



Aitor Landa Álvarez

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Summary of CV

This section describes briefly a summary of your career in science, academic and research; the main scientific and technological achievements and goals in your line of research in the medium -and long- term. It also includes other important aspects or peculiarities.

After finish the chemistry degree (University of the Basque Country) in September of 1996, I started my PhD at the Department of Organic Chemistry I of the same University under the supervision of Prof. Claudio Palomo and Prof. Juan Miguel Oiarbide. My thesis work consisted in the "stereoselective synthesis of a novel class of sugar peptide hybrids through a acetate-Mannich reaction as a key strategic step" and in a "b-lactam based seteroselective access to a,g-dihydroxy a -amino acid-derived using the Sharpless AD reaction", respectively. I finished the PhD in 2002 with the maximum qualification and then, I performed postdoctoral research first at the Institute of Nanotechnology in Karlsruhe (2002-2004 under the guidance of Prof. Mario Ruben) working in "Charge Transport Through single conjugate molecules", and second at the University of Aarhus (2004-2006 under the guidance of Prof. Karl Anker Jorgensen) working in asymmetric "organocatalytic reactions". At the end of 2006, I was awarded with a Ramon y Cajal contract (2006-2011) at the University of the Basque Country (Department of Organic Chemistry I). Afterwards, I obtained a permanent position as a Research Assistant Professor in the same place. The research I am doing is mainly focused on asymmetric synthesis with and without metals. My scientific career is reflected on the papers that have been published on behalf of the projects I participated on, both in organic and nanotechnology fields, all of them in high quality publications.



General quality indicators of scientific research

This section describes briefly the main quality indicators of scientific production (periods of research activity, experience in supervising doctoral theses, total citations, articles in journals of the first quartile, H index...). It also includes other important aspects or peculiarities.

Web of Science:

- Total Publications: 28 (25 articles + 3 book chapters). JACS (4), ACIE (6), CEJ (5), JOC (5), Chemical Science (1), Nano Letters (1), Small (1), Dalton (1), Chemical Commun. (1).
- Articles first quartile (Q1) = 25
- h-index = 21
- Promedio de citas por elemento = 69,52

Aitor Landa Álvarez

Surname(s): **Landa Álvarez**
Name: **Aitor**
DNI: **34097127H**
ORCID: **0000-0001-8574-8568**
Date of birth: **16/11/1971**
Gender: **Male**
Nationality: **Spain**
Country of birth: **Spain**
Aut. region/reg. of birth: **Basque Country**
Contact province: **Gipuzkoa**
City of birth: **Donostia - San Sebastián**
Contact address: **Pº Manuel Lardiazabal, 3, Departamento de Química Orgánica I**
Rest of contact address: **Chemistry Faculty**
Postcode: **20018**
Contact country: **Spain**
Contact aut. region/reg.: **Basque Country**
Contact city: **Donostia - San Sebastián**
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Email: **a.landa@ehu.es**
Personal web page: **<http://www.ehu.eus/es/web/gicas/hasiera>**

Current professional situation

Employing entity: Universidad del País Vasco **Type of entity:** University
Department: Department of Organic Chemistry I, Facultad de Ciencias Químicas
Professional category: Associate professor
Start date: 01/10/2012
Type of contract: Permanent employment **Dedication regime:** Full time contract
Primary (UNESCO code): 230600 - Organic chemistry

Previous positions and activities

	Employing entity	Professional category	Start date
1	Universidad del País Vasco	Personal doctor de investigación	02/12/2011
2	Universidad del País Vasco	Contratado Ramón y Cajal	01/12/2006
3	Aarhus University-Denmark	Postdoctoral research	01/10/2004
4	The Institute of Nanotechnology (INT) Karlsruhe	Postdoctoral researcher	01/04/2002

1 **Employing entity:** Universidad del País Vasco **Type of entity:** University
Professional category: Personal doctor de investigación
Start-End date: 02/12/2011 - 31/10/2012 **Duration:** 1 year - 1 month



- | | | |
|----------|---|---|
| 2 | Employing entity: Universidad del País Vasco
Professional category: Contratado Ramón y Cajal
Start-End date: 01/12/2006 - 30/11/2011 | Type of entity: University
Duration: 5 years |
| 3 | Employing entity: Aarhus University-Denmark
Professional category: Postdoctoral research
Start-End date: 01/10/2004 - 30/11/2007 | Type of entity: University
Duration: 2 years - 1 month - 29 days |
| 4 | Employing entity: The Institute of Nanotechnology (INT) Karlsruhe
Professional category: Postdoctoral researcher
Start-End date: 01/04/2002 - 01/10/2005 | Type of entity: State agency
Duration: 2 years - 6 months |



Education

University education

1st and 2nd cycle studies and pre-Bologna degrees

University degree: Higher degree

Name of qualification: Licenciado en Ciencias Químicas Especialidad Fundamental

Degree awarding entity: Universidad del País Vasco **Type of entity:** University

Date of qualification: 01/09/1996

Doctorates

Doctorate programme: Programa Oficial de Doctorado en Química Orgánica Experimental e Industrial

Degree awarding entity: Universidad del País Vasco **Type of entity:** University

Date of degree: 22/03/2002

Language skills

Language	Listening skills	Reading skills	Spoken interaction	Speaking skills	Writing skills
German		A1	A1	A1	A1
Basque		C1	C1	C1	C1
English		C1	C1	C1	C1

Teaching experience

General teaching experience

- 1 Name of the course:** Síntesis Química Avanzada
University degree: Máster Universitario en Química Sintética e Industrial
Start date: 05/11/2018 **End date:** 20/11/2018
End date: 20/11/2018
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Químicas
- 2 Name of the course:** Química Orgánica II
University degree: Grado en Ciencias Químicas
Start date: 18/01/2018 **End date:** 30/07/2018
End date: 30/07/2018
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Químicas



- 3** **Name of the course:** Química Orgánica II
University degree: Grado en Ciencias Químicas
Start date: 20/01/2017 **End date:** 19/07/2017
End date: 19/07/2017
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Químicas
- 4** **Name of the course:** Síntesis Química Avanzada
University degree: Máster Universitario en Química Sintética e Industrial
Start date: 06/11/2017 **End date:** 21/11/2016
End date: 21/11/2017
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Químicas
- 5** **Name of the course:** Síntesis Química Avanzada
University degree: Máster Universitario en Química Sintética e Industrial
Start date: 01/11/2016 **End date:** 10/11/2016
End date: 10/11/2016
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Químicas
- 6** **Name of the course:** Química Orgánica II
University degree: Grado en Ciencias Químicas
Start date: 13/01/2016 **End date:** 19/07/2016
End date: 19/07/2016
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Químicas
- 7** **Name of the course:** Síntesis Química Avanzada
University degree: Máster Universitario en Química Sintética e Industrial
Start date: 10/11/2015 **End date:** 20/11/2015
End date: 20/11/2015
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Químicas
- 8** **Name of the course:** Química Orgánica II
University degree: Grado en Ciencias Químicas
Start date: 12/01/2015 **End date:** 18/05/2015
End date: 18/05/2015
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Químicas
- 9** **Name of the course:** Síntesis Química Avanzada
University degree: Máster Universitario en Química Sintética e Industrial
Start date: 11/11/2014 **End date:** 21/11/2014
End date: 21/11/2014
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Químicas



- 10** **Name of the course:** Química Orgánica II
University degree: Grado en Ciencias Químicas
Start date: 13/01/2014 **End date:** 19/05/2014
End date: 19/05/2014
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Químicas
- 11** **Name of the course:** Química Orgánica II
University degree: Grado en Ciencias Químicas
Start date: 04/02/2013 **End date:** 05/07/2013
End date: 05/07/2013
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Químicas
- 12** **Name of the course:** Química Orgánica Avanzada
University degree: Licenciado en Ciencias Químicas Especialidad Fundamental
Start date: 23/01/2012 **End date:** 20/06/2012
End date: 20/06/2012
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Químicas
- 13** **Name of the course:** Química Orgánica Avanzada
University degree: Licenciado en Ciencias Químicas Especialidad Fundamental
Start date: 01/02/2011 **End date:** 25/05/2011
End date: 25/05/2011
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Químicas
- 14** **Name of the course:** Kimika organikoa II
University degree: Licenciado en Ciencias Químicas Especialidad Fundamental
Start date: 10/02/2009 **End date:** 16/04/2009
End date: 01/05/2009
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Químicas
- 15** **Name of the course:** Diseño y Síntesis Orgánica
University degree: Licenciado en Ciencias Químicas Especialidad Fundamental
Start date: 11/03/2002 **End date:** 17/04/2002
End date: 17/04/2002
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Químicas
- 16** **Name of the course:** Teoría de las reacciones Orgánicas
University degree: Licenciado en Ciencias Químicas Especialidad Fundamental
Start date: 01/03/2001 **End date:** 01/04/2001
End date: 01/04/2001
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Químicas



17 **Name of the course:** Practicas, Proyecto, Trabajos fin de carrera
University degree: Máster Universitario en Química Sintética e Industrial
End date: 20/06/2013
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Químicas

Experience supervising doctoral thesis and/or final year projects

- 1** **Project title:** Doctoral thesis: New Approaches to Optically Active 2-tert-Alkyl Azaaryl Compounds and 5,5-Disubstituted Hydantoins
Entity: University of the Basque Country **Type of entity:** University Department
Student: Joseba Izquierdo Arruheria
Date of reading: 14/06/2018
- 2** **Project title:** Final year project: Reacción de Michael enantioselectiva entre 5H-tiazol-4-onas y vinil bis-sulfonas promovida por nuevos catalizadores multifuncionales.
Entity: Universidad del País Vasco **Type of entity:** University
Student: Mikel López Delgado
Date of reading: 22/09/2017
- 3** **Project title:** Final year project: Síntesis enantio- y diastereoselectiva de nuevas 3-aril-N-hidantoínas 5,5-disustituidas a partir de 3-aril-N-1H-imidazol-4(5H)-onas y nitroolefinas promovida por catalizadores bifuncionales.
Entity: Universidad del País Vasco **Type of entity:** University
Student: Eider Duñabeitia Aizpurua
Date of reading: 22/09/2017
- 4** **Project title:** Doctoral thesis: Catalytic Asymmetric Synthesis of α,α -Disubstituted α -Thio- and α -Amino Acid Derivatives
Entity: University of the Basque Country **Type of entity:** University Department
Student: Julen Etxabe Telleria
Date of reading: 26/02/2016
- 5** **Project title:** Final year project: Síntesis enantioselectiva de tioles terciarios a partir de 5H-tiazol-4-onas y nitroolefinas promovida por catalizadores bifuncionales
Entity: Universidad del País Vasco **Type of entity:** University
Student: Joseba Izquierdo
Date of reading: 17/09/2013
- 6** **Project title:** Final year project: Reacción de Mannich con bis(sulfonil)metano promovida por bases de Brønsted. Co-dirección DEA
Entity: Universidad del País Vasco **Type of entity:** University
Student: Julen Etxabe Telleria
Date of reading: 18/09/2011
- 7** **Project title:** Final year project: Catálisis asimétrica mediante nuevos organocatalizadores. Co-dirección DEA
Entity: Universidad del País Vasco **Type of entity:** University
Student: Mikel Azkona Calero
Date of reading: 12/09/2009



Scientific and technological experience

Scientific or technological activities

R&D projects funded through competitive calls of public or private entities

- 1** **Name of the project:** Ayuda a grupos de investigación del sistema universitario vasco
Entity where project took place: Universidad del País Vasco **Type of entity:** University
City of entity: San Sebastián, Basque Country, Spain
Name principal investigator (PI, Co-PI....): Claudio Palomo Nicolau; Juan Miguel Oiarbide Garmendia
Nº of researchers: 14
Start-End date: 01/07/2019 - 31/07/2022
Total amount: 185.693 €

- 2** **Name of the project:** Catálisis Asimétrica y Síntesis Química
Entity where project took place: Universidad del País Vasco **Type of entity:** University
City of entity: San Sebastián, Basque Country, Spain
Nº of researchers: 15
Funding entity or bodies:
Gobierno Vasco, Departamento de Agricultura, Pesca y Alimentación, Centro de Investigación y Mejora Agraria **Type of entity:** R&D Centre
City funding entity: Derio, Basque Country, Spain
Start-End date: 01/01/2013 - 31/12/2018
Total amount: 422.598 €

- 3** **Name of the project:** Desarrollo de Nuevos Catalizadores y Plantillas en Organocatálisis Asimétrica CTQ2016-78487-C2-1-P
Entity where project took place: Universidad del País Vasco **Type of entity:** University
City of entity: San Sebastián, Basque Country, Spain
Name principal investigator (PI, Co-PI....): Claudio Palomo Nicolau; Juan Miguel Oyarbide Garmendia
Nº of researchers: 15
Funding entity or bodies:
Ministerio de Economía y Competitividad **Type of entity:** University
City funding entity: Madrid, Community of Madrid, Spain
Start-End date: 30/12/2016 - 29/12/2018
Total amount: 297.660 €

- 4** **Name of the project:** Moléculas grandes como catalizadores híbridos para transformaciones orgánicas selectivas
Entity where project took place: Universidad del País Vasco **Type of entity:** University
City of entity: San Sebastián, Basque Country, Spain



Nº of researchers: 10

Funding entity or bodies:

Ministerio de Ciencia e Innovación

Type of entity: 1

City funding entity: Madrid, Community of Madrid, Spain

Start-End date: 01/09/2015 - 31/08/2017

Total amount: 36.300 €

5 Name of the project: Catalizadores mono- y bifuncionales para transformaciones orgánicas asimétricas.

Entity where project took place: Universidad del País Vasco **Type of entity:** University

City of entity: San Sebastián, Basque Country, Spain

Nº of researchers: 16

Funding entity or bodies:

Ministerio de Economía y Competitividad

Type of entity: State agency

City funding entity: Madrid, Community of Madrid, Spain

Start-End date: 01/01/2014 - 31/12/2016

Total amount: 295.240 €

6 Name of the project: Catálisis Asimétrica con y sin metales: Diseño y aplicaciones.

Entity where project took place: Universidad del País Vasco **Type of entity:** University

City of entity: San Sebastián, Basque Country, Spain

Nº of researchers: 12

Funding entity or bodies:

Ministerio de Ciencia e Innovación (MICINN).
CTQ2010-2163-C02-01/BQU

Type of entity: State agency

City funding entity: San Sebastián, Basque Country, Spain

Start-End date: 01/05/2010 - 30/04/2013

Total amount: 18.279 €

7 Name of the project: Síntesis química y biomateriales moleculares.

Entity where project took place: Universidad del País Vasco **Type of entity:** University

City of entity: San Sebastián, Basque Country, Spain

Nº of researchers: 14

Funding entity or bodies:

Gobierno Vasco (Grupos consolidados y alto
rendimiento) IT-291-07

Type of entity: State agency

City funding entity: San Sebastián, Basque Country, Spain

Start-End date: 01/06/2007 - 31/05/2012

Total amount: 467.177,97 €

8 Name of the project: Investigación estratégica y desarrollo tecnológico en imagen molecular, análisis multimodal y materiales híbridos.

Entity where project took place: Universidad del País Vasco **Type of entity:** University

City of entity: San Sebastián, Basque Country, Spain

Nº of researchers: 11

Funding entity or bodies:

Gobierno Vasco-ETORTEK08/12

Type of entity: State agency



City funding entity: San Sebastián, Basque Country, Spain

Start-End date: 01/01/2008 - 31/12/2010

Total amount: 83.000 €

9 Name of the project: Desarrollo de biomateriales a partir de aminoácidos.

Entity where project took place: Universidad del País Vasco **Type of entity:** University

City of entity: San Sebastián, Basque Country, Spain

Nº of researchers: 12

Funding entity or bodies:

Gobierno Vasco-Spri-SAI10/47

Type of entity: State agency

City funding entity: San Sebastián, Basque Country, Spain

Start-End date: 01/01/2008 - 30/12/2010

10 Name of the project: Formación asimétrica de enlaces C-C y C-X a través de procesos catalíticos.

Entity where project took place: Universidad del País Vasco **Type of entity:** University

City of entity: San Sebastián, Basque Country, Spain

Funding entity or bodies:

Ministerio de Educación y Ciencia. CTQ
2007-68095-CO2-01-BQU

Type of entity: State agency

City funding entity: San Sebastián, Basque Country, Spain

Start-End date: 01/03/2007 - 28/02/2010

Total amount: 200.000 €

11 Name of the project: Hélices biomiméticas y nanomateriales a partir de aminoácidos no naturales.

Entity where project took place: Universidad del País Vasco **Type of entity:** University

City of entity: San Sebastián, Basque Country, Spain

Nº of researchers: 8

Funding entity or bodies:

Gobierno Vasco-Saiotek 09 G.V

Type of entity: State agency

City funding entity: San Sebastián, Basque Country, Spain

Start-End date: 01/01/2009 - 31/12/2009

Total amount: 22.909 €

12 Name of the project: Nuevos métodos catalíticos en la síntesis de moléculas avanzadas.

Entity where project took place: Universidad del País Vasco **Type of entity:** University

City of entity: San Sebastián, Basque Country, Spain

Nº of researchers: 20

Funding entity or bodies:

Gobierno Vasco S-PEO8UN38

Type of entity: State agency

City funding entity: San Sebastián, Basque Country, Spain

Start-End date: 01/08/2008 - 31/07/2009

13 Name of the project: Síntesis de Compuestos Enantioméricamente Puros (EPC) por catálisis asimétrica.

Entity where project took place: Universidad del País Vasco **Type of entity:** University



City of entity: San Sebastián, Basque Country, Spain

Nº of researchers: 15

Funding entity or bodies:

Gobierno Vasco SPRI-GV Saiotek S-PEO6UNO6

Type of entity: State agency

City funding entity: San Sebastián, Basque Country, Spain

Start-End date: 01/01/2007 - 31/12/2008

Total amount: 31.905 €

- 14 Name of the project:** Catalizadores metálicos y orgánicos en la formación asimétrica de enlaces C-C y C-heteroátomo.

Entity where project took place: Universidad del País Vasco **Type of entity:** University

City of entity: San Sebastián, Basque Country, Spain

Nº of researchers: 16

Funding entity or bodies:

MINISTERIO DE EDUCACION Y CIENCIA CTQ-2004-02234

City funding entity: San Sebastián, Basque Country, Spain

Start-End date: 01/01/2004 - 30/06/2006

Total amount: 203.850 €

- 15 Name of the project:** Síntesis diastéreo y enantioselectiva de 3-hidroxi-beta-lactamas con actividad antielastásica útiles para la preparación de biomateriales.

Entity where project took place: Universidad del País Vasco **Type of entity:** University

City of entity: San Sebastián, Basque Country, Spain

Nº of researchers: 16

Funding entity or bodies:

Diputación foral de Gipuzkoa

Type of entity: State agency

City funding entity: San Sebastián, Basque Country, Spain

Start-End date: 02/05/2001 - 01/05/2002

Total amount: 5.589,4 €

- 16 Name of the project:** Reacciones aza-aldólicas de enolatos de litio a alquilcetonas derivadas del alcanfor.

Entity where project took place: Universidad del País Vasco **Type of entity:** University

City of entity: San Sebastián, Basque Country, Spain

Nº of researchers: 17

Funding entity or bodies:

Gobierno Vasco-Alto rendimiento.

Type of entity: State agency

City funding entity: San Sebastián, Basque Country, Spain

Start-End date: 05/10/1999 - 31/12/2000

Total amount: 15.600 €

- 17 Name of the project:** Subvención general a grupos de investigación UPV/EHU 1998

Entity where project took place: Universidad del País Vasco **Type of entity:** University

City of entity: San Sebastián, Basque Country, Spain

Nº of researchers: 14

Start-End date: 01/01/1998 - 31/12/2000

Total amount: 144.451 €



- 18** **Name of the project:** Síntesis de Monómeros b-lactámicos no racémicos con actividad antielastásica útiles para la preparación de biomateriales.
Entity where project took place: Universidad del País Vasco **Type of entity:** University
City of entity: San Sebastián, Basque Country, Spain
Nº of researchers: 15
Start-End date: 19/10/1999 - 18/10/2000
Total amount: 7.212 €
- 19** **Name of the project:** Síntesis de nuevos precursores de materiales para prótesis óseas.
Entity where project took place: Universidad del País Vasco **Type of entity:** University
City of entity: san Sebastián, Basque Country, Spain
Nº of researchers: 19
Start-End date: 14/09/1998 - 13/08/1999
Total amount: 7.138 €
- 20** **Name of the project:** Nuevos biomateriales con propiedades antielásticas a partir de b-lactamas. CICYT SAF: OF105/1997
Entity where project took place: Universidad del País Vasco **Type of entity:** University
City of entity: San Sebastián, Basque Country, Spain
Nº of researchers: 17
Start-End date: 17/07/1997 - 16/07/1998
Total amount: 8.100 €

R&D non-competitive contracts, agreements or projects with public or private entities

- 1** **Name of the project:** Preparacion de Trifluorometanosulfonato de 3-Carbamoyl-1-[2R,3S,4R,5R]-3,4-Dihidroxi-5-(Hidroximetil)Tetrahidrofuran-2-il] de Piridinio a partir del Trifluorosulfonato y control mediante NMR de Flúor
Degree of contribution: Researcher
Name principal investigator (PI, Co-PI....): José Ignacio Gamboa Landa; Ángel García Martán; Claudio Palomo Nicolau; Aitor Landa Álvarez
Nº of researchers: 4
Participating entity/entities: Universidad del País Vasco
Funding entity or bodies:
 StemTek Therapeutics **Type of entity:** Business
City funding entity: Derio, Basque Country, Spain
Start date: 05/06/2017 **Duration:** 3 months
Total amount: 6.530 €
- 2** **Name of the project:** Preparacion de Trifluorometanosulfonato de 3-Carbamoyl-1-[2R,3S,4R,5R]-3,4-Dihidroxi-5-(Hidroximetil)Tetrahidrofuran-2-il] de Piridinio
Degree of contribution: Researcher
Name principal investigator (PI, Co-PI....): José Ignacio Gamboa Landa; Ángel García Martán; Claudio Palomo Nicolau; Aitor Landa Álvarez
Nº of researchers: 4
Participating entity/entities: Universidad del País Vasco
Funding entity or bodies:



StemTek Therapeutics

Type of entity: Business**City funding entity:** Derio, Basque Country, Spain**Start date:** 29/09/2016**Duration:** 3 months**Total amount:** 20.390 €**3 Name of the project:** Highly integrated molecular-electronic devices (MOLMEM)**Degree of contribution:** Researcher**Nº of researchers:** 6**Participating entity/entities:** Bundesministerium für Bildung und Forschung; Infineon Technologies AG**Funding entity or bodies:**

Bundesministerium für Bildung und Forschung (BMFT) y Infineon Technologies AG

Type of entity: Business**City funding entity:** Karlsruhe, Karlsruhe, Germany**Start date:** 01/05/2002**Duration:** 3 years**Total amount:** 260.000 €**4 Name of the project:** Nuevos materiales con propiedades antielastasa basados en b-lactamas. Preparación de un monómero de actividad antielastásica**Degree of contribution:** Researcher**Nº of researchers:** 7**Participating entity/entities:** Gobierno Vasco**Funding entity or bodies:**

INASMET Tecnalia

Type of entity: Technological Centre**City funding entity:** Donostia, Basque Country, Spain**Start date:** 01/02/2001**Duration:** 6 months**Total amount:** 15.500 €

Scientific and technological activities

Scientific production

Publications, scientific and technical documents

- 1** June Izquierdo; Noémie Demurget; Aitor Landa; Tore Brinck; Jose Mercero M.; Peter Dinér; Mikel Oiarbide; Claudio Palomo. Asymmetric Synthesis of Adjacent Tri- and Tetrasubstituted Carbon Stereocenters. Organocatalytic Aldol Reaction of an Hydantoin Surrogate with Azaarene 2-Carbaldehydes. Chemistry-A European Journal. pp. Accepted. John Wiley & Sons, 18/07/2019.

Type of production: Scientific paper**Format:** Journal**Corresponding author:** No

- 2** Joseba Izquierdo; Julen Etxabe; Eider Duñabeitia; Aitor Landa; Mikel Oiarbide; Claudio Palomo. Enantioselective Synthesis of 5,5-Disubstituted Hydantoins by Brønsted Base/H-Bond Catalyst Assisted Michael Reactions of a Design Template (Hot paper). Chemistry-A European Journal. 24, pp. 7217 - 7227. John Wiley & Sons, 14/05/2018.

Type of production: Scientific paper**Format:** Journal**Corresponding author:** No

- 3** Joseba Izquierdo; Aitor Landa; Iñaki Bastida; Rosa López; Mikel Oiarbide; Claudio Palomo. Base-Catalyzed Asymmetric α -Functionalization of 2-(Cyanomethyl)azaarene N-Oxides Leading to Quaternary Stereocenters. *Journal of the American Chemical Society*. 138, pp. 3282 - 3285. ACS, 03/03/2016.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 4** Julen Etxabe; Joseba Izquierdo; Aitor Landa; Mikel Oiarbide; Claudio Palomo. Catalytic Enantioselective Synthesis of N,Ca,Ca-Trisubstituted α -Amino Acid Derivatives Using 1H-Imidazol-4(5H)-ones as Key Templates. *Angewandte Chemie International Edition*. 54, pp. 6883 - 6886. Wiley-VCH, 23/04/2015.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 5** Saioa Diosdado; Julen Etxabe; Joseba Izquierdo; Aitor Landa; Antonia Mielgo; Iurre Olaizola; Rosa López; Claudio Palomo. Catalytic Enantioselective Synthesis of Tertiary Thiols From 5H-Thiazol-4-ones and Nitroolefins: Bifunctional Ureidopeptide-Based Brønsted Base Catalysis. *Angewandte Chemie International Edition*. 125, pp. 12062 - 12067. Wiley, 17/09/2013.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 6** Israel Cano; Enrique Gómez-Bengoa; Aitor Landa; Miguel Maestro; Antonia Mielgo; Iurre Olaizola; Mikel Oiarbide; Claudio Palomo. N-(Diazoacetyl)oxazolidin-2-thiones as Sulfur Donor Reagents: Asymmetric Synthesis of Thiiranes from Aldehydes. *Angewandte Chemie International Edition*. 51, pp. 10856 - 10860. John Wiley & Sons, 2012.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 7** Jacqueline Jiménez; Aitor Landa; Aitziber Lizarraga; Miguel Maestro; Antonia Mielgo; Mikel Oiarbide; Irene Velilla; Claudio Palomo. Organocatalytic Asymmetric Formal α -Alkylation of Aldehydes with 2-(Bromomethyl) Acrylates. *Journal of Organic Chemistry*. 77, pp. 747 - 753. ACS Publications, 2011.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 8** Organocatalytic Asymmetric Formal α -Alkylation of Aldehydes with 2-(Bromomethyl) Acrylates. *Chemical Science*. 2, pp. 353 - 357. Royal Society of Chemistry, 2011.
Type of production: Scientific paper **Format:** Journal
- 9** Catalytic Conjugate Additions of Geminal Bis(sulfone)s: Expanding the Chemistry of Sulfones as Simple Alkyl Anion Equivalents. *Chemistry-A European Journal*. 15, pp. 11954 - 11962. John Wiley & Sons, 2009.
Type of production: Scientific paper **Format:** Journal
- 10** Enantioselective Conjugate Additions of Aldehydes to Vinyl Sulfones. *Chemistry-A European Journal*. 15, pp. 1562 - 1565. John Wiley & Sons, 2009.
Type of production: Scientific paper **Format:** Journal
- 11** Charge Transport Through a Cardan-Joint Molecule. *Small*. 4, pp. 2229 - 2235. John Wiley & Sons, 2008.
Type of production: Scientific paper **Format:** Journal
- 12** Bisoxazoline-Lewis Acid-Catalyzed Direct-Electron Demand oxo-Hetero-Diels-Alder Reactions of N-Oxy-pyridine Aldehyde and Ketone Derivatives. *Journal of Organic Chemistry*. 72, pp. 240 - 245. ACS Publications, 2007.
Type of production: Scientific paper **Format:** Journal



- 13** Water-Compatible Iminium Activation: Organocatalytic Michael Reactions of Carbon-Centered Nucleophiles with Enals. *Angewandte Chemie International Edition*. 46, pp. 8431 - 8435. John Wiley & Sons, 2007.
Type of production: Scientific paper **Format:** Journal
- 14** 2D Supramolecular Assemblies of Benzene-1,3,5-triyl-tribenzoic Acid: Temperature-Induced Phase Transformations and Hierarchical Organization with Macrocyclic Molecules. *Journal of the American Chemical Society*. 128, pp. 15644 - 15651. 2006.
Type of production: Scientific paper **Format:** Journal
- 15** A simple asymmetric organocatalytic approach to optically active cyclohexenones. *Chemical Communications*. pp. 1359 - 1345. Royal Society of Chemistry, 2006.
Type of production: Scientific paper **Format:** Journal
- 16** Bisoxazoline-Lewis-Acid Catalyzed Aldol Reactions of Aldehydes-Synthesis of Optically Active 2-(1-Hydroxyalkyl)pyridine Derivatives: Development, Scope and Total Synthesis of an Indolizine Alkaloid. *Chemistry-A European Journal*. 13, pp. 3472 - 3483. John Wiley & Sons, 2006.
Type of production: Scientific paper **Format:** Journal
- 17** One-Pot Organocatalytic Domino Michael-Aldol and Intramolecular SN2 Reactions – Asymmetric Synthesis of Highly Functionalized Epoxy-Cyclohexanone Derivatives. *Journal of the American Chemical Society*. 128, pp. 5475 - 5479. ACS Publications, 2006.
Type of production: Scientific paper **Format:** Journal
- 18** Organocatalytic Conjugate Addition of Malonates to α,β -Unsaturated Aldehydes: Asymmetric Synthesis of (-)-Paroxetine, Chiral Lactams and Lactones. *Angewandte Chemie International Edition*. 45, pp. 6058 - 6063. John Wiley & Sons, 2006.
Type of production: Scientific paper **Format:** Journal
- 19** Surface-Assisted Coordination Chemistry and Self-Assembly. *Dalton Transactions*. pp. 2794 - 2800. Royal Society of Chemistry, 2006.
Type of production: Scientific paper **Format:** Journal
- 20** Organocatalytic Diastereo- and Enantioselective Annulation Reactions-Construction of Optically Active 1,2-Dihydro-isoquinoline and -Phthalazine Derivatives. *Angewandte Chemie International Edition*. 44, pp. 6058 - 6063. John Wiley & Sons, 2005.
Type of production: Scientific paper **Format:** Journal
- 21** Programming supramolecular assembly and chirality in two-dimensional dicarboxylate networks on a Cu(100) surface. *Nano Letters*. 5, pp. 901 - 904. ACS Publications, 2005.
Type of production: Scientific paper **Format:** Journal
- 22** Design and Synthesis of a Novel Class of Sugar-Peptide Hybrids: C-Linked Glyco β -Amino Acids through a Stereoselective "Acetate" Mannich Reaction as the Key Strategic Element. *Journal of the American Chemical Society*. 124, pp. 8637 - 8643. ACS Publications, 2002.
Type of production: Scientific paper **Format:** Journal
- 23** A β -Lactam-Based Stereoselective Access to β -g-Dihydroxy α -Amino Acid-Derived Peptides with Either β -g-Like or Unlike Configurations. *Journal of Organic Chemistry*. 66, pp. 4180 - 4186. ACS Publications, 2001.
Type of production: Scientific paper **Format:** Journal
- 24** A Strategy for the Asymmetric Aminohomologation of α - β Dihydroxy Aldehydes: Application to the Synthesis of the Southwest Tripeptide Segment of Echinocandin B. *Journal of Organic Chemistry*. 65, pp. 41 - 46. ACS, 2000.
Type of production: Scientific paper **Format:** Journal



- 25** Practical Synthesis of α -Amino Acid N-Carboxy Anhydrides of Polyhydroxylated α -Amino Acids from β -Lactam Frameworks. Model Studies toward the Synthesis of Directly Linked Peptidyl Nucleoside Antibiotics. *Journal of Organic Chemistry*. 63, pp. 5838 - 5846. ACS, 1998.
Type of production: Scientific paper **Format:** Journal
- 26** Aitor Landa; Antonia Mielgo; Mikel Oiarbide; Claudio Palomo. Asymmetric Synthesis of β -Lactams by the Staudinger Reaction. *Organic Reactions*. 95, pp. 424 - 587. John Wiley & Sons, Inc. Edited by Scott E. Denmark et al., 10/09/2018.
Type of production: Book chapter **Format:** Book
Corresponding author: No
- 27** Aitor Landa; Rosa López; Antonia Mielgo; Mikel Oiarbide; Claudio Palomo. Stereoselective Organocatalysis: Bond Formation Methodologies and Activation Modes. *Organocatalytic C-N bond formation*. pp. 381 - 42. Wiley-VCH, 10/05/2013.
Type of production: Book chapter **Format:** Book
- 28** Comprehensive Enantioselective Organocatalysis. Addition of nitroalkyls and sulfones to C=X. Wiley-VCH, 2013.
Type of production: Book chapter **Format:** Book

Works submitted to national or international conferences

- 1** **Title of the work:** Base-Promoted Asymmetric α -Functionalization of New Pronucleophiles Leading to Quaternary Stereocenters.
Name of the conference: XXXVI Reunión Bienal de la RSQE
Corresponding author: Yes
City of event: Sitges, Catalonia, Spain
Date of event: 27/07/2017
End date: 28/07/2017
Organising entity: Real Sociedad Española de Química **Type of entity:** RSQE
- 2** **Title of the work:** New Pronucleophiles for Asymmetric Organocatalytic Reactions: Formation of Quaternary Stereocenters.
Name of the conference: 11th Spanish-Italian Symposium on Organic Chemistry SISOC-XI
Corresponding author: Yes
City of event: San Sebastián, Basque Country, Spain
Date of event: 13/07/2016
End date: 15/07/2016
Organising entity: Real Sociedad Española de Química
- 3** **Title of the work:** Sulfur Ylide Mediated Asymmetric Synthesis of Thiiranes from Aldehydes
Name of the conference: XXV Reunión Bienal de Química Orgánica.
Corresponding author: Yes
City of event: Alicante, Valencian Community, Spain
Date of event: 04/06/2014
End date: 06/06/2014
Organising entity: Real Sociedad Española de Química **Type of entity:** Associations and Groups



- 4** **Title of the work:** Organocatalytic Asymmetric α -alkylation of Aldehydes via a $SN2'$ -type Addition-Elimination Pathway.
Name of the conference: XXXIII Reunión bienal de la RSEQ
City of event: Valencia, Valencian Community, Spain
Date of event: 27/07/2011
End date: 29/07/2011
Organising entity: Real Sociedad Española de Química **Type of entity:** --
- 5** **Title of the work:** Asymmetric Organocatalysis with Sulfones
Name of the conference: II simposio iberoamericano de química orgánica (SIBEAQO-II)
City of event: Santiago de Compostela, Galicia, Spain
Date of event: 10/09/2010
End date: 12/09/2010
Organising entity: Real Sociedad Española de Química **Type of entity:** --
- 6** **Title of the work:** Catalytic Conjugate Additions of Geminal Bis(sulfone)s: Expanding the Chemistry of Sulfones as Simple Alkyl Anion Equivalents
Name of the conference: XXIII Bienal Química Orgánica
City of event: Murcia, Region of Murcia, Spain
Date of event: 16/06/2010
End date: 18/06/2010
Organising entity: Real Sociedad Española de Química **Type of entity:** --
- 7** **Title of the work:** From Organocatalysis to Natural Compound Synthesis
Name of the conference: Jóvenes Investigadores RSEQ-SIGMA-ALDRICH
City of event: Santiago de Compostela, Galicia, Spain
Date of event: 09/11/2008
End date: 12/11/2008
Organising entity: RSEQ-SIGMA-ALDRICH
- 8** **Name of the conference:** XII Spanish-Italian symposium on organic chemistry-SISOC-7
City of event: Oviedo, Principality of Asturias, Spain
Date of event: 07/09/2008
End date: 10/09/2008
- 9** **Name of the conference:** XII Bienal Química Orgánica
City of event: Tarragona, Catalonia, Spain
Date of event: 25/06/2008
End date: 28/06/2008
- 10** **Title of the work:** Bisoxazoline-Lewis-Acid Catalyzed Aldol Reactions of Aldehydes-Synthesis of Optically Active 2-(1-Hydroxyalkyl)pyridine Derivatives: Development, Scope and Total Synthesis of an Indolizine Alkaloid.
Name of the conference: 1st European Chemistry Congress (1st ECC)
City of event: Budapest, Hungary
Date of event: 2006
Organising entity: EuCheMS Chemistry



- 11 Title of the work:** Organocatalytic Diastereo- and Enantioselective Annulation Reactions -Construction of Optically Active 1,2-Dihydro-isoquinoline and -Phthalazine Derivatives
Name of the conference: International Symposium on Organocatalysis in Organic Synthesis
City of event: Glasgow, United Kingdom
Date of event: 2006
Organising entity: RSCConferences
- 12 Title of the work:** Single Molecule Transport Measurements through Transition Metal Complexes
Name of the conference: Lorentz Center International Center for workshops in the Sciences
City of event: Leiden, Holland
Date of event: 2005
- 13 Title of the work:** Electronic transport properties through ruthenium complex wires
Name of the conference: The XXXVIth International Conference On Coordination Chemi
City of event: Merida, Mexico
Date of event: 2004
 "Electronic transport properties through ruthenium complex wires".

R&D management and participation in scientific committees

Scientific, technical and/or assessment committees

Committee title: Colaboración en el proceso de evaluación para agencia nacional de evaluación y prospectiva (ANEP).
Affiliation entity: Agencia Nacional de Evaluación y **Type of entity:** --
 Prospectiva

Organization of R&D activities

- 1 Title of the activity:** XXXVII Biennial Meeting of the Spanish Royal Society of Chemistry (RSEQ)
Type of activity: Organizing committee
Geographical area: National
Convening entity: Real Sociedad Española de **Type of entity:** Universidad del País Vasco
 Química
City convening entity: San Sebastián, Basque Country, Spain
Start-End date: 26/05/2019 - 30/05/2019 **Duration:** 5 days
- 2 Title of the activity:** 11th Spanish-Italian Symposium on Organic Chemistry
Type of activity: Congreso
Convening entity: Real Sociedad de Química
Start-End date: 13/07/2016 - 15/07/2016
- 3 Title of the activity:** XXIV Reunión Bienal del grupo especializado de química orgánica de la real sociedad química española (RSEQ).
Type of activity: Organización
Geographical area: National
Convening entity: Real Sociedad Española de **Type of entity:** Universidad del País Vasco
 Química
City convening entity: San Sebastián, Basque Country, Spain
Start-End date: 11/07/2012 - 13/07/2012 **Duration:** 3 days



Other achievements

Stays in public or private R&D centres

- 1** **Entity:** Danish National Research Foundation: Center for Catálisis
Faculty, institute or centre: Aarhus University
City of entity: Aarhus, Danmark, Denmark
Start-End date: 01/10/2004 - 30/09/2006 **Duration:** 2 years
Goals of the stay: Post-doctoral
- 2** **Entity:** Forschungszentrum-Karlsruhe-FZK **Type of entity:** State agency
City of entity: Karlsruhe, Karlsruhe, Germany
Start-End date: 01/04/2002 - 30/09/2004 **Duration:** 2 years - 3 months - 15 days
Goals of the stay: Post-doctoral

Obtained grants and scholarships

- 1** **Name of the grant:** Ramón y Cajal contract
Aims: Post-doctoral
Awarding entity: Ministerio de Ciencia e Innovación. **Type of entity:** Basque Government Investigación
Conferral date: 01/12/2006 **Duration:** 5 years
End date: 30/11/2011
Entity where activity was carried out: University of the basque country
Faculty, institute or centre: faculty of chemistry
- 2** **Name of the grant:** Becario posdoctoral del Gobierno Vasco.
Aims: Post-doctoral
Awarding entity: Gobierno Vasco **Type of entity:** --
Conferral date: 01/10/2004 **Duration:** 2 years
End date: 30/09/2006
Entity where activity was carried out: Universidad de Aarhus
- 3** **Name of the grant:** Becario posdoctoral del Ministerio de Ciencia y Tecnología.
Aims: Post-doctoral
Awarding entity: Ministerio de Ciencia e Innovación. **Type of entity:** -- Investigación
Conferral date: 01/07/2004 **Duration:** 2 months
End date: 30/09/2004
Entity where activity was carried out: FZKA.
Faculty, institute or centre: Instituto de Nanotecnología
- 4** **Name of the grant:** Contrato de trabajo de dos años para estancia posdoctoral.
Aims: Post-doctoral
Awarding entity: Bundesministerium für Bildung und Forschung (BMFT)
Conferral date: 15/06/2002 **Duration:** 2 years
End date: 14/06/2004

Entity where activity was carried out: Forschungszentrum Karlsruhe(FZKA).

Faculty, institute or centre: Instituto de Nanotecnología

5 Name of the grant: Contrato laboral pre-doctoral de tres años para obra o servicio determinado.

Aims: Pre-doctoral

Awarding entity: Ministerio de Ciencia e Innovación. **Type of entity:** --
Investigación

Conferral date: 01/06/1998

Duration: 3 years

End date: 01/06/2001

Obtained accreditations/recognitions

1 Description: Sexenio investigación 2013-2018

Accrediting entity: Agencia Nacional de Evaluación **Type of entity:** Unibasq
de la Calidad y Acreditación

City accrediting entity: Madrid, Community of Madrid, Spain

Date of recognition: 31/12/2018

2 Description: Sexenio investigación 2007-2012

Accrediting entity: Agencia Nacional de Evaluación **Type of entity:** Unibasq
de la Calidad y Acreditación

City accrediting entity: Madrid, Community of Madrid, Spain

Date of recognition: 21/11/2013

3 Description: Sexenio investigación 2001-2006

Accrediting entity: Agencia Nacional de Evaluación **Type of entity:** Unibasq
de la Calidad y Acreditación

City accrediting entity: Madrid, Community of Madrid, Spain

Date of recognition: 20/11/2013

4 Description: Evaluación positiva de la actividad docente e investigadora para poder ser contratado como
"personal doctor investigador"

Accrediting entity: UNIBASQ

Date of recognition: 17/11/2011

5 Description: Evaluación positiva de la actividad docente e investigadora para poder ser contratado como
"profesor adjunto"

Accrediting entity: UNIBASQ

Date of recognition: 24/05/2011

6 Description: Evaluación positiva de la actividad docente e investigadora para poder ser contratado como
"profesor contratado doctor".

Accrediting entity: Agencia Nacional de Evaluación **Type of entity:** --
de la Calidad y Acreditación

Date of recognition: 16/03/2011

7 Description: Evaluación positiva en el programa de incentivación de la incorporación e intensificación de la
Actividad Investigadora (PI3)

Accrediting entity: Ministerio de Ciencia e
Innovación. Investigación

Type of entity: --

Date of recognition: 11/11/2010



8 **Description:** Evaluación positiva de la actividad docente e investigadora para poder ser contratado como “profesor ayudante doctor”.

Accrediting entity: Agencia Nacional de Evaluación **Type of entity:** --
de la Calidad y Acreditación

Date of recognition: 22/04/2009