

Conferencia:

Transition Metals: Powerfull Tools for the Construction and Functionalization of Heterocycles

Janine Cossy

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XUNTA DE GALICIA

CONSELLERÍA DE CULTURA, EDUCACIÓN
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**TRANSITION METALS:
POWERFUL TOOLS FOR THE CONSTRUCTION
AND FUNCTIONALIZATION OF HETEROCYCLES**

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In general, the synthesis of complex biologically active molecules are problematic, but the problems encountered during the syntheses can be a good source of inspiration to develop methods. One major challenge is the design of concise strategies as well as chemoselective and efficient methods that rapidly lead to the skeleton framework of natural and/or biologically active heterocyclic compound as well as to their functionalization.

In this context, we have explored the construction of heterocycles using catalytic reactions involving transition metal catalysts. Metal catalysts can induce cyclizations and functionalizations which can be highly diastereoselective and enantioselective if a chiral ligand is added in the reaction media. These reactions and their applications to the synthesis of heterocyclic natural and non-natural products will be presented.

Janine Cossy
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Janine Cossy's early career was spent in Reims, where she did her undergraduate and graduate studies at the University of Champagne-Ardenne, working on photochemistry under the supervision of Pr. Jean Pierre Pète. After a postdoctoral stay with Pr. Barry M. Trost, for two years at the University of Wisconsin (USA), she returned to Reims where she became, in 1990, Director of Research at the CNRS. In the same year, she moved to Paris and, since 1990, she is Professor of Organic Chemistry at the ESPCI Paris. Janine Cossy's research interests focus on the synthesis of natural products and biologically active molecules and on the development of synthetic methods (organometallic reactions, catalysis, ring expansions, opening of strained rings, methods for the synthesis of heterocyclic compounds, stereoselective reactions). She has many collaborations with pharma and agro companies. Her research efforts have resulted in more than 490 publications and 15 patents. Among the awards, she received the CNRS Bronze Medal (France, 1987), the CNRS Silver Medal (France, 1996), UK Royal Society Rosalyn Franklin International Lecturership awarded to internationally recognized women scientists (UK, 005), the Le Bel Award from the French Chemical Society (France, 2009). In 2013, she was nominated Chevalier de la Légion d'Honneur and in 2015, she obtained the E.C. Taylor Senior Award (USA) and the UR Ghatak endowment award (IACS, India), the Susan P. and Barry M. Trost Lecture in Organic Synthesis (USA, 2016), the Tarrant Professorship (USA, 2016), the Lu Jiaxi lecturership (China, 2017) and she was elected at the French Academy of Sciences in 2017. She is one of the Organic Letters Associate Editor since 2005.