



Electronic effects in palladium catalysed aerobic oxidation reactions

A successful collaboration of Avantium and the group of Prof. Sheldon at Delft University of Technology has resulted in significant improvements of alcohol oxidation reactions in water. In this study, optimization of the palladium catalysts has been achieved by ligand fine-tuning. Furthermore, the electronic effects observed give a clear evidence for the reaction mechanism. The results are presented in the April issue of 'Advanced Synthesis and Catalysis'.

The group of Prof. Sheldon has a strong background in green chemistry, oxidation catalysis and clean solvent technology, including palladium catalyzed oxidation reactions in water. The published work results from a successful project combining the group's experience and Avantium's expertise in High-throughput Experimentation.

The project is an example of one of the various collaborative projects between Avantium and the three technological universities of Delft, Eindhoven and Twente. The projects in the areas of catalysis and HTE&S enabling technology are seen by Avantium as an essential part of the company's discovery program.

Avantium's discovery program complements the company's contract R&D activities and is intended to generate a portfolio of company technology in areas such as catalytic, process and materials technology for licensing to the pharmaceutical and chemical industries. Avantium Technologies is a world-class company providing high-throughput product and process R&D solutions to the chemicals and life science industries.

Its unique integrated hardware and software platform provides intrinsically scalable catalyst and process screening thus allowing rapid and reliable scale-up to pilot plant and production. Avantium collaborates with, among others, Akzo Nobel Chemicals, GlaxoSmithKline, Pfizer, Shell Chemicals, W.R. Grace and The Generics Group.

The company has its head offices and laboratory in Amsterdam, Avantium Technologies B.V., and employs a satellite laboratory within Delft University to collaborate with the Dutch Universities in a cutting-edge discovery program. Avantium also has software development sites in Hexham, UK (Avantium Technologies Ltd.) and Baltimore, Md., USA (Avantium Technologies Inc.).

Links:

Advanced Synthesis and Catalysis

<http://www.wiley-vch.de/publish/en/journals/bySubjectCH00/2258>

Research group of Prof. Sheldon, Delft University of Technology

<http://www.bt.tudelft.nl/bocf.htm>