Part A. PERSONAL INFORMATION

CV date	2021/21/10

First and Family name	Pablo Ballester		
Social Security, Passport, ID number	42985233G	Age	62
Researcher codes	Open Researcher and Contributor ID (ORCID**)	0000-0001-8377-6610	
	SCOPUS Author ID (*)	35548432800	
	WoS Researcher ID (*)	B-6436-2011	

(*) Optional
(**) Mandatory

A.1. Current position

Name of University/Institution	Institute of Chemical Research of Catalonia (ICIQ)			
Department	*n.a.*			
Address and Country	Avda. Països Catalans, 16, 43007-Tarragona, Spain			
Phone number	+34 647254978	E-mail	pballester@iciq.es	
Current position	Group Leader and ICREA Professor	From	2004/09/01	
Key words	Supramolecular Chemistry, Host-guest, Molecular Recognition			

A.2. Education

PhD, Licensed, Graduate	University	Year
B.Sc.	Universitat de les Illes Balears / Spain	*1981*
M.Sc	Universitat de les Illes Balears / Spain	*1982*
D.Sc.	Universitat de les Illes Balears / Spain	*1986*

A.3. General Indicators of quality of scientific production

•Supervised Doctoral Thesis within the last 10 years: 17 defended, 8 ongoing
•Total Articles (WoS): 271. Articles with Citation Data (WoS): 271. Total citations (WoS): 11151
•h-Index (WoS): 58.
•Number of articles published during the last five years (2016-2020): 61, 50 in Q1 and 30 in D1. Average number of yearly citations for the same period: 750 (WoS) and 875 (scholar).
•Three papers in the WOS list of most cited articles in the last ten years.

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

Pablo Ballester studied Chemistry at the University of the Balearic Islands (UIB) where he also completed the PhD degree in 1986. In 1987, he was a post-doctoral Associate with Prof. J. Rebek Jr. at the University of Pittsburgh. In 1988, after a post-doctoral stay at UIB with Prof. J.M. Saá he returned to the U. of Pittsburgh and moved to MIT in 1989. From 1991 to 2002, he held the positions of Assistant and Associate Professor at UIB and served as Secretary of the Chemistry Department, Vice-dean of the Faculty of Sciences and Head of Studies of Chemistry at UIB. In 2003 and while enjoying a sabbatical leave at the Scripps Research Institute (USA) with the rank of Associate Professor of Research he got an ICREA Research Professorship and joined ICIQ as Group Leader in 2004. He is the recipient of the 2012 Janssen Cilag Organic Chemistry Prize awarded by the Spanish Royal Society of Chemistry. He has been a Visiting Professor in Scripps (2003) and the University of Strasbourg (2014). He delivered the Inaugural Rebek-Sessler Lectureship in March 2016 at TSRI, La Jolla, California. From February 2016 to July 2018, he served as ICIQ Vice-Director for BIST affairs. In July 2018, he was appointed Scientific Collaborator of the Spanish Agency for Research.

Research interests. My scientific background lies in the areas of organic chemistry (making molecules) and supramolecular chemistry (study how molecules fit together). My current research focuses on the design, synthesis, study and characterization of functional molecular aggregates. I consider myself a mixture between a molecular architect and a molecular engineer. We study matter but we also produce matter and new materials. We apply molecular self-assembly processes as a methodology to construct large and functional supramolecular aggregates, i.e. molecular machines, molecular sensing assemblies and devices. A second area of my current interests resides in the design and application of molecular containers. These are molecular or supramolecular structures with an internal cavity sufficiently large to include or encapsulate other molecules. Unfortunately, although we

construct monumental and even artistic structures they are not visible to the naked eye due to their reduced nanometer size.

Part C. RELEVANT MERITS

C.1. Publications

List of selected research articles as corresponding author during the last five years. Impact Factors (IF) as of 2019, journal's category and position is also indicated.

1. Martínez-Crespo, L.; Sun-Wang, J. L.; Sierra, A. F.; Aragay, G.; Errasti-Murugarren, E.; Bartoccioni, P.; Palacín, M.; **Ballester, P**. Facilitated Diffusion of Proline across Membranes of Liposomes and Living Cells by a Calix[4]pyrrole Cavitand. *Chem* **2020**, *6*, 3054-3070. (IF=19.735, Chemistry, Multidisciplinary, 8/177)
2. Sierra, A. F.; Hernández-Alonso, D.; Romero, M. A.; González-Delgado, J. A.; Pischel, U.; **Ballester, P.** Optical Supramolecular Sensing of Creatinine. *J. Am. Chem. Soc.* **2020**, *142*, 4276-4284. (IF=14.612, Chemistry, Multidisciplinary, 13/177)
3. Escobar, L.; Escudero-Adán, E. C.; **Ballester, P.** Guest Exchange Mechanisms in Mono-Metallic PdII/PtII-Cages Based on a Tetra-Pyridyl Calix[4]pyrrole Ligand. *Angew. Chem., Int. Ed.* **2019**, *58*, 16105-16109. (IF=12.959, Chemistry, Multidisciplinary, 15/177)
4. Peñuelas-Haro, G.; **Ballester, P.** Efficient hydrogen bonding recognition in water using aryl-extended calix[4]pyrrole receptors. *Chem. Sci.* **2019**, *10*, 2413-2423. (IF=9.346, Chemistry, Multidisciplinary, 21/177)
5. Escobar, L.; Díaz-Moscoso, A.; **Ballester, P**. Conformational selectivity and high-affinity binding in the complexation of N-phenyl amides in water by a phenyl extended calix[4]pyrrole. *Chem. Sci.* **2018**, *9*, 7186-7192. (IF=9.346, Chemistry, Multidisciplinary, 21/177)
6. Guinovart, T., Hernández-Alonso D., Adriaenssens L., Blondeau P., Martínez-Belmonte M., Rius F. X., Andrade F. J, **Ballester P.**: Recognition and Sensing of Creatinine. *Angew. Chem. Int. Ed*. **2016**, *55*, 2435-2440. (IF=12.959, Chemistry, Multidisciplinary, 15/177)

C.2. Selected Research projects

Title: "Molecular and Supramolecular Containers based on aryl-extended and super aryl-extended calix[4]pyrroles: Fundamental Studies and Applications" CTQ2017-84319-P. **Participation**: Principal Investigator. **Dates:** 2018-2020. **Funding Agency:** MINECO (Proyectos I+D). **Amount:** 194.810€. **Institution:** ICIQ.

Title: "Network of Functional Molecular Containers with Controlled Switchable Abilities –NOAH" H2020-MSCA-ITN-2017-765297. **Participation**: Coordinator. **Dates:** 2018-2022. **Funding Agency:** EU. **Amount:** 2.525.640€. **Institution:** ICIQ

Title: *"Transport of small molecules and ions across lipid bilayers using synthetic carriers-CALIX4TRANS" IGNITE.* **Participation**: Coordinator. **Dates:** 2017-2017. **Funding Agency:** BIST. **Amount:** 20.000€. **Institution:** ICIQ

Title: "Synthetic receptors and sensors for the supramolecular detection of low molecular weight molecules related to human health" CTQ2014-56295-R. **Participation**: Principal Investigator. **Dates:** 2015-2017. **Funding Agency:** MINECO (Proyectos I+D). **Amount:** 206.910€. **Institution:** ICIQ.

Title: "Study and application of covalent and self-assembled molecular containers" CTQ2011-23014. **Participation**: Principal Investigator. **Dates:** 2012-2014. **Funding Agency:** MICINN (Proyectos I+D). **Amount:** 199.650€. **Institution:** ICIQ.

C.3. Contracts, technological or transfer merits

Title: Neogenius Pharma. Proyecto Programa Cenit. **Principal Investigator:** Miguel A. Pericàs. **Participation**: Colaborator. **Involved Organizations:** Laboratorios Esteve and ICIQ. **FundingAgency:** Ministerio de Industria, Turismo y Comercio. **Dates:** 2010-2013. **Amount:** 750.000€.

C.4. Patents

Name: Sensor resistivo para la detección de gas benceno y procedimiento para su obtención.
Inventors/authors/obtainers: S. Korom; P. Clément; E. Llobet; E.J. Parra; **P. Ballester**
Holding institution: ICIQ/URV
Application number: P201431698; **Priority country**: Spain
Date: 18/11/2014

Name: Calixpyrrole compounds and creatinine-selective electrodes comprising them
Inventors/authors/obtainers: P. Blondeau; T. Aquino; L. Adriaenssens; F. Andrade; F.X. Rius; **P. Ballester**
Holding institution: ICIQ/URV
Application number: EP15382007; **Priority country**: European Union;
Date: 19.01.2015
Company exploiting the patent: Creatsens Health S.L. URV spinoff https://renalyse.com/

C.5. Editorial and Managerial Boards
Member of the Scientific Boards:
European Journal of Organic Chemistry 2013 – present. The Open Journal of Organic Chemistry 2008 – 2015. Guest Editor for the special issues of Frontiers in Chemistry on the research topics: "Supramolecular Aspects in Catalyst (2018)" and "Supramolecular Chemistry Meets Catalysis (2020)"
https://www.frontiersin.org/research-topics/7174/supramolecular-aspects-in-catalysis
https://www.frontiersin.org/research-topics/17411/supramolecular-chemistry-meets-catalysis
2018-2019 Guest Editor for the special icollection of Organic Chemistry Frontiers for Professor Julius Rebek's 75th Birthday.
Member of the External Scientific Advisory Board of the "Institut de Quimica Avaçada de Catalunya. IQAC" 2019-present.

C.6. Organization of International Scientific Meetings
Title: Symposium on Molecular Confinement Effects in Organic and Inorganic Containers **Type of Activity**: Organization Committee, **Institutions:** ICIQ, University of Strasbourg, Tokyo Institute of Technology. **Place:** Sendai, Japan. **Date:** July-August 2018, 7 days.
Title: ICREA Conference on functional nanocontainers. **Type of Activity**: Organization Committee. **Institutions:** ICREA. **Place:** Tarragona, Catalonia, Spain. **Date:** October 2016, 4 days.

C.7 Selection of Invited Conferences
Title: "Self-assembly of a Mono-metallic Pd(II)-Cage Featuring Two Different Polar Binding Sites". **Place:** Shenzhen, China. **Date:** 16-17/10/2019. **Organization:**
Title: A Mono-Metallic Pd(II)-Cage Featuring Two Different Polar Binding Sites. **Place:** Würzburg, Germany. **Date:** 24-26/02/2019. **Organization:** University of Würzburg.
Title: Synthesis and Binding Properties of Water-Soluble Aryl-extended and Super-Aryl-extended Calix[4]pyrroles **Conference:** The 15th International Conference on Calixarenes. **Place:** Cassis, France. **Date:** 10/06/2019. **Organization:** University of Dijon.
Title: Molecular Containers with Polar Cavities. **Conference:** The 14th International Conference on Calixarenes. **Place:** Tianjin, China. **Date:** 20-25/08/2017. **Organization:** University of Tianjin
Title: Ion-pair recognition using a neutral [2]rotaxane. **Conference:** ICCAS International Symposium on Macrocyclic and Supramolecular Chemistr**y. Place:** Beijing, China. **Date:** 17-19/08/2017. **Organization:** University of Tsinghua.
Title: Molecular Recognition and Sensing of Creatinine. **Conference:** ACS, San Diego. **Place:** San Diego, USA. **Date:** 11-16/03/2016. **Organization:** ACS.
For extended listing see: https://www.icrea.cat/en/Web/ScientificStaff/ballester/conferences-and-workshops#researcher-nav

C.8 Evaluation Tasks
Reviewer of ERC projects calls 2014-1 "Consolidator" and "Advance". Reviewer of the Estonian research Agency 2014-. Reviewer of OPUS Projects from National Science Centre, Poland. 2015-.
Reviewer in "Credits and Projects call 2014-", The Fund for Scientific Research (F.R.S.-FNRS), Belgium. Reviewer of the Agence National de Recherche Appel à projet Chimie Edition 2014-, France
Reviewer of the Agencia Nacional de Evaluación y Prospectiva (ANEP), Plan Estatal i+d 2013-2017.

C.9 Scientific Awards and Honors
Lecturer of the Inaugural Rebek-Sessler Lectureship. March 2016 at TSRI, La Jolla, California
2012 Janssen Cilag Organic Chemistry Prize awarded by the Spanish Royal Society of Chemistry (RSEQ).
Member of the European Academy of Sciences (EURASC), Chemistry Division.