From ligand design to catalytic applications

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Summary

In this presentation it will be shown some of the key aspects relevant to the synthesis, coordination and applications of a different class of stable cyclic carbenes, namely 1,2,3-triazolylidenes. They differ from N-heterocyclic carbenes (NHCs) and cyclic (alkyl)(amino)carbenes (CAACs) since these compounds they can not be represented by a unique resonance form without adding the positive and negative charges. According to the IUPAC, they belong to a class of mesoionic compounds and therefore they are named mesoionic carbene (MICs). Their utilization as ancillary ligands for the selective rhodium catalyzed alkyne hydrothiolation reactions will also be discussed.

Gregorio Guisado-Barrios

Short Bio

Gregorio graduated in Chemistry in 2003 at the University of Burgos, Spain. In 2004, he worked at the Institute of Chemistry and Dynamics of Geosphere, Forschungzentrum Jülich, Germany as Laboratory Assistant, under supervision of Dr. Jean M. Séquaris. He was awarded his PhD (2010) at St. Andrews University (Scotland, UK) under the supervision of Dr. Richens. He worked as post-doc in the laboratories of Prof. Paul J. C. Kamer (St. Andrews, UK) and Prof. Guy Bertrand (University of California Riverside, US).

In 2012 he returned to Spain to join the group of Prof. E. Peris at the Institute of Advance Materials (INAM) of the Universitat Jaume I (Castellon, Spain) where he has worked as UJI-Postdoctoral researcher, “Juan de la Cierva” fellow and as JIN-Postdoctoral researcher. In early 2021, he will be joining the ISQCH at he University of Zaragoza as “Ramón y Cajal” Fellow. His research interest has been lately focused on the synthesis of NHC and MIC ligands for the preparation of improved catalysts, coordination cages and molecular recognition. More recently, his research work it is leaning towards the development of more sustainable photocatalytic processes.