

A Tale of Two Cities. Research Endeavours in the Fields of Organometallic and Supramolecular Chemistry

The seminar aims at giving an overview of my scientific background. I will discuss on excerpts of my research carried out in Barcelona (Institute for Research in Biomedicine, Barcelona) and San Diego (The Scripps Research Institute).

My previous work at IRB Barcelona centered on the Pauson-Khand reaction, an efficient method for the construction of cyclopentenones which employs an organo-cobalt complex as a catalyst. My most recent efforts in this area were devoted to finding an elusive ligand accelerated version of this important transformation and I will show progress made towards this goal.

Earlier in my career I was introduced to the field of supramolecular chemistry during my post-doctoral stage abroad. My research focused on molecular recognition and encapsulation. Specifically, I worked on different projects employing *cavitands*, synthetic molecular receptors with a permanent concave shape. I exploited a number of weak attractive interactions (CH- π , cation- π , dispersion forces) to bring about molecular recognition events both in organic and aqueous media. We also exploited these systems in landmark examples of supramolecular catalysis which have inspired my future prospects in this exciting area at the interface of physical and synthetic organic chemistry.