



Preface

CAFC9, 9th Congress on Catalysis Applied to Fine Chemicals (Zaragoza, Spain, September 13–16, 2010)

Although every chemist has in his mind the concept of “Fine Chemical”, its definition varies depending on the area of chemistry in which that chemist is working. From a practical and industrial point of view this concept is related to production and price. Chemicals are usually classified into commodities (bulk chemicals), fine chemicals, and specialties, with decreasing production and increasing price along this classification. Fine Chemicals would be then products with medium to low production (10^2 – 10^4 ton per year) and medium to high price. With regard to their application, fine chemicals are required because of their specific properties, the origin of the relatively high price, connected with their structure and composition. In fact, most of fine chemicals possesses relatively complicated structure, being in general polyfunctional molecules that require multistep highly selective (chemo-, regio-, diastereo-, and/or enantioselective) synthetic methods. It is not infrequent to extend the concept of fine chemicals to include specialties, molecules that are even more complex, which stresses the need for selective processes. In this regard the required selectivity has been traditionally provided by highly selective reagents used in stoichiometric, or even over-stoichiometric, amounts. As a consequence the waste generated per kg of product, the so-called *E* factor, in the Fine Chemicals industry is much higher than in the commodities industry, and it makes necessary the adoption of environmentally more friendly catalytic methods to substitute the stoichiometric ones. Catalysis of any type (homogeneous, heterogeneous, enzymatic) should play a crucial role in the development of cleaner methods for fine chemicals production, and this is the main topic of the series of congresses of Catalysis Applied to Fine Chemicals (CAFC).

The ninth edition of this congress (CAFC9) was held in Zaragoza, Spain, from 13th to 16th September 2010, in the magnificent Paraninfo building of the University. The oral sessions took place in the Aula Magna, the same in which Santiago Ramón y Cajal (Nobel Prize in Medicine in 1906) gave his lectures. It was organized by the Group of Heterogeneous Catalysis in Selective Organic Synthesis (C.S.I.C. – University of Zaragoza), with the main financial support of the Spanish National Research Council (C.S.I.C.), the University of Zaragoza, and the Government of Aragón.

The scientific program included 4 plenary lectures, 5 keynote lectures, and 31 oral communications, in combination with 2

poster sessions. Overall, around 125 participants over 20 countries attended this event. It was remarkable the participation of scientists from industry, who gave the vision of the productive sector about the role of catalysis in this field, with contributions from particular development examples to wide overviews of the industrial needs. The contributions from academia allowed the participants to share expertise in the synthesis of fine chemicals with any type of catalyst from different points of view, from catalysts development and optimization for the synthesis of rather simple model molecules up to the search of catalytic methods for the synthesis of pharmaceuticals. Variety was also reached with regard to catalytic fields, as contributions dealing with different types of catalysts were presented: enzymatic catalysis, organocatalysis, homogeneous and supported complexes of a large variety of metals, heterogeneous acids and bases, and supported metals. Even less conventional but emerging fields, such as the use of neoteric solvents in catalysis, continuous flow catalytic reactions, or metal-organic framework catalysts were also treated along the congress. In this special issue of *Catalysis Today* only a minor fraction of contributions are presented.

Taking into account that science advance and social development require multidisciplinary approaches to the problems, we think that this kind of congresses, that try to foster the relationships between industry and different fields of academia, is a must at the present. We hope that the 10th edition of the congress that will be held in Turku (Finland) in 2013 will be a great success and will deep into this idea of multidisciplinary approach.

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