

演題：**Catalytic performance and recycling of oxazoline-based catalysts**

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日時：2013年10月3日（木）16:00~17:30

場所：理学部2号館402室



要旨：

Asymmetric catalysis constitutes a privileged approach for the production of enantiopure compounds. Today a large number of chiral catalytic processes may deliver products with very high enantiomeric excesses (and yields) and some systems have been applied on an industrial scale. However, homogeneous asymmetric catalytic systems frequently exhibit relatively low activity for a large-scale application and they also suffer from two drawbacks: (i) possible product contamination: in particular, metal contamination in active pharmaceutical ingredients or fine chemicals is a serious concern and the remaining metal traces must be reduced to ppm amount in the final products and, (ii) inability to reuse the homogeneous catalyst.

Due to the high cost of both the chiral ligand and the metal, it is highly desirable to develop catalytic systems that are active at a very low catalytic level and/or that allow an easy separation from reaction mixture and efficient recycling.

In the first part of this lecture, highly symmetric oxazoline-based catalysts will be described. In particular, we will present how the concept of stereoelectronic hemilability allows a decrease of the catalyst loading.

In the second part of this lecture, recent progress in the development of reusable asymmetric catalysts will be discussed. Two strategies have been investigated: (i) covalent attachment to carbosilane dendrimers and (ii) conception of polytopic ligands for the development self-supported systems.

本講演は、大学院総合化学院『化学研究先端講義／総合化学特別研究第二』の一部として認定されています。

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