



Silvia Irusta Alderete

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Silvia Irusta Alderete

Surname(s): **Irusta Alderete**
Name: **Silvia**
ORCID: **0000-0002-2966-9088**
Contact aut. region/reg.: **Aragon**

Current professional situation

Employing entity: Universidad de Zaragoza

Department: Departamento de Ingeniería Química y tecnologías del Medio Ambiente

Professional category: Profesor Titular de Universidad

Start date: 07/06/2019

Type of contract: Permanent employment contract

Dedication regime: Full time

Primary (UNESCO code): 330600 - Electrical technology and engineering; 331200 - Materials technology

Secondary (UNESCO code): 330300 - Chemical technology and engineering



Education

University education

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

University degree: Higher degree

Name of qualification: Chemical Engineering

Degree awarding entity: Universidad Nacional del Litoral. Argentina

Date of qualification: 19/04/1985

Doctorates

Doctorate programme: Chemical Engineering

Degree awarding entity: Universidad Nacional del Litoral. Argentina

Type of entity: University

Date of degree: 08/09/1994

Teaching experience

Experience supervising doctoral thesis and/or final year projects

- 1 Project title:** Síntesis, caracterización y aplicaciones de apósitos nanestructurados cargados con antimicrobianos naturales

Entity: Universidad de Zaragoza

Student: Enrique Gamez Herrera

Date of reading: 02/07/2021

Type of entity: University
- 2 Project title:** Desarrollo de sistemas poliméricos mucoadhesivos de liberación controlada para la distribución localizada de agentes terapéuticos bioactivos

Entity: Universidad de Zaragoza

Student: Cristina Yus Argón

Date of reading: 18/09/2020

Type of entity: University
- 3 Project title:** Smart dressings based on nanostructured fibers containing natural origin antimicrobial and anti-inflammatory compounds

Entity: Universidad de Zaragoza

Student: Sara García Salinas

Date of reading: 23/07/2020

Type of entity: University
- 4 Project title:** Materiales compuestos obtenidos por electrohilado como sistemas de liberación controlada de fármacos para aplicaciones biomédicas

Entity: Universidad de Zaragoza

Student: Javier Aragón Fernandez

Type of entity: University



Date of reading: 18/01/2019

- 5** **Project title:** Estudio y optimización de catalizadores bimetálicos. Proceso de Oxidación Preferencial de CO"
Doctorando: Ángela López Gracia
Entity: Universidad de Zaragoza **Type of entity:** University
Student: Ángela López Gracia
Date of reading: 03/11/2017
- 6** **Project title:** Síntesis de nanofibras por electrospinning: Materiales avanzados para aplicaciones diversas
Entity: Universidad de Zaragoza **Type of entity:** University
Student: Ivan Moreno Vidorreta
Date of reading: 16/12/2016
- 7** **Project title:** Desarrollo de nanocomposites basados en α -policaprolactona
Entity: Universidad de Zaragoza **Type of entity:** University
Student: Laura López Figueras
Date of reading: 12/02/2016
- 8** **Project title:** Aerosoles formados por nanomateriales. Monitorización y evaluación de la exposición en entornos laborales
Entity: Universidad de Zaragoza **Type of entity:** University
Student: Virginia Gómez Jimenez
Date of reading: 18/12/2014
- 9** **Project title:** Síntesis de nanopartículas magnéticas y su aplicación en nanocompuestos de matriz polimérica con propiedades magnéticas
Entity: Universidad de Zaragoza **Type of entity:** University
Student: Mariana Castrillón García
Date of reading: 26/11/2012

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:** Apósitos tópicos fabricados mediante electrohilado o por impresión 3D y conteniendo agentes biológicos antimicrobianos para el tratamiento avanzado de heridas crónicas
Entity where project took place: Universidad de Zaragoza **Type of entity:** University
City of entity: Zaragoza, Aragon, Spain
Name principal investigator (PI, Co-PI....): Silvia Irusta; Manuel Arruebo
Nº of researchers: 3
Funding entity or bodies:
Ministerio re Ciencia e Innovación. Gobierno de España **Type of entity:** Ministerio
Start-End date: 01/09/2021 - 30/06/2024
Total amount: 128.300 €

- 2** **Name of the project:** ADAPTACION Y VALIDACION DEL PROCESO DE FABRICACION DE APOSITOS ANTIMICROBIANOS PARA EL TRATAMIENTO DE HERIDAS TOPICAS CRONICAS DEL LABORATORIO A LA FABRICACION INDUSTRIAL (AVALAR).

Entity where project took place: Universidad de Zaragoza **Type of entity:** University

City of entity: Zaragoza, Aragon, Spain

Name principal investigator (PI, Co-PI....): Silvia Irusta; Manuel Arruebo

Nº of researchers: 2

Funding entity or bodies:

Ministerio de Ciencia e Innovación. Gobierno de España **Type of entity:** Ministerio

Start-End date: 01/12/2021 - 30/11/2023

Total amount: 144.440 €

- 3** **Name of the project:** Desarrollo de recubrimientos poliméricos conteniendo nanopartículas antimicrobianas en la prevención de infecciones urinarias causadas por bacterias resistentes a antibióticos asociadas al uso de catéteres.

Entity where project took place: Universidad de Zaragoza **Type of entity:** University

City of entity: Zaragoza, Aragon, Spain

Name principal investigator (PI, Co-PI....): Silvia Irusta

Nº of researchers: 4

Funding entity or bodies:

Diputación General de Aragón **Type of entity:** -

Start-End date: 18/09/2021 - 30/09/2023

Total amount: 100.000 €

- 4** **Name of the project:** REVALORIZACIÓN DE RESIDUOS DE PET OPACO EN MATERIALES DE ALTO VALOR AÑADIDO (REVALPET'UP) EFA329/19

Entity where project took place: Universidad de Zaragoza **Type of entity:** University

City of entity: Zaragoza, Aragon, Spain

Name principal investigator (PI, Co-PI....): Silvia Irusta

Nº of researchers: 2

Funding entity or bodies:

U.E. POCTEFA **Type of entity:** Body

Start-End date: 01/10/2019 - 01/06/2022

Total amount: 35.000 €

- 5** **Name of the project:** REVALPET'UP / Revalorización de residuos de PET opaco en materiales de alto valor añadido

Entity where project took place: Universidad de Zaragoza **Type of entity:** University

City of entity: Zaragoza, Aragon, Spain

Name principal investigator (PI, Co-PI....): Silvia Irusta Alderete

Nº of researchers: 2

Funding entity or bodies:

Interreg V **Type of entity:** -

City funding entity: Jaca, Aragon, Spain



Start-End date: 01/10/2019 - 01/06/2022

Total amount: 35.000 €

- 6 Name of the project:** Control espacio-temporal de la liberación de antibióticos desde nanopartículas poliméricas mediante la monitorización a tiempo real del avance de infecciones tóxicas bacteria

Entity where project took place: Universidad de Zaragoza **Type of entity:** University

City of entity: Zaragoza, Aragon, Spain

Name principal investigator (PI, Co-PI....): Manuel Arruebo Gordo; Silvia Irusta Alderete

Nº of researchers: 3

Funding entity or bodies:

Ministerio de Ciencia e Innovación

Type of entity: Body

Start-End date: 01/01/2018 - 30/09/2021

Total amount: 162.503 €

- 7 Name of the project:** APOSITOS INTELIGENTES BASADOS EN FIBRAS NANOESTRUCTURADAS CONTENIENDO BIOCIDAS NATURALES CON CONTROL FARMACOCINETICO DE SU LIBERACION

Entity where project took place: Universidad de Zaragoza **Type of entity:** University

City of entity: Zaragoza, Aragon, Spain

Name principal investigator (PI, Co-PI....): Manuel Arruebo Gordo; Silvia Irusta Alderete

Nº of researchers: 4

Funding entity or bodies:

Ministerio de Ciencia e Innovación

Type of entity: Body

Start-End date: 01/01/2015 - 31/10/2018

Total amount: 159.000 €

Results

Industrial and intellectual property

- 1 Title registered industrial property:** Method for producing an artificial fiber, artificial fiber produced and use thereof

Inventors/authors/obtainers: Manuel Testa; Mariana Castrillon; Noelia Alcala; Cristina crespó; Jesus Santamaria; Silvia Irusta

Entity holder of rights: Mondo Tufting SA, Instituto Tecnológico de Aragon, Universidad de Zaragoza

Nº of application: EP20150152134

Country of inscription: Spain

Date of register: 29/07/2015

- 2 Title registered industrial property:** Speek membrane for alkaline electrolysis and the use thereof

Inventors/authors/obtainers: Isabel Carrillero; Maria Iruzubieta; Manuel Arruebo; Jesus Otero; Jesus Cebrian; Silvia Irusta

Entity holder of rights: Ingetean Power Tech. and Acciona Energia

Nº of application: PCT/ES2011/070884

Country of inscription: Spain

Date of register: 20/12/2011

Conferral date: 27/06/2013



3 Title registered industrial property: Bone implant provided with porous edges for the controlled release of therapeutically active compounds
Inventors/authors/obtainers: Manuel Arruebo; Silvia Irusta; Luis Perez; Patricia Lalueza; Jose Puertolas; Felicit Garcia-Alvarez; Marta Monzon; Jesus Santamaria
Entity holder of rights: Universidad de Zaragoza
Nº of application: PCT/ES2010/000500
Country of inscription: Spain
Date of register: 09/12/2010
Conferral date: 16/06/2011

4 Title registered industrial property: Production of Hydrocarbons
Inventors/authors/obtainers: Rafael Espinoza; Jesus Santamaria; Miguel Menedez; Joaquin Coronas; Silvia Irusta
Entity holder of rights: Sasol Technology
Nº of application: PCT/IB99/01043
Country of inscription: South African Republic
Date of register: 07/06/1999
Conferral date: 16/12/1999

Scientific and technological activities

Scientific production

Publications, scientific and technical documents

- 1** Angeles Stegmayer; Silvia Irusta; Eduardo Miro; Viviana Milt. Electrospinning synthesis and characterization of nanofibers of Co, Ce and mixed Co-Ce oxides. Their application to oxidation reactions of diesel soot and CO. Catalysis Today. 383, pp. 266 - 279. Elsevier, 01/01/2022.
Type of production: Scientific paper
Corresponding author: No
- 2** Guillermo Landa; Laura Miranda; Victor Sebastian; Silvia Irusta; Gracia Mendoza; Manuel Arruebo. Selective point-of-care detection of pathogenic bacteria using sialic acid functionalized gold nanoparticles. Talanta. 234, pp. 122644. Elsevier, 01/11/2021.
Type of production: Scientific paper
Format: Journal
Corresponding author: No
- 3** Teresa Alejo; Laura Uson; Guillermo Landa; Martin Prieto; Cristina Argon; Sara Garcia-Salinas; Ricardo de Miguel; Ana Rodriguez-Largo; Silvia Irusta; Victor Sebastian; Gracia Mendoza; Manuel Arruebo. Nanogels with High Loading of Anesthetic Nanocrystals for Extended Duration of Sciatic Nerve Block. ACS Applied Materials and Interfaces. 13 - 15, pp. 17220 - 17235. AMER CHEMICAL SOC, 21/04/2021.
Type of production: Scientific paper
Format: Journal
Corresponding author: No
- 4** O Tramis; Christian Garnier; Cristina Yus; Silvia Irusta; France Chabert. Enhancement of the fatigue life of recycled PP by incorporation of recycled opaque PET collected from household milk bottle wastes. Waste Management. 125, pp. 49 - 57. Pergamon-Elsevier, 15/04/2021.
Type of production: Scientific paper
Format: Journal
Corresponding author: No

- 5** Jordana Palacios; Achraf Ben Fekih; Cristina Yus Argon; Silvia Irusta; Simon Jestin; Sylvie Dagreou. Tailoring the rheology and electrical properties of polyamide 66 nanocomposites with hybrid filler approach: graphene and carbon nanotubes. *Polymer International*. 70 - 9, pp. 1329 - 1343. Wiley, 01/03/2021.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 6** Liangliang Song; Roberta Manno; Ranjan Prabhat; Victor Sebastian; Silvia Irusta; Reyes Mallada; Luc Van Meervelt; Jesus Santamaria; Erik Van der Eyken. Preparation of Cu cluster catalysts by simultaneous cooling-microwave heating: application in radical cascade annulation. *Nanoscale Advances*. 3 - 4, pp. 1087 - 1095. Royal Soc Chemistry, 21/02/2021.
Type of production: Scientific paper **Format:** Journal
- 7** N Sethulaksmi; Subramanian Nellaiappan; Phanikumar Pentyala; Manu Sharma; Silvia Irusta; Parag Deshpande; Sudhanshu Sharma. Nanocoral CuCo₂S₄ thiospinels: Oxygen evolution reaction via redox interaction of metal ions. *Electrochimica Acta*. 370, pp. 137701. Pergamon-Elsevier, 20/02/2021.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 8** Roberta Manno; Victor Sebastian; Silvia Irusta; Reyes Mallada; Jesus Santamaria. Ultra-Small Silver Nanoparticles Immobilized in Mesoporous SBA-15. Microwave-Assisted Synthesis and Catalytic Activity in the 4-Nitrophenol Reduction. *Catalysis Today*. 362, pp. 81 - 89. Elsevier, 15/02/2021.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 9** Subramanian Nellaiappan; Navneet Jhariya; Silvia Irusta; Aditit Singhal. Platinum substituted Cobalt(II, III) Oxide: Interplay of tetrahedral Co(II) sites towards electrochemical oxygen evolution activity. *Electrochimica ACTA*. 365, pp. 137234. Pergamon-Elsevier, 01/01/2021.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 10** Electrospinning synthesis and characterization of nanofibers of Co, Ce and mixed Co-Ce oxides. Their application to oxidation reactions of diesel soot and CO. 12/2020.
Type of production: Scientific paper **Format:** Journal
- 11** Sara Garcia-Salinas; Enrique Gamez; Guillermo Landa; Manuel Arruebo; Silvia Irusta; Gracia Mendoza. Antimicrobial Wound Dressings against Fluorescent and Methicillin-Sensitive Intracellular Pathogenic Bacteria. *ACS Applied Materials and Interfaces*. 12 - 46, pp. 51302 - 51313. AMER CHEMICAL SOC, 18/11/2020.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes
- 12** Cristina Yus; Silvia Irusta; Victor Sebastian; Manuel Arruebo. Controlling Particle Size and Release Kinetics in the Sustained Delivery of Oral Antibiotics Using pH-Independent Mucoadhesive Polymers. *Molecular Pharmaceutics*. 17 - 9, pp. 3314 - 3327. AMER CHEMICAL SOC, 08/09/2020.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 13** Emma Piacentini; Fabio Bazzarelli; Teresa Poerio; Airama Albisa; Silvia Irusta; Gracia Mendoza; Victor Sebastian; Lidietta Giorno. Encapsulation of water-soluble drugs in Poly (vinyl alcohol) (PVA)-microparticles via membrane emulsification: Influence of process and formulation parameters on structural and functional properties. *Materials Today Communications*. 24, pp. 100967. Elsevier, 01/09/2020.
Type of production: Scientific paper
Corresponding author: No

- 14** Rana Smaida; Luc Pijnenburg; Silvia Irusta; Erico Himawan; Ezeddine Harmouch; Ysia Idous-Gillet; Sabien Kuchler-Bopp; Nadia Benkirane-Jessel; Guoqiang Hua. Potential Implantable Nanofibrous Biomaterials Combined with Stem Cells for Subchondral Bone Regeneration. *Materials*. 13 - 14, pp. 3087. MDPI, 10/07/2020.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 15** Bhanu Gangwar; Silvia Irusta; Sudhanshu Sharma. Effect of Bi(3+)Ion Concentration on Physicochemical, Optical and Catalytic Properties of One-Pot Combustion Synthesized Nanocrystalline Bi-Doped La₂O₃. *Chemistryselect*. 5 - 25, pp. 7548 - 7559. Wiley, 07/07/2020.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 16** Enrique Gamez; Sara Garcia-Salinas; Sofia Salido; Maria Sancho-Albero; Vanesa Andreu; Marta Perez; Lluís Lujan; Silvia Irusta; Manuel Arruebo; Gracia Mendoza. Drug-eluting wound dressings having sustained release of antimicrobial compounds. *European Journal of Pharmaceutics and Biopharmaceutics*. pp. 327 - 339. Elsevier, 01/07/2020.
Type of production: Scientific paper
Corresponding author: Yes
- 17** Manuel Arruebo; Silvia Irusta; Victor Sebastian. Microflow Nanoprecipitation of Positively Charged Gastroresistant Polymer Nanoparticles of Eudragit® RS100: A Study of Fluid Dynamics and Chemical Parameters. *Materials*. 13 - 13, pp. 2925. MDPI, 30/06/2020.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 18** Sara Garcia-Salinas; Enrique Gamez; Javier Asin; Ricardo de Miguel; Vanesa Andreu; Maria Sancho-Albero; Gracia Mendoza; Silvia Irusta; Manuel Arruebo. Efficiency of Antimicrobial Electrospun Thymol-Loaded Polycaprolactone Mats In Vivo. *ACS Applied Bio Materials*. 3 - 5, pp. 3430 - 3439. AMER CHEMICAL SOC, 18/05/2020.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes
- 19** Prabhat Ranjan; Victor Sebastian; Reyes Mallada; Silvia Irusta; Upendra Sharma; Erik Van der Eyken; Jesus Santamaria. Continuous Microwave-Assisted Synthesis of Silver Nanoclusters Confined in Mesoporous SBA-15: Application in Alkyne Cyclizations. *Chemistry of Materials*. 32 - 7, pp. 2874 - 2883. 14/04/2020.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 20** Albana Marchesini; Vanina Aghemo; Ivan Moreno; Nuria Navascues; Silvia Irusta; Laura Gutierrez. Pd and Pd₂ nanoparticles supported on polymer fibres as catalysts for the nitrate and nitrite reduction in aqueous media. *Journal of Environmental Chemical Engineering*. 8 - 2, pp. 103651. Elsevier, 04/2020.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 21** Ignacio Julian; Morten Roedern; Jose L Hueso; Silvia Irusta; Ane Baden; Reyes Mallada; Zachary Davis; Jesus Santamaria. Supercritical solvothermal synthesis under reducing conditions to increase stability and durability of Mo/ZSM-5 catalysts in methane dehydroaromatization. *Applied Catalysis B- Environmental*. 263, pp. 118360. Elsevier, 04/2020.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No



- 22** Michael Evangelopoulos; Enrique Gamez; Manuel Arruebo; Silvia Irusta; Francesca Taraballi; Gracia Mendoza; Ennio Tasciotti. Electrospun anti-inflammatory patch loaded with essential oils for wound healing. *International Journal of Pharmaceutics*. 577, pp. 119067. Elsevier, 15/03/2020.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 23** Bhanu Gangwar; Silvia Irusta; Sudhanshu Sharma. Physicochemical and optical properties of one-pot combustion synthesized Pr doped La₂O₃/La(OH)(3). *Journal of Luminescence*. 219, pp. 116893. Elsevier, 01/03/2020.
Type of production: Scientific paper
Corresponding author: No
- 24** Enrique Gamez; Hellen Elizondo-Castillo; Jorge Tascon; Sara Garcia-Salinas; Nuria Navascues; Gracia Mendoza; Manuel Arruebo; Silvia Irusta. Antibacterial Effect of Thymol Loaded SBA-15 Nanorods Incorporated in PCL Electrospun Fibers. *Nanomaterials*. 10 - 4, pp. 616. MDPI, 03/2020.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes
- 25** Angeles Stegmayer; Viviana Milt; Nuria Navascues; Enrique Gamez; Silvia Irusta; Eduardo Miro. Cobalt deposited on micro and nanometric structures of ceria and zirconia applied in diesel soot combustion. *Molecular Catalysis*. 481, pp. 100636. Elsevier, 01/02/2020.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 26** Subramanian Nellaiappan; Ritesh Kumar; C Shivakumara; Silvia Irusta; Jordan Hachtel; Juan-Carlos Idobro; Abhishek Singh; Chandra Tiwary; Sudhanshu Sharma. Electroreduction of Carbon Dioxide into Selective Hydrocarbons at Low Overpotential Using Isomorphic Atomic Substitution in Copper Oxide. *ACS Sustainable Chemistry and Engineering*. 8 - 1, pp. 179 - 189. AMER CHEMICAL SOC, 13/01/2020.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 27** Rana Singh; Payal Arora; Subramanian Nellaiappan; C Shivakumara; Silvia Irusta; Manas Paliwal; Sudhanshu Sharma. Electrochemical insights into layered La₂CuO₄ perovskite: Active ionic copper for selective CO₂ electroreduction at low overpotential. *Electrochimica Acta*. 326, pp. 134952. Pergamon-Elsevier, 05/12/2019.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 28** Carlos Rodriguez-Nogales; Victor Sebastian; Silvia Irusta; D Desmaele; P Couvreur; Maria Blanco-Prieto. A unique multidrug nanomedicine made of squalenoyl-gemcitabine and alkyl-lysophospholipid edelfosine. *European Journal of Pharmaceutics and Biopharmaceutics*. 144, pp. 165 - 173. Elsevier, 01/11/2019.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 29** Eider Matxinnandarena; Agurtzane Mugica; Manuela Zubitur; Cristina Yus; Victor Sebastian; Silvia Irusta; Alfonso Loaeza; Orlando Santana; Maria Lluisa Maspoch; Cristian Puig; Alejandro Muller. The Effect of Titanium Dioxide Surface Modification on the Dispersion, Morphology, and Mechanical Properties of Recycled PP/PET/TiO₂ PBNANOs. *Polymers*. 11 - 10, pp. 1692. MDPI, 16/10/2019.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 30** Cristina Yus; Ruben Gracia; Ane Larrea; Vanesa Andreu; Silvia Irusta; Victor Sebastian; Gracia Mendoza; Manuel Arruebo. Targeted Release of Probiotics from Enteric Microparticulated Formulations. *Polymers*. 11 - 10, pp. 1668. MDPI, 13/10/2019.
Type of production: Scientific paper **Format:** Journal

Corresponding author: No

- 31** Javier Aragon; Clarinda Costa; Isabel Coelho; Gracia Mendoza; Ana Aguiar-Ricardo; Silvia Irusta. Electrospun asymmetric membranes for wound dressing applications. *Materials Science and Eng. C: Materials for Biological Applications*. 103, pp. 109822. Elsevier, 10/2019.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 32** Enrique Gamez; Gracia Mendoza; Sofia Salido; Manuel Arruebo; Silvia Irusta. Antimicrobial Electrospun Polycaprolactone-Based Wound Dressings: An In Vitro Study About the Importance of the Direct Contact to Elicit Bactericidal Activity. *Advances in Wound care*. 8 - 9, pp. 438 - 451. MARY ANN LIEBERT, 01/09/2019.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 33** Javier Aragon; Sergio Feoli; Silvia Irusta; Gracia Mendoza. Composite scaffold obtained by electro-hydrodynamic technique for infection prevention and treatment in bone repair. *International Journal of Pharmaceutics*. 557, pp. 162 - 169. Elsevier, 25/02/2019.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes
- 34** Lucia Baldino; Javier Aragon; Gracia Mendoza; Silvia Irusta; Stefano Cardea; Ernesto Reverchon. Production, characterization and testing of antibacterial PVA membranes loaded with HA-Ag3 PO4 nanoparticles, produced by SC-CO2 phase inversion. *Journal of Chemical Technology and Biotechnology*. 94 - 1, pp. 98 - 108. Wiley, 26/01/2019.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes
- 35** Isabel de Solorzano; Teresa Alejo; Miriam Abad; Carlos Bueno-Alejo; Gracia Mendoza; Vanesa Andreu; Silvia Irusta; Victor Sebastian; Manuel Arruebo. Cleavable and thermo-responsive hybrid nanoparticles for on-demand drug delivery. *Journal of Colloid and Interface Science*. 533, pp. 171 - 181. ACADEMIC PRESS INC ELSEVIER SCIENCE, 01/01/2019.
Type of production: Scientific paper **Format:** Catalogue of artworks
Corresponding author: No
- 36** Javier Aragon; Simona Salerno; Loredana De Bartolo; Silvia Irusta; Gracia Mendoza. Polymeric electrospun scaffolds for bone morphogenetic protein 2 delivery in bone tissue engineering. *Journal of Colloid and Interface Science*. 531, pp. 126 - 137. ACADEMIC PRESS INC ELSEVIER SCIENCE, 01/12/2018.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes
- 37** Ruben Gracia; Cristina Yus; Olga Abian; Gracia Mendoza; Silvia Irusta; Victor Sebastian; Vanesa Andreu; Manuel Arruebo. Enzyme structure and function protection from gastrointestinal degradation using enteric coatings. *International Journal of Biological macromolecules*. 119, pp. 413 - 422. Elsevier, 11/2018.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 38** Carmen Ortega-Liebana; Jose L Hueso; Rodrigo Fernandez-Pacheco; Silvia Irusta; Jesus Santamaria. Luminescent mesoporous nanorods as photocatalytic enzyme-like peroxidase surrogates. *Chemical Science*. 9 - 40, pp. 7766 - 7778. ROYAL SOC CHEMISTRY, 28/10/2018.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No

- 39** Aditi Singhal; Anu Bisht; Silvia Irusta. Enhanced oxygen evolution activity of Co₃-xNi_xO₄ compared to Co₃O₄ by low Ni doping. *Journal of Electroanalytical Chemistry*. 823, pp. 482 - 491. Elsevier, 15/08/2018.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 40** Sara Garcia-Salinas; Hellen Elizondo-Castillo; Manuel Arruebo; Gracia Mendoza; Silvia Irusta. Evaluation of the Antimicrobial Activity and Cytotoxicity of Different Components of Natural Origin Present in Essential Oils. *Molecules*. 23 - 6, pp. 1399. MDPI, 08/06/2018.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes
- 41** Fareeha Batool; David Morand; Lionel Thomas; Maximiliano Bugueno; Javier Aragon; Silvia Irusta; Laetitia Keller; Nadia Benkirane-Jessel; Henri Tenebaum; Olivier Huck. Synthesis of a Novel Electrospun Polycaprolactone Scaffold Functionalized with Ibuprofen for Periodontal Regeneration: An In Vitro and In Vivo Study. *Materials*. 11 - 4, pp. 580. MDPI, 04/2018.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 42** Gracia Mendoza; Anna Regiel-Futrya; Alejandra Tamayo; Marta Monzon; Silvia Irusta; Miguel de Gregorio; Agnieszka Kyzioł; Manuel Arruebo. Chitosan-based coatings in the prevention of intravascular catheter-associated infections. *Journal of Biomaterials Applications*. 32, pp. 725 - 737. SAGE PUBLICATIONS LTD, 01/2018.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 43** Carmen Ortega-Liebana; Jose L Hueso; Shammi Ferdousi; Raul Arenal; Silvia Irusta; King Yeung; Jesus Santamaria. Extraordinary sensitizing effect of co-doped carbon nanodots derived from mate herb: Application to enhanced photocatalytic degradation of chlorinated wastewater compounds under visible light. *Applied Catalysis B: Environmental*. 218, pp. 68 - 79. Elsevier, 05/12/2017.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 44** Pascale Scwinte; Alexandre Mariotte; Priya Anand; Laetitia Keller; Ysia Idoux-Gillet; Olivier Huck; Florence Fioretti; Hneri Tenebaum; Philippe Georgel; Wolfgang Wenzel; Silvia Irusta; Nadia Benkirane-Jessel. Anti-inflammatory effect of active nanofibrous polymeric membrane bearing nanocontainers of atorvastatin complexes. *Nanomedicine*. 12 - 23, pp. 2651 - 2673. FUTURE MEDICINE LTD, 12/2017.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 45** Agnieszka Kyzioł; Justyna Michna; Ivan Moreno; Enrique Gamez; Silvia Irusta. Preparation and characterization of electrospun alginate nanofibers loaded with ciprofloxacin hydrochloride. *European Polymer Journal*. 96, pp. 350 - 360. Pergamon-Elsevier, 11/2017.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 46** Ana Perez-Lopez; Belen Rubio-Ruiz; Victor Sebastian; Lloyd Hamilton; Catherine Adam; TL Bray; Silvia Irusta; Paul Brennan; Guy Lloyd-Jones; Dirk Sieger; Jesus Santamaria; Asier Unciti-Broceta. Gold-Triggered Uncaging Chemistry in Living Systems. *Angewandte Chemie-International Edition*. 56 - 41, pp. 12548 - 12552. Wiley, 02/10/2017.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No

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- 124** Laura Cornaglia; Silvia Irusta; Eduardo Lombardo; MC Durupty; JC Volta. The beneficial effect of cobalt on VPO catalysts. Catalysis Today. 78 - 4, pp. 291 - 301. Elsevier, 28/02/2003. ISSN 09205861
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 125** CR Vera; JC Yori; CL Piek; Silvia Irusta; JM Parera. Opposite activation conditions of acid and metal functions of Pt/SO₄ 2--ZrO₂ catalysts. Applied Catalysis A-General. 240 - 1-2, pp. 161 - 176. Elsevier, 10/02/2003. ISSN 0926860X
Type of production: Scientific paper **Format:** Journal



Corresponding author: No

- 126** Silvia Irusta; Laura Cornaglia; Eduardo Lombardo. Hydrogen production using Ni-Rh on ZrO₂ as potential low-temperature catalysts for membrane reactors. Journal of Catalysis. 210 - 2, pp. 263 - 272. ACADEMIC PRESS INC ELSEVIER SCIENCE, 10/09/2002.
Type of production: Scientific paper
Corresponding author: No
- 127** Silvia Irusta; Laura Cornaglia; Eduardo Lombardo. Hydrogen production using Ni-Rh on La₂O₃ as potential low-temperature catalysts for membrane reactors. Journal of catalysis. 210 - 1, pp. 7 - 16. ACADEMIC PRESS INC ELSEVIER SCIENCE, 15/08/2002.
Type of production: Scientific paper
Format: Journal
Corresponding author: Yes
- 128** LB Gutierrez; JM Ramallo-Lopez; S Irusta; EE Miro; FG Requejo. Promotional effect of reduction treatments of PtIn(ferrierite) on its activity in the SCR of NO with methane. Kinetics and novel characterization studies. Journal of Physical Chemistry B. 105 - 39, pp. 9514 - 9523. AMER CHEMICAL SOC, 04/10/2001.
Type of production: Scientific paper
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Corresponding author: No
- 129** Carlos Carrara; Silvia Irusta; Eduardo Lombardo; Laura Cornaglia. Study of the Co-VPO interaction in promoted n-butane oxidation catalysts. Applied Catalysis A-General. -, pp. 275 - 286. Elsevier, 03/09/2001. ISSN 0926860X
Type of production: Scientific paper
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Corresponding author: No
- 130** Silvia Irusta; Alicia Boix; Beatriz Pierini; Carlos Caspani; Juan Petunchi. Effect of Mo on the active sites of VPO catalysts upon the selective oxidation of n-butane. Journal of catalysis. 187 - 2, pp. 298 - 310. ACADEMIC PRESS INC ELSEVIER SCIENCE, 25/10/1999. ISSN 00219517
Type of production: Scientific paper
Format: Journal
Corresponding author: Yes
- 131** Silvia Irusta; MP Pina; Miguel Menedez; Jesus Santamaria. Catalytic combustion of volatile organic compounds over La-based perovskites. Journal of Catalysis. 179 - 2, pp. 400 - 412. ACADEMIC PRESS INC ELSEVIER SCIENCE, 25/10/1998. ISSN 00219517
Type of production: Scientific paper
Format: Journal
Corresponding author: No
- 132** Silvia Irusta; MP Pina; Miguel Menedez; Jesus Santamaria. Development and application of perovskite-based catalytic membrane reactors. Catalysis Letters. 54 - 1-2, pp. 69 - 78. Springer, 1998. ISSN 1011372X
Type of production: Scientific paper
Format: Journal
Corresponding author: Yes
- 133** MP Pina; S Irusta; M Menedez; Jesus Santamaria; R Hughes; N Boag. Combustion of Volatile Organic Compounds over Platinum-Based Catalytic Membranes. Industrial & Engineering Chemistry Research. 36 - 11, pp. 4557 - 4566. AMER CHEMICAL SOC, 11/1997. ISSN 08885885
Type of production: Scientific paper
Format: Journal
Corresponding author: No
- 134** AJ Marchi; EJ Ledes; FG Requejo; M Renteria; S Irusta; EA Lombardo; EE Miro. Laser Raman spectroscopy (LRS) and time differential perturbed angular correlation (TDPAC) study of surface species on Mo/SiO₂ and Mo,Na/SiO₂. Their role in the partial oxidation of methane. Catalysis Letters. 48 - 1-2, pp. 47 - 54. Springer, 1997. ISSN 1011372X
Type of production: Scientific paper
Format: Journal



Corresponding author: No

- 135** S Irusta; AJ Marchi; EA Lombardo; EE Miro. Characterization of surface species on V/SiO₂ and V,Na/SiO₂ and their role in the partial oxidation of methane to formaldehyde. *Catalysis Letters*. 40 - 1-2, pp. 9 - 16. Springer, 1996. ISSN 1011372X

Type of production: Scientific paper

Format: Journal

Corresponding author: Yes

- 136** S Irusta; LM Cornaglia; EE Miro; EA Lombardo. THE ROLE OF V=O SITES ON THE OXIDATION OF METHANE TO FORMALDEHYDE OVER V/SiO₂. *Journal of Catalysis*. ACADEMIC PRESS INC ELSEVIER SCIENCE, 15/09/1995.

Type of production: Scientific paper

Format: Journal

Corresponding author: Yes

- 137** S Irusta; EA Lombardo; EE Miro. Effects of NO and solids on the oxidation of methane to formaldehyde. *Catalysis Letters*. 29 - 3-4, pp. 339 - 348. Springer, 1994.

Type of production: Scientific paper

Format: Journal

Corresponding author: Yes

- 138** Ivan Moreno; Nuria Navascues; Silvia Irusta; Jesus Santamaria. Modulation of bactericidal action in polymer nanocomposites: light-tuned Ag⁺ release from electrospun PMMA fibers. *RSC Advances*. 6 - 81, pp. 78036 - 78042. ROYAL SOC CHEMISTRY, 2016.

Type of production: Scientific edition

Format: Journal

Corresponding author: Yes

- 139** Vanesa Andreu; Gracia Mendoza; Manuel Arruebo; Silvia Irusta. Smart Dressings Based on Nanostructured Fibers Containing Natural Origin Antimicrobial, Anti-Inflammatory, and Regenerative Compounds. *Materials*. 8 - 8, pp. 5154 - 5193. MDPI, 08/2015.

Type of production: Review

Format: Journal

Corresponding author: No

Works submitted to national or international conferences

- 1** **Title of the work:** TÉCNICAS ELECTROHIDRODINÁMICAS PARA LA SÍNTESIS DE BIOMATERIALES: APÓSITOS BACTERICIDAS

Name of the conference: XXII Congreso Argentino de Fisicoquímica y Química INORGÁNICA

Type of participation: Participatory - invited/keynote talk

Corresponding author: Yes

City of event: La Plata, Argentina

Date of event: 19/04/2021

End date: 29/04/2021

Organising entity: Universidad Nacional de La Plata

City organizing entity: La Plata, Argentina

Silvia Irusta. "Acatas del Congreso".

- 2** **Name of the conference:** Unconventional Catalysis, Reactors and Applications UCRA2019

Type of participation: Organizational - Scientific and organizing committee

City of event: Zaragoza, Aragon, Spain

Date of event: 16/10/2019

End date: 18/10/2019

Organising entity: Universidad de Zaragoza

Type of entity: University



City organizing entity: Zaragoza, Aragon, Spain

3 Title of the work: Nanomateriales: ¿Héroes o Villanos?

Name of the conference: Argentina y Ambiente 2017

Type of participation: Participatory - invited/keynote talk

City of event: Santa Fe, Argentina

Date of event: 31/07/2017

End date: 03/08/2017

Organising entity: Universidad nacional del Litoral

City organizing entity: Santa Fe, Argentina

Silvia Irusta.

4 Title of the work: Characterization of active sites on Au/CeO₂ nanofibers for preferential CO oxidation

Name of the conference: 16th European Conference on Applications of Surface and Interface Analysis

Type of participation: Organizational - Scientific and organizing committee

City of event: Granada, Andalusia, Spain

Date of event: 28/10/2015

End date: 01/10/2015

Organising entity: Universidad de Granada

Type of entity: University

City organizing entity: Granada, Andalusia, Spain

Nuria Navascues; Ivan Moreno; Silvia Irusta.

5 Title of the work: Nanomateriales: de la catálisis a la nanomedicina

Name of the conference: 31º Congreso Latinoamericano de Química y XXVII Congreso Peruano de Química

Type of participation: Participatory - invited/keynote talk

City of event: Lima, Peru

Date of event: 14/10/2014

End date: 17/10/2014

Organising entity: Sociedad Química de Perú

City organizing entity: Lima, Peru

6 Title of the work: SÍNTESIS Y CARACTERIZACIÓN DE ETS-10 MICROPOROSO COMO SOPORTE DE CATALIZADORES DE Ru PARA PRODUCCIÓN DE H₂

Name of the conference: Reunión de la Sociedad Española de Catálisis SECAT 2011

Type of participation: Organizational - Scientific and organizing committee

City of event: Zaragoza, Aragon, Spain

Date of event: 29/06/2011

End date: 01/07/2011

Organising entity: Universidad de Zaragoza

Type of entity: University

City organizing entity: Zaragoza, Aragon, Spain

Betina Faroldi; Laura Cornaglia; Eduardo Lombardo; Silvia Irusta; Jesus Santamaria.