

Part A. PERSONAL INFORMATION

CV date	10-06-2022
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Name and family name	Fernando García Tellado		
ID (NIF)	42033274S	Age	65
Researcher numbers	Researcher ID	J-6037-2014	
	Orcid code	0000-0001-6470-6289	

A.1. Current position

Institution	Instituto de Productos Naturales y Agrobiología-CSIC		
Department	Department of Molecular Sciences		
Address	Astrofísico Francisco Sánchez 3, 38206 La Laguna, Tenerife, Canary Islands, Spain		
Teléfono	922260112 ext. 245	E-mail	fgarcia@ipna.csic.es
Current Position	Research Scientist	Since	19/07/2008
Espec. cód. UNESCO	2306:Organic Chemistry		
Key Words	Asymmetric organocatalysis, diversity-oriented synthesis, domino chemistry and aqueous chemistry		

A.2. Education

PhD	University	Year
Organic Chemistry	La Laguna (Spain)	1982

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

Sexenniums: 6 (maximum allowed)

DEA/Master/Grade (10 last years): 10

Thesis (10 last years): 6

DEA/Master/Degree Works (2010-2021): 10

h Index: 26 (JCR)

Total articles: 98 (20 D1; 56 Q1)

Total citations: 2306

Total Patents: 1

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

Research lines: Our group focuses its research in organic synthesis, concentrating its efforts in new *domino processes* and *organocatalysis*.

Main achievements: We have defined and developed new concept for the generation and control of the chemical reactivity, as well as novel reactivity patterns for the generation of molecular diversity and structural complexity (innovation). We have also explored a heuristic model for the design and development of organic reactions in the water-organic interface (discovery).

Main scientific milestones:

- Design, development and implementation of a new concept of chemical reactivity:** the transformation of bimolecular reactions in multicomponent reactions. *ABB' multicomponent reactions*. Selected publications: *Chem. Soc. Rev.* **2007**, 36, 484. (In March/April 2016, this highly cited paper received enough citations to place it in the top 1% of the academic field of Chemistry based on a highly cited threshold for the field and publication year (WEB of Science v.5.22.3).
- Design, development and implementation of a new concept of chemical reactivity generation:** a good nucleophile (kinetic concept) generates and strong base (thermodynamic concept). Application to organocatalysis and domino chemistry. Selected publications: *Chem. Eur. J.* **2019**, 25, 15046; *Angew. Chem. Int. Ed.* **2009**, 48, 2090; *Chem. Eur. J.* **2007**, 13, 1201; *J. Org. Chem.* **2007**, 72, 5454; *Chem. Commun.* **2006**, 2667; *Chem. Eur. J.* **2005**, 11, 3502; *Chem. Eur. J.* **2003**, 9, 3122; *J. Org. Chem.* **2003**, 68, 3363; *Org. Lett.* **2001**, 3, 1905.

- 3. Design, development and implementation of a new strategy for diversity-oriented molecular construction: coupled domino processes.** Selected publications: *J. Am. Chem. Soc.* **2004**, 126, 8390.
- 4. Pluripotent molecular platforms:** Development of prototypes based on alkyne-activated enol ether systems (propargyl vinyl ethers) or 1,4-skipped diynes (dialkyl 4-aryl-4-acyloxyhepta-2,5-diyne-1,7-dione). Application to the diversity-oriented synthesis of small molecules of biological/chemical interest. Molecular libraries. Selected publications: *Org. Lett.* **2021**, 23, 4078; *Chem. Commun.* **2020**, 56, 4019; *Org. Lett.* **2018**, 20, 7987; *Chem. Eur. J.* **2017**, 23, 10048; *J. Org. Chem.* **2017**, 82, 5328; *J. Org. Chem.* **2016**, 81, 10099; *Acc. Chem. Res.* **2016**, 49, 703; *Org. Lett.* **2016**, 18, 2770; *Chem. Eur. J.* **2015**, 21, 18280; *J. Org. Chem.* **2014**, 79, 10655; *J. Org. Chem.* **2013**, 78, 3457; *Chem. Eur. J.* **2012**, 16, 3468; *Chem. Eur. J.* **2011**, 17, 9571; *Chem. Eur. J.* **2011**, 17, 3318; *Org. Lett.* **2011**, 13, 4422; *Chem. Eur. J.* **2010**, 16, 3276; *Chem. Eur. J.* **2010**, 16, 428; *Chem. Eur. J.* **2009**, 15, 838; *J. Org. Chem.* **2005**, 70, 1042.
- 5. Modular access to amphiphilic allenenes:** implementation of a new reactivity pattern in terminal conjugated alkynes. Selected publications: *Chem. Commun.* **2009**, 2368.
- 6. The development of new robust organocatalyzed processes at the organic-water interface** (the so-called “on water” conditions): implementation of new multicomponent processes under “on water conditions”. Selected publications: *Adv. Synth. Catal.* **2018**, 360, 4362; *Chem. Commun.* **2009**, 2368.
- 7. Non-covalent asymmetric organocatalysis at the organic-water interface: hydrogen bond interactions.** Design and implementation of a stereoselective, robust, scalable and general model for the aza-Henry reaction in the presence of water. Selected publications: *Chem. Eur. J.* **2013**, 19, 16550.
- 8. Discovery of a novel family of topoisomerase II inhibitors** using the concept of the small molecule approach to the discovery of chemical probes and drugs. Selected publications: *J. Med. Chem.* **2010**, 53, 3835.

Part C. RELEVANT MERITS

C.1. Publications (including books)

- F. García-Tellado and col.* Short and modular synthesis of Substituted 2-Aminopyrroles. *Org. Lett.* **2021**, 23, 4078-4082
- F. García-Tellado and col.* Short and modular synthesis of tetraarylsalicylaldehydes. *Chem. Commun.* **2020**, 56, 4019-4022.
- F. García-Tellado and col.* Catalytic hydrocyanation of activated terminal alkynes. *Chem. Eur. J.* **2019**, 25, 15046-15049.
- F. García-Tellado and col.* Synthesis and Utility of 2,2-Dimethyl-2H-pyrans: Dienes for Sequential Diels–Alder/Retro-Diels–Alder Reactions. *Organic Letters* **2018**, 20, 7987-7990.
- F. García-Tellado and col.* Stereodiversified Modular Synthesis of Non-planar Five-Membered Cyclic N-Hydroxylamidines: Reactivity Study and Application to the Synthesis of Cyclic Amidines. *Adv. Synth. Catal.* **2018**, 360, 4362-4371.
- F. García-Tellado and col.* Integrative Pericyclic Cascade: An Atom Economic, Multi C-C Bond-Forming Strategy for the Construction of Molecular Complexity. *Chem. Eur. J.* **2017**, 23, 10048-10052.
- F. García-Tellado and col.* Propargyl vinyl ethers and tertiary skipped diynes: two pluripotent molecular platforms for diversity-oriented synthesis. *Acc. Chem. Res.* **2016**, 49, 703-713 (6 citas).
- F. García-Tellado and col.* Microwave-assisted organocatalyzed rearrangement of propargyl vinyl ethers to salicylaldehyde derivatives: an experimental and theoretical study. *Chem. Eur. J.* **2015**, 21, 18280-18289 (5 citas).
- F. García-Tellado and col.* Water-compatible hydrogen-bond activation: a scalable and organocatalytic model for the stereoselective multicomponent aza-Henry reaction. *Chem. Eur. J.* **2013**, 19, 16550-16554 (18 citas).
- D. Tejedor, F. García-Tellado.* Chemo-differentiating ABB' multicomponent reactions. Privileged building blocks. *Chemical Society Reviews* **2007**, 36, 484-491. (314 citas; As of

March/April 2016, this highly cited paper received enough citations to place it in the top 1% of the academic field of Chemistry based on a highly cited threshold for the field and publication year (WEB of Science v.5.22.3)

11. *F. García-Tellado and col.* A diversity-oriented strategy for the construction of tetrasubstituted pyrroles via coupled domino processes. *J. Am. Chem. Soc.* **2004**, *126*, 8390-8391 (**109** citas).
12. *F. García-Tellado and col.* Efficient domino process based on the catalytic generation of non-metalated, conjugated acetylides in the presence of aldehydes or activated ketones. *Chem. Eur. J.* **2003**, *9*, 3122-3131 (**53** citas).
13. *F. García-Tellado and col.* Highly 1,2-trans stereoselective allylations of 1,2-O-isopropylidene-protected glycofuranosides. *Angew. Chem. Int. Ed.* **2000**, *39*, 2727-2729 (**17** citas).

C.2. Research projects and grants (2010-2021)

1. Title: Sustainable Chemistry: from Small Molecules to Complex Functional Systems.
Funding Agency: MICINN (PGC2018-094503-B-C21)
Duration: 1/01/2019 - 31/12/2021
Funding: 95.000,00 € IP: Dr. Tomás Martín Ruiz
2. Title: Organic synthesis under the sustainability paradigm approach.
Funding Agency: Ministerio de Economía y Competitividad (CTQ2015-63894-P)
Duration: 1/01/2016 - 31/12/2019 (prorrogated 9 more months)
Funding: 97.000,00 € IP: Dr. Fernando García Tellado
3. Title: Sustainability, innovation and respect for the environment: a new paradigm in the design and synthesis of new chemical entities.
Funding Agency: Gobierno de Canarias - Canarias (CA-PROID-2017-019)
Duration, 01-06-2018 - 30-09-2018 (prorrogated 6 more months)
Funding: 70.000 € IP: Dr. Fernando García Tellado
4. Title: Synthesis of Novel Chemical Entities to Map Bioactivity In The Chemical Space.
Funding Agency: Ministerio de Economía y Competitividad (CTQ2011-28417-C02-02)
Duration: 1/01/2012 - 31/12/2015 (1 year prorrogated)
Funding: 177.870,00 € IP: Dr. Fernando García Tellado
5. Title: Novel Catalytic Processes for the Synthesis of Bioactive Small-Molecules.
Funding Agency: Ministerio de Ciencia e Innovación (CTQ2008-06806-C02-02/BQU)
Duration: 1/01/2009 - 31/12/2011
Funding: 156.453 € IP: Dr. Fernando García Tellado

C.3. Contracts

Contract aim: Synthesis of four 1,2-dihydropyridine derivatives endowed with a special substitution pattern at the aromatic ring. Purity >95%, 100 mg of each.

Enterprise: Boehringer Ingelheim Pharma GmbH & Co. KG. *Stimated payment:* 2.000 €.

C.4. Patents

Inventors: *N.E. Cabrera Benítez; A. M. Ramos Nuez; J. Villar Hernández; J. M. Padrón Carrillo; F. García Tellado; D. Tejedor Aragón.*

Title: compuestos ciclopentenonas, procedimiento de obtención y su uso en la preparación de un medicamento útil para el tratamiento de enfermedades inflamatorias que cursan con procesos apoptóticos y fibróticos celulares.

Application number: P201232075 Priority country: España

Date of concision: 30/04/2015 Titular: CIBERES-ULL-CSIC.

C.5. Awards

1. Fulbright Senior. 1989-1990. Universidad de Pittsburgh
2. Royal Society of Chemistry, 1985-1986, University of Sussex

C.6. Thesis (2010-2021)

1. Samuel Delgado Hernández. *Síntesis orientada a la diversidad a través de nuevas metodologías dominó*. Universidad de La Laguna. Sobresaliente cum laude. 19/11/**2021**.
2. Mary Cruz Prieto Ramírez. *Organocatálisis Asimétrica en Agua. Síntesis Orientada a la Diversidad Estereoquímica de N-hidroxiamidinas Cíclicas. Estudio de su Reactividad*. Universidad de La Laguna. sobresaliente cum laude. 19/9/**2017**.
3. Leandro Cotos Muñoz. *Éteres propargílicos vinílicos: plataformas para la generación de diversidad estructural*. Universidad de La Laguna. Sobresaliente cum laude. 5/9/ 2014.
4. Fabio Cruz Acosta. *Reacciones multicomponente en agua*. Universidad de La Laguna. Sobresaliente con mención de cum laude (Tesis interdepartamental). 21/3/**2014**
5. Gabriela Méndez Abt. *Propargyl Vinyl Ethers: Synthetic Applications*. Universidad de La Laguna. Apto cum laude (Mención Internacional). 22/2/**2013**.
6. Sara López Tosco. *1,4-Diinos terciarios activados. Nuevas plataformas para la generación de complejidad y diversidad estructural*. Universidad de La Laguna. Sobresaliente cum laude.10/3/**2011**. Premio a la Mejor Tesis Facultad de Química 2010-11 y accésit en la 8ª edición de los Premios de Investigación Lilly para alumnos de doctorado (**2010**).

C.7. Courses / Seminars / Workshops (2015-2022)

1. Postgraduate course *Síntesis orientada a la diversidad estructural. Nuevas herramientas para cartografiar la bioactividad en el espacio químico*. Universidad de La república, Facultad Química, 23-27/10/**2017** (20 horas)
2. Postgraduate course *Cómo escribir un artículo científico*. Universidad de La Laguna, Sección Química.19-26/05/**2016** (10 horas)

C.8. Scientific lectures (2015-2022)

1. *2-Aminopirroles e indoles: un nuevo acceso a estos heterociclos mediante síntesis dominó*. XXIII SINAQO (Córdoba, Argentina) 18-11-**2021**.
2. *El reagrupamiento de Claisen propargílico: una herramienta sintética para la creación de diversidad*. Centro de Investigaciones Químicas CIQ-UAEM (Cuernavaca, México), 9-12-**2020**.
3. *De la molécula sencilla a la diversidad estructural: un reto estimulante para la creatividad*. 5º Encuentro Nacional de Química, Montevideo, 20/10/**2017**

C.9. Otras actividades profesionales

President of the Canarias Territorial Section of the Royal Spanish Society of Chemistry (2010-2021) and *member* of the Committee of GEQO of RSEQ (2020-2022).
Referee of diverse top scientific journals: *Angew. Chem. Int. Ed.*, *Chem. Eur. J.*, *Chem. Commun.*, *Org. Lett.*, *J. Org. Chem.*, *Adv. Synth. Cat.*
Scientific evaluator of the National Agencies of Evaluation ANEP and ANECA, and Regional Agencies AAC (andalucía) and ACSUCyL (Castilla y León).

C.10. Other merits

Co-Chairman of the IX Spanish-Italian Symposium on Organic Chemistry (SISOC IX). Tenerife, 10-14/2/2012.
Member of the organizing commite of the Last Meeting of the COST ACTION CM1407 (*Challenging organic syntheses inspired by nature from natural products chemistry to drug discovery*). La Laguna (Tenerife), 13-14/12/2018.