

Liebig-Lectureship

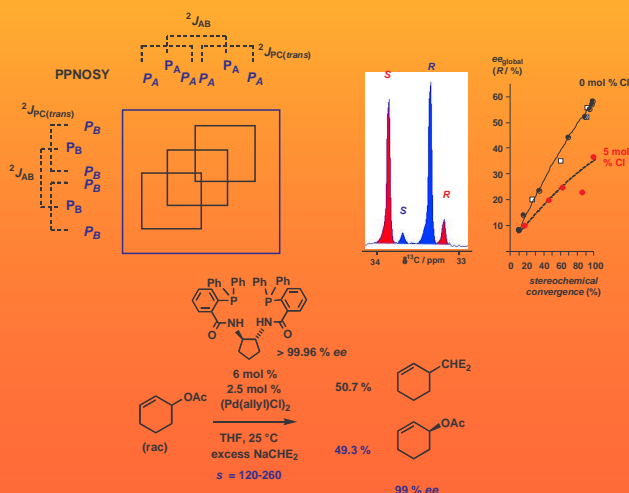
der Liebig-Vereinigung für Organische Chemie
in der Gesellschaft Deutscher Chemiker

23. – 27. Juni 2003

Dr. Guy Lloyd-Jones
(University of Bristol, UK)



"Memory and Amnesia in Asymmetric Allylations"



Asymmetric catalysis of organic transformations, employing chiral ligand systems, is an area undergoing sustained growth. Within this field, transition metal catalysed allylic alkylation reactions, particularly those employing Pd-based catalysts, have become popular methods for the testing and comparison ('benchmarking') of novel ligand systems. Very often, such reactions employ chiral, but racemic, substrates with the concept that these will generate a single set of intermediates and, ideally, a single enantiomer of product. Although such stereochemical convergence ('amnesia') is a prerequisite for high selectivity, it is rarely tested for. Without it, these processes become handicapped by a 'memory' effect which compromises the overall selectivity and may therefore mislead as to the efficacy of the ligand. The detection, origin and control of such processes will be the topic of the presentation.

- Montag, 23. Juni 2003, 17:15 Uhr** Windaus-Hörsaal der Fakultät Chemie, **Georg-August-Universität, Göttingen**
- Dienstag, 24. Juni 2003, 11:15 Uhr** Großer Hörsaal im **Max-Planck-Institut für Kohlenforschung, Mülheim**
- Mittwoch, 25. Juni 2003, 17:15 Uhr** Hörsaal III der Chemischen Institute, **Universität Köln**
- Donnerstag, 26. Juni 2003, 8:30 Uhr** OC-Hörsaal im Institut für Organische Chemie der **RWTH Aachen**
- Freitag, 27. Juni 2003, 17:15 Uhr** Baeyer-Hörsaal im Department Chemie, **Ludwig-Maximilians-Universität München**

Dr Lloyd-Jones' laboratories are active in the fields of organic, organometallic and coordination chemistry, with an emphasis on asymmetry, structure and mechanism. His research interests include C-C bond forming reactions mediated by catalytic organometallic species; ligand design for asymmetric reactions and for crystal engineering; benzyne and aryl sulphonate rearrangements; hydrogen bonding and proton sponges; main-group organometallic reagents for effecting unusual organic transformations and novel methodology for catalysts discovery. A major feature of the work is the use of stable isotope labelling strategies to enable NMR-based deduction of structural or stereochemical information through isotopic desymmetrisation and the linking of kinetic phenomena with selectivity issues. Recent topics of activity include: a mechanistic rationale for the dramatic effect of chloride ion on the selectivity of the Pd(II) catalysed cycloisomerisation of 1,6-dienes and on the enantioselectivity of Pd-MOP catalysed allylation; coordination mode of the Trost modular Ligand to Pd; Gallium-mediated hydroarylation reactions; ^2H NMR analysis of the stereochemistry of Mo-catalysed allylation through quadrupolar coupling in a chiral liquid crystal matrix; distinction of ene-then-yne from yne-then-ene mechanisms in the RCM of enynes; testing racemic catalysts for kinetic resolution potential, and, non distance-related modulation of ^2H - J_{NN} , the coupling between ^{15}N centres across hydrogen bonds of the form N-H...N.

Dr Lloyd-Jones is co-director of the Bristol Centre for Organometallic Catalysis and a Fellow of the RSC. His work has been recognised with the award of the Royal Society of Chemistry Hickinbottom Fellowship, the Sir William Briggs Scholarship and, most recently, the Liebig Lectureship (2003) of the German Chemical Society.

Die Liebig-Vereinigung für Organische Chemie richtete 1999 eine Vortragsreihe – die Liebig-Lectureship – für herausragende junge ausländische Vertreter der organischen Chemie ein. Diese Vorträge führen die damit Ausgezeichneten an 4-5 Forschungsinstitute ihrer eigenen Wahl. Die vorherigen Inhaber der Liebig-Lectureship waren Prof. Philippe Renaud, 1999, (damals) Universität Lausanne, Prof. Variander K. Aggarwal, 2000, (damals) University of Sheffield, Dr. David M. Hodgson, 2001, Oxford University und Prof. Carolyn Bertozzi, 2002, University of California, Berkeley.