

***SPECIAL FEATURE SECTION:
HOMOGENEOUS TRANSITION METAL-CATALYZED
REACTIONS***

Editorial

The application of transition metal-catalysed processes in the pharmaceutical, agrochemical and fine chemical industries has become widespread over the last 10–15 years, as is reflected by the papers submitted to this special issue of *Organic Process Research & Development*. It is gratifying to see a high percentage of papers originating from academia (6 of the 15 papers, 3 of which are collaborations with industry) and that process-related issues are being discussed and considered much more by our academic colleagues and collaborators. It is important that process chemistry is promoted throughout universities and colleges and is seen to be as important as drug discovery. The application of good science, by both chemists and chemical engineers, to the design and operation of complex, multistep chemical processes is what permits laboratory discoveries to become commercial realities.

Topics covered by this special issue range from the fabrication of catalysts from metal salts, ligand synthesis, catalyst immobilisation, aerobic oxidation, Suzuki- and Negishi-type cross-couplings, palladium-catalysed carbonylation, through to asymmetric allylic substitution and asymmetric hydrogenation. These papers provide important information for anyone considering the application of homogeneous catalysis for the production of pharmaceutical, flavour and fragrance, and agrochemical products. In addition, they exemplify that the use of homogeneous transition metal-catalysed reactions in processes can yield many advantages, such as more concise chemical routes, generation of less waste and fewer byproducts, a higher throughput of materials through the plant, and in many cases control of stereochemistry. Not only “atom economical”, but solvent- and reactor-time-economical processes are important for the large-scale manufacture of chemical products.

We thank all of the contributors, and we hope that you enjoy reading this special issue of *Organic Process Research & Development*. Hopefully it will stimulate the writing of more papers, from both industry and academia, on transition metal-catalysed reactions.

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