: Inmaculada Fernández Fernández; Tipo: Plan Nacional del 2010; Ref.: CTQ2010-21755-C02-02; Institución: Universidad de Sevilla; Inicio: 01-01-2011. Final: 31-12-2014; Entidad Financiadora: Ministerio de Ciencia e Innovación; Presupuesto: 72.600 euros.

C.3. Participación en actividades de Transferencia

Contratos con compañías nacionales o extranjeras:

1. Titulo: Synthesis of Novel Sulforaphane Analogues. (2778/0115). Entidad Financiadora: Evgen Pharma; Participantes: US; I.P.: Inmaculada Fernández Fernández; Presupuesto: 100.000 euros. Fecha: 10/05/2016; Personal contratado: Nazaret Moreno Rodriguez, Esther Pozo Torres, Salvador Spina, María del Pilar Bernal Martinez, Elena María García de Dionisio, Nora Khiar Fernández.
2. Titulo: Befesa-Preparación de derivados del glicerol. (PR200800179); Entidad Financiadora: Befesa Gestión de Residuos Industriales; Entidades participantes: US; I.P.: Inmaculada Fernández Fernández; Presupuesto: 40.600 euros. Fecha: 1/11/2008 al 9/5/2013. Personal contratado: Belén Suárez Jiménez, Rocío Recio Jiménez.
3.Título: Asesoramiento para la Sintesis de Nano-vector que Carga con el Principio Activo Camptotecina. (PRJ201602870); Entidad Financiadora: Nanosel S.L.; Entidades participantes: US; I.P.: Inmaculada Fernández Fernández; Presupuesto: 6.655 euros. Fecha: 1/9/2016 al 31/8/2017.
4. Título: Licencia Exclusiva de la Patente *201230356* "Compuestos Derivados del Sulforafano, Método de Obtención y su Uso Médico, Alimenticio y Cosmético; Entidad Financiadora: Evgen Pharma; Entidades participantes: CSIC y US; I.P.: Inmaculada Fernandez Fernandez. Presupuesto: 45.000 euros. Fecha: 10/11/2015.
5. Título: Opción de Licencia de la Patente 201230356 "Compuestos Derivados del Sulforafano: Método de Obtención y su Uso Médico"; Entidad Financiadora: Evgen Pharma. Entidades participantes: CSIC y US; I.P.: Inmaculada Fernandez Fernandez; Presupuesto: 25.000 $. Fecha: 30/09/2013
6. Título: Extensión de la Opción de Licencia de la Patente 201230356 "Compuestos Derivados del Sulforafano: Método de Obtención y su Uso Médico"; Entidad Financiadora: Evgen Pharma. Entidades participantes: CSIC y US; I.P.: Inmaculada Fernandez Fernandez. Presupuesto: 6.500 euros. Fecha: 4/3/2013.

Patentes *(en los 10 últimos años; 4 de 8)*
1. Inventores: **I. Fernández**, N. Khiar, J.A. Pérez-Simón, et al.; Título: **Sulforaphane analogues (SFNAs) as well as CD/SFNAs inclusion complexes and uses thereof**. Nº Solicitud: EP23383113.0 31 October 2023; Entidades: US-CSIC-SAS.
2. Inventores: **I. Fernández**, N. Khiar, J.A. Pérez-Simón, et al.; Título: **Thiosugar based isothiocyanates and uses thereof**. Nº Solicitud: EP23383012; 2 Octubre 2023; Entidades: US-CSIC-SAS.
3. Inventores: N. Khiar, **I. Fernández**, R. Recio, López-Lázaro, M., Calderón-Montaño, J.M.; Título: **Antagonistas de los receptores NK1 derivados de hidratos de carbono, método de obtención y uso médico**. Nº Solicitud: US2015110863 (A1)-2015-04-23. **2015**. PCT/ES2016/070383; Entidades: CSIC – Universidad de Sevilla.
4. Inventores: N. Khiar, **I. Fernández**, R. Recío; Título: **Compuestos derivados de sulforafano, método de obtención y su uso médico, alimenticio y cosmético**. Nº Solicitud: ES. 201230356. **2013**; Extended internationally (PCT/ES2013/070134). In National phases in: Australia (AU2013229355B2 on 02/23/2017), in China (CN104284885B on 03/27/2018), in Japan (P6181087B2 on 03/16/2018). 08/2017), in Europe (28 countries; EP2842940B1 on 04/25/2018), in the United States (US9884816B2 on 02/06/2018)**.** Entidades participantes: CSIC – Universidad de Sevilla
Licenciada a la Compañía: Evgen Pharma.(10/11/2015)

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AGENCIA ESTATAL DE INVESTIGACIÓN

CV date	31/10/2023

Part A. PERSONAL INFORMATION

First name	José Manuel		
Family name	García Fernández		
Gender (*)		Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail	jogarcia@iiq.csic.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)		http://orcid.org/0000-0002-6827-0387	

(*) Mandatory

A.1. Current position

Position	Research Professor		
Initial date	27/04/2006		
Institution	Consejo Superior de Investigaciones Científicas (CSIC)		
Department/Center	Instituto de Investigaciones Químicas (IIQ)		
Country	SPAIN	Teleph. number	
Key words	Carbohydrates, glycomimetics, gene delivery, supramolecular chemistry, self-assembly, cyclodextrins, immunomodulation		

A.2. Previous positions (research activity interuptions, art. 14.2.b))

Period	Position/Institution/Country/Interruption cause
02/05/96-11/05/2003	Tenured Scientist CSIC (IIQ)
12/05/2003-26/04/2006	Senior Researcher CISC (IIQ)

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Licensed in Chemistry	University of Seville, Spain	1985
PhD in Chemistry (Organic)	University of Seville, Spain	1988

Scientific activity indicators (WOS, 26/06/2026):
Total publications: 288; Total cites: 8631; H index: 51
Technology transfer indicators:
Total patents (priority + PCT): 44; Total licensed patents: 20 (+4 under license option); Contracts with private companies in the last 2 years: 3 (total budget: 2.540.000 €); Spin-off companies founded: 1

Part B. CV SUMMARY *(max. 5000 characters, including spaces)*
Jose Manuel García Fernández received his Doctor in Chemistry degree from the University of Seville (Spain) in 1988. Between 1990 and 1995 he pursued postdoctoral research at the Centre d'Etudes de Grenoble, working in the field of carbohydrate molecular and supramolecular chemistry. In 1996 he joined the Spanish National Research Council (CSIC) at the Institute for Chemical Research (IIQ; CSIC – University of Seville), where he promoted to Research Professor in 2006 and served as Director since 2009 to 2017. In 2018 he was the CSIC National Coordinator for Chemistry and Chemical Technologies. He has been a member of the LIFE and CHEM panels for evaluation of the Marie Skłodowska-Curie Fellowships of the European Union for the last 15 years and has been Invited Professor at the University of Amiens (France) during several academic courses. He has co-authored about 280 scientific articles, is co-inventor of 44 patents (20 licensed and four with license options), has founded

1 spin-off company, has supervised 23 PhD Thesis and has delivered plenary and invited lectures in International, European and National Symposia in Carbohydrate Chemistry, Cyclodextrin Chemistry, Macromolecular Chemistry and Biological Chemistry, including the International Carbohydrate Symposium or the Gordon's Conference on Carbohydrates. Current targets of the laboratory include the design of self-assembled glycocarriers for drug and gene delivery, with a focus on cyclodextrins, the development of glycodrugs targeting defective carbohydrate processing enzymes and immune response mediators and the investigation of the mechanisms underlining carbohydrate-protein interactions.

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

C.1. Publications *(10 selected from the last 3 years)*

1. M. Gonzalez-Cuesta, et al. Serine-/Cysteine-Based sp^2-Iminoglycolipids as Novel TLR4 Agonists: Evaluation of Their Adjuvancy and Immunotherapeutic Properties in a Murine Model of Asthma. *J. Med. Chem.* **2023**, *66*, 4768-4783. DOI: 10.1021/acs.jmedchem.2c01948.
2. M. C. Padilla-Pérez et al. Fluoro-Labelled sp2-Iminoglycolipids with Immunomodulatory Properties. *Eur J. Med. Chem.* **2023**, *256*, 115390. DOI: 10.1016/j.ejmech.2023.115390.
3. M. González-Cuesta et al. Bicyclic Picomolar OGA Inhibitors Enable Chemoproteomic Mapping of Its Endogenous Post-translational Modifications. *J. Am. Chem. Soc.* **2022**, *144*, 832-844. DOI: 10.1021/jacs.1c10504.
4. A. I. Carbajo-Gordillo et al. Enhanced Gene Delivery Triggered by Dual pH/Redox Responsive Host-Guest Dimerization of Cyclooligosaccharide Star Polycations. *Macromol. Rapid Commun.* **2022**, *43*, 2200145. DOI: 10.1002/marc.202200145.
5. C. de la Torre et al. A β-Cyclodextrin-Based Nanoparticle with Very High Transfection Efficiency Unveils siRNA-Activated TLR3 Responses in Human Prostate Cancer Cells. *Pharmaceutics* **2022**, *14*, 2424. DOI: 10.3390/pharmaceutics14112424.
6. L. Gallego-Yerga et al. Synthesis, self-assembly and anticancer drug encapsulation and delivery properties of cyclodextrin-based giant amphiphiles. *Carbohydr. Polym.* **2021**, *252*, 117135. DOI: 10.1016/j.carbpol.2020.117135.
7. F. Cano-Cano et al. Anti-Inflammatory (M2) Response Is Induced by a sp2-Iminosugar Glycolipid Sulfoxide in Diabetic Retinopathy. *Front. Immunol.* **2021**, *12*, 632132. DOI: 10.3389/fimmu.2021.632132.
8. A. I. Carbajo-Gordillo et al. Trifaceted Mickey Mouse amphiphiles for programmable self-assembly, DNA complexation and organ-selective gene delivery. *Chem. Eur. J.* **2021**, *27*, 9429-9438. DOI: 10.1002/chem.202100832.
9. A. I. Carbajo-Gordillo et al. Click synthesis of size- and shape-tunable star polymers with functional macrocyclic cores for synergistic DNA complexation and delivery. *Biomacromolecules* **2020**, *21*, 5173-5188. DOI: 10.1021/acs.biomac.0c01283.
10. I. A. Bermejo et al. Synthesis, conformational analysis and in vivo assays of an anti-cancer vaccine that features an unnatural antigen based on an sp^2-iminosugar fragment. *Chem. Sci.* **2020**, *11*, 3996-4006. DOI: 10.1039/c9sc06334j.

C.2. Congress *(see CV summary)*

C.3. Research and Technology Transfer projects *(as PI, active in the last 5 years)*

1. Project title: Next-generation DNA/RNA delivery systems: carbohydrate-based molecular capsids (GLYCOCAPSID). Financing agency: Spanish Ministry of Science and Innovation (Ref.: RTI2018-097609-B-C21). Participant Institutions: CSIC. Funds: 175450 €; Execution period: 01/09/2022 to 31/08/2025.

2. Title: Implementation of strategies of automation in the synthesis of self-adjuvant carbohydrate-derived vectors for mRNA-based vaccine formulations (Technology Transfer Project). Funding agency: Andalusian Regional Government (Ref. AT21_00123). Participant Institutions: CSIC. Funds: 37100 €; Execution period: 01/09/2022 to 31/03/2023.
3. Project title: Novel strategies for immune system regulation from the perspective of carbohydrate chemistry. Funding agency: Andalusian Regional Government (Ref. P20_00166). Participants Institutions: CSIC, Univ. Sevilla. Funds: 90000€; Execution period: 01/09/2021-31/12/2022.
4. Artificial viruses by precision synthesis: Non-viral molecular vectors for drug and gene delivery. Financing agency: Spanish Ministry of Economy and Competitiveness (Ref.: . RTI2018-097609-B-C21). Participant Institutions: CSIC. Funds: 145200 €; Execution period: 01/01/2019 to 31/12/2021
5. Project title: Carbohydrate-based self-assembled nanometric systems for drug and gene delivery: Anticancer therapies. Financing agency: Spanish Ministry of Economy and Competitiveness (Ref.: CTQ2015-64425-C2-1-R). Participant Institutions: CSIC Funds: 82000€; Execution period: 01/01/2016 to 31/12/2019
6. Project title: Self-assembled nanometric systems. Financing agency: Andalusian Regional Government (Ref.: "Project of excellence FQM2012-1467). Participant Institutions: CSIC, University of Sevilla, University of de Navarra. Funds: 118860 €; Execution period: 16/05/2013 to 15/06/2019.

C.4. Contracts, technological or transfer merits

C.4.1. Contracts with private companies *(last 3 years)*

1. Title: Next generation pharmacological chaperones for Fabry disease
   Industrial partner: Aminus Therapeutics
   Institution: CSIC, Univ. Sevilla Total Budget: 837.500€ (July 2022-July 2024)
   IP: J. M. García Fernández
2. Title: Developing next generation material for RNA delivery
   Industrial partner: BioNTech
   Institution: CSIC, Univ. Sevilla Total Budget: 200.000€ (June 2022-June 2024)
   IP: J. M. García Fernández
3. Title: Next generation mRNA-based vaccines
   Industrial partner: BioNTech
   Institution: CSIC, Univ. Sevilla Total Budget: 1.502.500€ (Apr 2021-Apr 2024)
   IP: J. M. García Fernández

C.4.2. Patents *(only PCTs or first-year priorities, filed in the last 3 years)*

1. J. M. García Fernández, A. Parejas Barranco, C. Ortiz Mellet, M. González Cuesta, K. Maenaka, P. A. Guillén Poza, K. Furukawa. EP23382023.2. Immunomodulatory Thiourea and Urea Carbohydrate Compounds and Uses Thereof. 13/01/2023. CSIC, Universy de Sevilla, Universy of Hokkaido, University de Kanazawa.
2. J. Moreno Herrero, H. Haas, S. Erbar, T. B. Stahl, J. M. García Fernández, J. M. Benito, J. López Fernández, N. de la Cruz. C. Ortiz Mellet, M. González Cuesta, E. J. Jacobus Ambuludis, I. Vlatkovic. PCT/EP2022/079345 Oligosaccharide complexes and uses. 21/10/2022. BioNTech, CSIC. Licensed to BioNTech SE.
3. J. Moreno Herrero, H. Haas, S. Erbar, J. M. García Fernández, C. Ortiz Mellet, J. M. Benito, J. López Fernández, J. L. Jiménez Blanco. PCT/EP2022/079340. Oligosaccharide compounds and complexes. 21/10/2022. BioNTech SE, CSIC, Univ. Sevilla. Licensed to BioNTech SE.

4. J. Moreno Herrero, H. Haas, S. Erbar, J. M. García Fernández, J. M. Benito, J. López Fernández. PCT/EP2022/079342. Oligosaccharide complexes and uses. 21/10/2022. BioNTech SE, CSIC. Licensed to BioNTech SE.
5. J. Moreno Herrero, H. Haas, S. Erbar, J. M. García Fernández, J. M. Benito, J. López Fernández, P. Sánchez Mellado. PCT/EP2022/079343. Disulfide oligosaccharide compounds and complexes. 21/10/2022. BioNTech SE, CSIC. Licensed to BioNTech SE.
6. J. Moreno Herrero, H. Haas, S. Erbar, T. B. Stahl, J. M. García Fernández, J. M. Benito, J. López Fernández, P. Sánchez Mellado. PCT/EP2022/079346. Oligosaccharide compounds and complexes. 21/10/2022. BioNTech SE, CSIC. , Univ. Sevilla. Licensed to BioNTech SE.
7. J. M. García Fernández, C. Ortiz Mellet, M. Gozález Cuesta, I. Herrera González, Y.-J. Chang, A. C.-Y. Lai. PCT/EP2022/079553. Multiantennary Glycolipid Mimetics. 22/10/2022. CSIC, Univ. Sevilla, Academia Sinica (Taiwan). License option to BioNTech SE.
8. J. M. García Fernández, C. Ortiz Mellet, M. González Cuesta, E. Sánchez Fernández, Y.-J. Chang, A. C.-Y. Lai. PCT/EP2022/079912. Anti-inflammatory Glycolipid Mimetics. 24/10/2021. CSIC, Univ. Sevilla, Academia Sinica (Taiwan). License option to BioNTech SE.
9. D. Vocadlo, J. M. García Fernández, C. Ortiz Mellet, M. González Cuesta. US Patent Application Data Sheet 37 CFR 1.76. Glycosidase inhibitors and uses thereof. 25/09/2020. PCT_IB2021_058706 (24/09/2021). Simon Fraser University (Canada), CSIC, Univ. Sevilla.

C.5. Management and expert activities

.- National CSIC Coordinator for the “Chemistry and Chemical Technologies” Area. November 2017 to November 2018. ·
.- Director of the Institute for Chemical Research (CSIC - University of Sevilla). May 2009 to June 2017. ·
.- Member of the CSIC National Commission for Chemistry and Chemical Technologies. September 2008 to May 2009. ·
.- Vice-Director of the Institute for Chemical Research (CSIC - University of Sevilla). September 2004 to Mars 2007. ·
.- Member of the Marie Curie LIFE panel 2007, 2008, 2009, 2010, 2011, 2013, 2014 and 2015. · Member of the Marie Curie CHEM panel 2017 and 2018. ·
.- External member of the Evaluation Committee for the Institute des Biomolécules Mass Mousseron de Montpellier. ·
.- External member of the Evaluation Committee for the Chemistry Department of the Ecole Normal Supérieur de París. ·
.- Visiting Professor at the University of Amiens in 2007, 2008, and 2011.
.- External evaluator for the research activity/applications for Professorship of the University of Bordeaux (France) and the University of Waikato (New Zeeland) ·
.- Member of the Editorial Board of the journal Carbohydrate Research from 01/01/1999 to 31/12/2005 and 01/01/2009 to date.
.- Member of the Management Committee of the H2020 COST Action GlycoNanoProbes since 2019.

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CURRICULUM VITAE (CVA)

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Part A. PERSONAL INFORMATION

CV date	September 2023

First name	Araceli	
Family name	González Campaña	
Open Researcher and Contributor ID (ORCID) (*)		0000-0001-5483-5642

(*) Mandatory

A.1. Current position

Position	Profesor Titular de Universidad		
Initial date	13/12/2019		
Institution	Universidad de Granada		
Department/Center	Química Orgánica	Facultad de Ciencias	
Country	Spain	Teleph. number	(34) 958248029
Key words	Organic Synthesis, Organometallic Chemistry, Supramolecular Chemistry, Nanographenes, Polycyclic Aromatic Hydrocarbons, Chiroptical Properties		

A.2. Previous positions (research activity interruptions, art. 14.2.b))

Period	Position/Institution/Country/Interruption cause
01/01/2015 – 12/12/2019	"Ramón y Cajal" Researcher / Universidad de Granada
01/02/2012 – 31/12/2014	"Juan de la Cierva" Researcher / Universidad de Granada
01/10/2011 – 31/01/2012	Postdoctoral Research Fellow / University of Edinburgh (UK)
01/10/2009 – 30/09/2011	"Ramón Areces" Fellow /University of Edinburgh (UK)
01/02/2009 – 30/09/2009	Postdoctoral Researcher / Universidad Autónoma de Madrid
01/04/2006 – 31/01/2008	FPU PhD student / Universidad de Granada
01/05/2005 – 31/03/2006	PhD student (Project contract) / Universidad de Granada

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD in Chemistry	Universidad de Granada	2008
Degree in Chemistry	Universidad de Granada	2004

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

Dr. Araceli G. Campaña (AGC) currently is associate professor at the Departamento de Química Orgánica of the Universidad de Granada (UGR) and leads the Group *NanographOUT*. She obtained her BSc (2004) and PhD (2008, supervisor Prof. Juan M. Cuerva) from the UGR. Then, she worked at Universidad Autónoma de Madrid as Postdoctoral Researcher (2009, Group of Prof. Diego J. Cárdenas) and later on at the University of Edinburgh (UK) (2009-2012, Group of Prof. David A. Leigh). She was later appointed as "Juan de la Cierva" researcher (2012-2014) at the UGR. From 2015, she worked as "Ramón y Cajal" researcher as Independent Group Leader before taking his current position in 2020.

Since 2015, AGC has been leading the research group *NanographOUT* at the UGR where young scientists (predoctoral and postdoctoral) have been trained and are continuing their

scientific or professional careers in groups of international level. She has already supervised 6 PhD Thesis and 3 PhD Thesis are on-going (see research proposal-section 6., for details).

NanographOUT research focuses on bottom-up synthesis of distorted carbon nanostructures particularly incorporating non-hexagonal rings (7-membered or larger rings) and carbohelicenes in the structure. One of the major aims is to study the influence of such defects on the optical and chiroptical properties (ECD and Circularly Polarized Luminescence, CPL) of such curved aromatics. They are also interested in the study of the supramolecular interactions of such curved aromatics and their biomedical applications. Moreover, the research is also focused on the study of quiroptical properties in other organic structures such as foldamers or organic radicals, in interlocked species such as rotaxanes and also in metal complexes.

Several *scientific milestones* have been presented during this time placing *NanographOUT* as one of the world-class groups in the area of molecular nanographenes. Important breakthroughs include: the development of a versatile synthetic strategy to the straightforward preparation of heptagon-containing nanographenes (NGs), distorted NGs as CPL emitters, the first organic compound showing two-photon absorption (TPA) and CPL, the influence of heptagonal rings on TPA responses in NGs, new chiral moieties such as octa-[5]helicene and nona-[5]helicene, novel chiral NGs including fully π-extended helicenes, such as undecabenzo[7]helicene or large examples with multiple saddle-curvatures and helicenes. The first macrocyclic host based on saddle-shaped NGs or the influence of saddle-curvature on supramolecular assemblies have also been presented. Besides NGs, her research is also interested in molecular machines, with the first [2]rotaxane-based CPL switch which represents an important breakthrough in the field.

Those results have been adequately communicated leading to an excellent track record of publications: 35 publications in the last 5 years (since 2019), including high-impact journals in the Multidisciplinary Chemistry area like JACS (x2), ACIE (x12), Chemical Science (x3) or J. Mater. Chem. C (x2), with a total of 70 publications in JCR journals in her research career.

Her scientific accomplishments have been recognized by several Prizes: Young Investigator Prize of the Spanish Royal Chemical Society (Spain 2019) and Thieme Chemistry Journals Award (2020).

Her track record of obtained funding is excellent (> 2.5 million since 2016). She has been the recipient of an ERC Starting Grant in 2016 and several grants from Spanish Government, Junta de Andalucía and University of Granada. Currently, she supports submitted proposal to european HORIZON-MSCA-2023-PF and MSCA-DN-2023 calls.

During this time, AGC has established a network of scientific collaborations at different levels: national (Dr. Teresa González, IMDEA Nanociencia; Prof. Jose Ángel Martín Gago, ICMM-CSIC; Prof. Jaume Veciana, ICMAB-CSIC, Prof. Uwe Pischel, Universidad de Huelva) and international (Dra. Ermelinda Maçôas, University of Lisbon; Prof. Michal Juríček, University of Zurich; Prof. Tomás Solomek, University of Bern, Prof. Fabrizio Messina, University of Palermo Prof. Pavel Jelínek, FZU Prague).

AGC has participated as invited speakers in international conferences and symposiums (see below). She usually participates in dissemination activities to the general public, European Researchers' Night, Scientist Meeting with female students, workshop with high-school students).

Other activities include:
Referee activity (ACS, Wiley-VCH, RSC, Nature, Elsevier). Advisory Board of Chemical Society Reviews. Evaluation activities: i) Member of the Evaluation Commission for the Ramón y Cajal 2019 contracts (MATpanel) of the AEI (Ministerio de Ciencia, Innovación y Universidad); ii) ERC Remote Referee (ERC-2019-ADG) for the European Commission; iii) Expert assessment "Programa Estatal Proyectos de I+D de Generación de Conocimiento 2019

and I+D+i Retos Investigación 2019, and iv) Remote Referee in the IPODI International Post-Doct Initiative (Technische Universität Berlin)

Part C. RELEVANT MERITS

C.1. 10 Selected Publications

1. J. P. Mora-Fuentes, M. D. Codesal, M. Reale, C. M. Cruz, V. G. Jiménez, A. Sciortino, M. Cannas, F. Messina, V. Blanco,* A. G. Campaña.* "Heptagon-containing nanographene embedded into [10]cycloparaphenylene" *Angew. Chem. Int. Ed.* **2023**, *62*, e202301356.
2. A. Jiménez-Martín, F. Villalobos, B. Mallada, S. Edalatmanesh, A. Matěj, J. M. Cuerva, P. Jelínek, A. G. Campaña, B. de la Torre. "On-surface synthesis of non-benzenoid conjugated polymers by selective atomic rearrangement of ethynylarenes" *Chem. Sci*., **2023**, *14*, 1403.
3. S. Míguez-Lago, I. F. A. Mariz, M. A. Medel, J. M. Cuerva, E. Macoas, C. M. Cruz, A. G. Campaña. "Highly contorted superhelicene hits near-infrared circularly polarized luminescence" *Chem. Sci.,* **2022**, *13*, 10267 (Hot Article Collection and Back Cover).
4. J. Malinčík, S. Gaikwad, J. P. Mora-Fuentes, M.-A. Boillat, A. Prescimone, D. Häussinger, A. G. Campaña, T. Šolomek. "Circularly Polarized Luminescene in a Möbius Helicene Carbon Nanohoop" *Angew. Chem. Int. Ed.* **2022**, *61*, e202208591.
5. L. Palomino-Ruiz, P. Reiné, I. R. Márquez, L. Álvarez de Cienfuegos, N. Agraït, J. M. Cuerva, A. G. Campaña, E. Leary, D. Miguel, A. Millán, L. A. Zotti, M. T. González. "Three-state molecular potentiometer based on a non-symmetrically positioned in-backbone linker" *J. Mater. Chem. C,* **2021**, *9*, 16282.
6. M. A. Medel, R. Tapia, V. Blanco, D. Miguel, S. P. Morcillo,* A. G. Campaña.* "Octagon-embedded carbohelicene as chiral motif for CPL emission of saddle-helix nanographenes" *Angew. Chem. Int. Ed.* **2021**, *60*, 6094. (Highlighted as Hot Paper)
7. L. Palomino-Ruiz, S. Rodríguez-González, J. G. Fallaque, I. R. Márquez, N. Agraït, C. Díaz, E. Leary, J. M. Cuerva, A. G. Campaña, F. Martín,* A. Millán,* M. T. Gonzalez.* "Single-Molecule Conductance of 1,4-Azaborine Derivatives as Models of BN-doped PAHs" *Angew. Chem. Int. Ed.* **2021**, *60*, 6609.
8. V. G. Jiménez, A. H. G. David, J. M. Cuerva, V. Blanco,* A. G. Campaña.* "A Macrocycle Based on a Heptagon-Containing Hexa-peri-hexabenzocoronene" *Angew. Chem. Int. Ed.* **2020**, *59*, 15124 (Highlighted as Hot Paper).
9. S. Castro-Fernández, C. M. Cruz, I. F. A. Mariz, I. R. Márquez, V. G. Jiménez, L. Palomino-Ruiz, J. M. Cuerva, E. Maçôas,* A. G. Campaña* *Angew. Chem. Int. Ed.* **2020**, *59*, 7139 (Highlighted as Insided Back Cover and in Chemistry Views).
10. C. M. Cruz, I. R. Márquez, S. Castro-Fernández, J. M. Cuerva, E. Maçôas, A. G. Campaña*. "A Triskelion-Shaped Saddle-Helix Hybrid Nanographene" *Angew. Chem. Int. Ed.* **2019**, *58*, 8068-8072 (Highlighted as *HOT article*).

C.2. Congress

Selected talks as Invited Speaker:

1. "Distorted heptagon-incorporating graphene molecules" 6th EuCheMS Chemistry Congress. EuCheMS. Sevilla (Spain). 11-15/09/2016
2. Women in Science – 1st Erlangen Symposium. Erlangen, Germany. 9-11 December, 2018
3. XXXVII Reunión Bienal de Química. San Sebastián (Spain). 26-30 May, 2019
4. ICIQ Seminar Programme. Tarragona. January, 2020
5. Virtual GDCh lecture, University of Ulm, Germany. January 2022.
6. SISOC XIII – 13th Spanish-Italian Sympoium on Organic Chemistry.Sept 2022
7. ISNA-19 - Warsaw, Poland. July 2022

8. CURO-π5 – Prague, July 2023
9. International Workshop on Spin Research in Graphene Nanostructures (SPRING'23) – San Sebastián, September 2023.

C.3. Research projects

Research Projects and Grants as **PI** in the last 5 years:

1. PGC2021-127521NB-I00 – SaddleHoops
   "Carbon nanohoops and assemblies based on saddle-shaped nanographenes".
   Ministerio de Ciencia, Innovación y Universidades. Amount: 180,000 eur
   01/09/2022 – 31/08/2025

2. B-FQM-428-UGR20 – Nanograph8onsurf
   "On-surface synthesis of nanomaterials containing octagon-containing carbo/heterocycles"
   Programa Operativo Feder Andalucía 2014-2020. Amount: 14,900 eur.
   01/11/2021 – 30/06/2023

3. P18-FR-2877
   "Molecular machines based on rotaxanes and curved nanographenes"
   Junta de Andalucía. Amount: 94,800 eur.
   01/01/2016 – 30/03/2023

4. A-FQM-339-UGR18
   "Supramolecular interactions and hosts based on heptagon-containing curved nanographenes"
   Programa Operativo Feder Andalucía 2014-2020. Amount: 14,900 eur.
   01/01/2020 – 31/06/2022

5. ERC-STG-2015 - nº 677023 - NANOGRAPHOUT
   "Design, synthesis, study and applications of distorted nanographenes".
   European Research Council. Amount: 1,492,297.00 eur
   01/04/2016 – 31/09/2022

6. PGC2018-101181-B-I00 – GoPro7Nanograph
   "Exploring the properties of saddle-shaped nanographenes".
   Ministerio de Ciencia, Innovación y Universidades. Amount: 71,390 eur
   01/01/2019 – 31/12/2021

7. EQC2019-006543-P
   "System for two-photon excited circularly polarized luminescence".
   Ministerio de Ciencia, Innovación y Universidades. Amount: 412,526.24 eur
   01/01/2019 – 31/12/2021